THE RELATIONSHIP OF CERTAIN SOCIO-CULTURAL FACTORS AMONG JUNIOR HIGH SCHOOL STUDENTS TO CREATIVITY IN ART

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THE RELATIONSHIP OF CERTAIN SOCIO-CULTURAL FACTORS AMONG JUNIOR HIGH SCHOOL STUDENTS TO CREATIVITY IN ART

DISSERTATION

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By

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>LIST OF TABLES</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>v</td>
</tr>
</tbody>
</table>

## Chapter

### I. INTRODUCTION

- Statement of the Problem  
- Purposes of the Study  
- Hypotheses  
- Background and Significance of the Study  
- Definitions of Terms  
- Limitations of the Study  
- Instruments  
- Description of Tests Used  
- Summary

### II. CREATIVITY, CONFORMITY, AND THE AMERICAN CULTURE

- Creativity and the Culture  
- The Importance of Art  
- Conformity and the Culture  
- Art and Education  
- Summary

### III. METHODS AND PROCEDURES

- Description of Subjects  
- Procedures for Collecting Data  
- Derivation of Socio-Cultural Factors  
- Procedures for Treating Data  
- Summary

### IV. STATISTICAL ANALYSIS OF DATA

- 82
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS</td>
<td>102</td>
</tr>
<tr>
<td>Summary</td>
<td></td>
</tr>
<tr>
<td>Findings</td>
<td></td>
</tr>
<tr>
<td>Implications</td>
<td></td>
</tr>
<tr>
<td>Conclusions</td>
<td></td>
</tr>
<tr>
<td>Recommendations</td>
<td></td>
</tr>
<tr>
<td>APPENDIX A</td>
<td>111</td>
</tr>
<tr>
<td>APPENDIX B</td>
<td>117</td>
</tr>
<tr>
<td>APPENDIX C</td>
<td>119</td>
</tr>
<tr>
<td>APPENDIX D</td>
<td>123</td>
</tr>
<tr>
<td>APPENDIX E</td>
<td>127</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>131</td>
</tr>
</tbody>
</table>
## LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Means and Standard Deviations for the Five Tests Used</td>
<td>82</td>
</tr>
<tr>
<td>II. Analysis of Variance of Mean Differences in Creativity Scores for Three Ethnic Groups</td>
<td>84</td>
</tr>
<tr>
<td>III. Means, Standard Deviations, Fisher's ( t ), and Level of Significance for Creativity Scores of Three Ethnic Groups</td>
<td>85</td>
</tr>
<tr>
<td>IV. Analysis of Variance of Mean Differences in Creativity Scores for Males and Females</td>
<td>85</td>
</tr>
<tr>
<td>V. Analysis of Variance of Mean Differences in Creativity Scores for Four Groups as Related To Social Class</td>
<td>86</td>
</tr>
<tr>
<td>VI. Mean, Standard Deviations, Fisher's ( t ), and Level of Significance for Creativity Scores of Four Groups as Influenced by Social Class</td>
<td>87</td>
</tr>
<tr>
<td>VII. Analysis of Variance of Mean Differences in Creativity Scores for Three Groups as Related to Community Size</td>
<td>88</td>
</tr>
<tr>
<td>VIII. Means, Standard Deviations, Fisher's ( t ), and Level of Significance for Creativity Scores of Three Groups as Influenced by Community Size</td>
<td>89</td>
</tr>
<tr>
<td>IX. Analysis of Variance of Mean Differences in Creativity Scores for Two Groups as Related to Art Training</td>
<td>90</td>
</tr>
<tr>
<td>X. Analysis of Variance of Mean Differences in Creativity Scores for Three Groups as Related to Cultural Orientation</td>
<td>91</td>
</tr>
</tbody>
</table>
Table | Page
---|---
XI. Means, Standard Deviations, Fisher's $t$, and Level of Significance for Creativity Scores of Three Groups as Influenced by Cultural Orientation | 91
XII. Analysis of Variance of Mean Differences in Creativity Scores for Twelve Groups as Related to Father's Occupation | 92
XIII. Means, Standard Deviations, Fisher's $t$, and Level of Significance for Creativity Scores of Twelve Groups as Influenced by Father's Occupation | 93
XIV. Analysis of Variance of Mean Differences in Creativity Scores for Seven Groups as Related to Father's Education | 98
XV. Means, Standard Deviations, Fisher's $t$, and Level of Significance for Creativity Scores of Seven Groups as Influenced by Father's Education | 98
CHAPTER I

INTRODUCTION

Leaders in the world of business as well as those in the fields of education and psychology are becoming increasingly aware of the need to discover and encourage creative individ-

duals.

Companies must have creative people. They need new people who will create new products, new methods and new solutions. The company which fails to develop its crea-
tive resources is soon squeezed in the market place by competitors who have a better product, lower costs, better advertising, or more imaginative and far-seeing management (8, p. 1).

The nurturing of creativity is more and more being deemed necessary for the survival of the world. Toynbee states this rather succinctly:

To give a fair chance to potential creativity is a matter of life and death for any society. This is all-
important, because the outstanding creative ability of a fairly small percentage of the population is mankind's ultimate capital asset, and the only one with which Man has been endowed (30, p. 4).

Creation is a disturbing force in society because it is a constructive one. It upsets the old order in the act of building a new one. This activity is salutary for society. It is, indeed, essential for the mainten-
ance of society's health (30, p. 7).
The government is spending great sums of money on research in order to find creative scientists and military officers to work in our space programs and to further our technological growth. Ziegfeld, however, feels that this preoccupation with science and technology has created a cultural imbalance which can only be corrected or offset by the subjective and humanizing values of the arts (37).

Colleges and universities are beginning to stress the creative growth of their student bodies. Research is being conducted concerning the creative activities of children in the lower elementary grades. But of the secondary school and creativity, Torrance says,

Of the different educational levels, the high school years have been the most neglected in creativity research . . . . Apparently, educators have not had much interest in the "creative imagination" of high school students . . . . It has been deemed appropriate for colleges to produce professionally trained people who will make creative contributions. No such expectations exist for high schools (32, p. 28).

In good conscience the secondary schools "cannot continue to turn out 'artistic illiterates' any more than they can be responsible for students who cannot read or write" (37, p. 8). In order to be a healthy, well-educated citizen, so vital to the survival of the nation, the student must be conversant with his artistic heritage and learn to maintain his stability through creative expression.
Early adolescence, the period during which most youngsters are in junior high school, is a transitional stage of great consequence. It is a time of numerous physical changes, and for many a time of emotional stress. It is a time at which young people are still children but are expected to behave as adults. The relationships between parent and child and between teacher and student are often quite strained and tense. Creative expression, particularly in the visual arts, often provides a healthy outlet for the tensions which result from these developmental changes. In view of the importance of both of these developmental steps and of creativity, this study was undertaken to examine their inter-relationship in the lives of young people.

Statement of the Problem

The problem of this study was to determine the relationship between certain socio-cultural factors and junior high school students' creativity in art as measured by selected devices.

Purposes of the Study

The purposes of this study were as follows:

1. To measure selected junior high school students' creativity in art.
2. To determine the relationship between the following factors and the degree and kind of creativeness in art demonstrated by the subjects involved.
   a. Ethnic group
   b. Sex
   c. Social class
   d. Community size
   e. Previous art training
   f. Cultural interest in the home and community

Hypotheses

Using a weighted score obtained from (a) the Barron-Welsh Art Scale (35), (b) the Paper Shapes, (c) the Making Objects (10), (d) the Match Problems (4), and (e) the Sketches (17) tests to measure the students' creativity in art, it was hypothesized that

1. There would be no relationship between artistic creativity and the student's ethnic group;

2. There would be no relationship between the student's sex and his artistic creativity;

3. There would be no relationship between artistic creativity and socio-economic background;
4. There would be no relationship between the size of the city in which the student lived and his artistic creativity;

5. There would be no relationship between previous art training and artistic creativity;

6. There would be no relationship between the cultural orientation of the student's family and community and his artistic creativity;

7. There would be no relationship between the father's occupation and the student's artistic creativity;

8. There would be no relationship between the parent's educational background and the student's creativity in art.

Background and Significance of the Study

As previously noted, the present era is one marked by an increased emphasis on creativity. The world of business is becoming increasingly aware of creativity in art. Buildings and factories are being designed by architects who not only stress good design in the structure but who also try to incorporate the spirit or feeling of the business into the building. Much attention is given to the landscaping of the exterior and to the furnishing of the interior. Fountains and plantings are used to offer refreshing islands of calm to the eye which must function in a hectic environment.
Corporations are buying and hanging paintings in their offices, as well as purchasing prints and sculpture, to acknowledge the importance and function of aesthetics in the lives of their employees. Realizing the importance of the art product and its creator, such corporations as International Minerals and Chemical Corporation are sponsoring exhibitions and juried art shows. Even Sears and Roebuck, primarily a mail-order firm, is offering original works of art both in its retail stores and through its mail service.

Such mass media as publishing houses and television networks have become cognizant of the importance of art in man's daily life. Magazines have been and are publishing extensive articles on the various arts throughout the history of man, as well as those events currently taking place in the world of art. Publishing houses in the past few years have been releasing relatively inexpensive art books written for the layman. Television networks are producing high-caliber programs concerning the implications of art and of artists for mankind.

More and more people are taking painting-, crafts-, and art-appreciation courses in their leisure time. The general public are beginning to invest in works of art for their homes. Museums are offering painting and other art objects for rent, and libraries have prints and paintings which may
be borrowed for several months. A Federal Advisory Committee in the Arts has been appointed to recommend ways in which the government can stimulate and support the arts. A National Cultural Center has been planned. The individual American is definitely beginning to place some value on the creative mind.

Creative minds are much in demand by world powers wanting to get an edge in "the race for space"; they are sought after by big corporations that want a "better mousetrap" in order to keep up in a highly competitive world. Clever minds are constantly thinking of new ways to convince the public that it can no longer exist unless it buys "Brand X."

In the ideological battles between nations, there is competition for the minds of men. Not only survival in international competition but even the course of history may depend on the creativeness of a few imaginative and courageous men:

As few as three or four highly creative minds can make a crucial difference -- many of our present means of travel, communication, and production can be traced back to the creative thinking of a relatively small number of people (28, p. 2).

If one recognizes the essentialness of creativity, a pertinent question would then be raised: is creativity the gift of a rare few or are there many people who have such a latent talent? Taylor answers this question:
First, psychologists are convinced that all people are, to some degree, potentially creative including persons of all ages, all cultures, and all fields of human endeavor. Second, individuals differ in their degree of creative potential for various fields of activity and in the modes of expression of their creativeness (28, p. 178).

Lowenfeld expresses his viewpoint more mephatically; "Creativity is an instinct which all people possess, an instinct with which we were born. It is the instinct which we primarily use to solve and express life's problems" (20, p. 40). Torrance (28), Maslow (24), Carl Rogers (1), and Fromm (1, 24) concur with Lowenfeld's belief that creativity is an essential factor in coping with the stresses of life.

Fromm says that a sense of identity, necessary for every human being, is achieved only through a creative attitude (1). Rogers, May and Maslow consider the attainment of this creative self as a process of self-actualization or self-realization (1). According to Maslow, the self-actualizing person is more alive, more unified, more expressive and more courageous. He feels that self-actualizing creativity is more or less synonymous with essential humanness. Rogers believes that genuine creativity is the only way in which man can adapt to the kaleidoscopic change in his environment, the only way in which he can preserve his existent culture. "Not only individual maladjustment and group tensions but international
annihilation will be the price we pay for a lack of creativity" (1, p. 70). Torrance sums up these ideas in the following statement:

... scattered evidence from a variety of sources leaves little question but that the stifling of creative desires and abilities cuts at the very roots of satisfaction in living and ultimately creates overwhelming tension and breakdown. There is also little doubt that one's creativity is an invaluable resource in coping with life's daily stresses, thus making breakdown less likely" (28, pp. 51-52).

If all people are born with creative potentialities, what happens along the way to cause a child to "lose" these creative abilities? Sociologists agree that a child is largely a product of his environment. Havighurst says, "The mind and personality develop, not according to a plan already present in the germ cells, but according to the child's social experience as he grows up" (16, p. 70). Regarding creativity and environment, Wickiser says,

The desire for expression leads the artist to seek conditions compatible with his desires, needs and intention. He must create a situation and state of mind conducive to creation.

It is essential for highly creative individuals to divorce themselves from all practical considerations and accepted standards of taste in order to venture into the unknown and bring to us their own personal, unique, and fresh view of the world.

We cannot take for granted that all young people will be creative under the same conditions. The child, like the mature artist, needs either a sympathetic environment or a strong constitution to resist his environment (36, pp. 77-79).
In order to create, the child needs a certain amount of emotional freedom; he must feel free to experiment both with approach and with various media. Any child who has been inhibited by adult attitudes loses confidence in his own ability and will resort to copying that which has already been done, that which is safe (21). The home may be an inhibiting factor in the development of these attributes which are considered to be predictive of creativity (28).

Children quite soon become aware of disapproval and criticism by their parents and teachers. Foshay feels that a child needs to be able to conduct himself so as to be open to his experience, but he is impeded.

This sort of behavior is no longer common by the time a child reaches school. Much has happened, by then, to teach him that the safe course is the best course, and that he is safest when he imitates, and most exposed to danger when he tries things on his own (7, p. 28).

Studies conducted by Torrance (31) have shown that creative imagination reaches a peak between the ages of four and four-and-one-half years. Following this peak, there is growth from the first through the third grades, a sharp drop at the beginning of the fourth grade, a rise during the fifth and sixth grades, and another decline at the beginning of the seventh. Torrance feels that these disruptions are caused by discontinuities in the culture and in the educational programs.
As the child reaches adolescence, numerous additional blocks to creativity arise. One of the most important is the ever-present insistence on conformity to peer group behavior patterns; the youngster wants to be just like everybody else at school. Society frowns on making errors, so that it is no longer safe to experiment. The family stresses achieving good grades, so that it does not pay to disagree with the teacher or standardized and conventional ideals. There has been much emphasis on dating, on the sex role, and on athletic achievement—not one of which is conducive to visual sensitivity and aesthetic awareness or perception. Sensitivity and creativity are regarded as effeminate; therefore, the adolescent boy will be inclined to sacrifice his natural bent for creativity in order to keep his masculinity (23, p. 31).

In the past, many educators have equated intelligence and creativity. However, to do so is erroneous (11); a high IQ per se does not guarantee creativity (15, 18). Many youngsters who have great potentialities due to their high level of creativity are written off by their teachers as less intelligent, as troublemakers, and as non-conformists. The creative person is described as impulsive and eccentric, whereas the high-academic-achiever conforms more closely with teacher expectations.
It should be obvious, then, that the American system of education is obligated to become cognizant of the factors influencing creativity in order to provide an environment suitable for furthering this valuable trait. Educators must become fully aware of the meaning of creativity, learn to identify the creative child, understand how to encourage him, and take steps to increase the creative level and motivation of every child.

An individual may have all the necessary attributes of a creative person, yet his output is not very great. He is potentially creative and can therefore be called creative, nevertheless; he might become productively creative if given the necessary motivation and environmental occasion (13, p. 7).

Creativity, according to May (1), occurs in those areas to which a person is intensively committed. The child values and becomes committed to those experiences which are rewarded by parents and teachers. The school is obligated then to provide a stimulating environment which will reward the student's creative experiences.

Definitions of Terms

For reasons of clarity, certain terms used throughout this study are defined below:

Creativity in art refers to the ability to produce an art product which demonstrates a new or fresh way of visualizing and the ability to make evaluative judgments of art products similar to those of recognized artists.
Cultural background indicates an environment or experiential setting in which the student has had some acquaintance with that which is excellent in art, music, drama, etc.

Large-city school refers to a school located in a large city having more than 90,000 in population. The students in this school live in the same general section of town.

Rural-community school refers to a school located in a small community having a population less than 3,000. A number of students come in from the surrounding farms or rural area.

Small-city school refers to a school located in a small city having between 20,000 and 50,000 population.

Socio-cultural factors indicates those characteristics of the culture which influence its members to assume certain attributes or roles.

Limitations of the Study

This study was limited to eighth grade students enrolled in public junior high schools in the North Texas and Central Texas areas during the spring term of 1967. The schools were selected in such a manner as to avoid communities with major colleges or universities which would have an unusually large number of academically-oriented persons and other professional people. Such a population might have unduly influenced the statistical data pertaining to social class, cultural orientation, and father's occupation and education, producing
results other than would be found in a "normal" cross-section of the population in the above-mentioned areas.

Basic Assumptions

In this study the following assumptions were made:

1. That the individual student had answered the questionnaire (See Appendix A) honestly;

2. That the student's socio-economic status had been evaluated or determined from the information given on the questionnaire in a reasonably accurate manner;

3. That the student's cultural background had been adequately determined from the questionnaire;

4. That the tests utilized, (1) the Barron-Welsh Art Scale, (2) the Paper Shapes, (3) the Making Objects, (4) the Match Problems, and (5) the Sketches tests, were of sufficient import to be statistically significant in determining an adolescent's artistic creativity.

Instruments

The questionnaire used in this study was formulated from a combination of source materials by Havinghurst (16), Holland (18), Hollingshead (19), Lasswell (20), Reiss (26), Warner (34), and the Purdue Opinion Poll (25). The questionnaire (See Appendix A) was used to determine the student's ethnic group, sex, social class, previous art training, cultural background, and other pertinent information.
The tests used in this study were selected through careful researching because of their apparent relationship to the assessment of artistic creativity. Four of the five tests used were standardized tests. The Making Objects test, the Match Problems test, and the Sketches test were suggested by J. P. Guilford of the University of Southern California as having "some relevance in connection with creativity in the visual arts" (12). Guilford has been a leading figure in the development of tests of creativity and of a structure of intellect, in research concerning traits which contribute to creativity, and in studies of the aptitudes of high-level personnel. Most of this research has been conducted since his presidential address to the American Psychological Association in 1950 at which time he lamented the lack of research on the subject of creativity.

The Barron-Welsh Art Scale has been used recently by industry in its search for creative personnel. Studies using this test have shown that the creative individual demonstrates a preference for complexity of experiences.

The Paper Shapes test was designed by the researcher especially for this study. On the basis of several years' teaching experience at the junior high school level, the researcher felt that a device which would give the student an opportunity actually to produce an "art work" would perhaps be more nearly valid measure of artistic creativity. This feeling was reinforced by Ausubel's opinion that "Assessments
of creativity or of creative potential can only be made in particular fields of achievement by using expert judgments of actual performance or work products that take age and experience into consideration" (2, p. 346). Taylor states, "In the area of developing criteria for the evaluation of degree of creativity, . . . assessment of the product is much more important and acceptable . . . than assessment of the process. One reason is that the product is far more tangible" (28, p. 8).

Description of Tests Used

**Barron-Welsh Art Scale.**—The test consists of eighty-six black and white figures each of which the subject is asked to decide whether he likes or dislikes. His preferences are marked on a separate answer sheet. "The figures range from simple geometric forms to complex and diverse patterns and designs. They were drawn with many variations to include differences in line quality, shape, content and other aspects of design" (35, p. 5).

In a study using this test, conducted at Tulane University with art students, art faculty, and non-art faculty, Rosen found that the difference between artists and non-artists yielded a $t$ of 3.04, significant at better than .01. The scale correlated with ratings of originality at the .02 level of significance. Rosen concluded,

> It is evident that scores on the Art Scale do not increase as a function of level of training in art, but
that persons who are not artists at all make significantly lower scores than do persons who have sufficient interest in art to undertake formal instruction in it (27, p. 366).

**Paper Shapes.**—For this test (See Appendix B) each student was given an envelope of gummed and non-gummed colored paper shapes and asked to create an imaginative design on the designated sheet within a twenty-five minute time interval. The students were told that they might use the shapes in any way that did not require the use of additional tools or materials. The more creative student perceived that the pieces could be torn to produce new shapes, that gummed pieces could be used to attach non-gummed paper, and that the shapes could be folded, bent, or curled to produce a three-dimensional design.

All of the tests were scored by a group of judges comprised of an art supervisor, a college art faculty member, a public school art teacher, and two graduate art students. Each judge scored the tests individually on a five-step scale, ranging from very creative to poor. The scores were averaged and multiplied by ten to obtain a single score on the test.

**Making Objects.**—The test is a measure of "visual, figural expressional fluency." It involves the ability "to organize figural elements into structures or patterns of some degree of complexity, with an emphasis upon the use of the same elements in different ways and in different
combinations" (10, p. 1). The subject is given a collection of simple figural elements, such as a rectangle, a circle, a trapezoid, etc., and told to construct specified objects in a limited time.

According to the test manual, "It can be suggested that the test is a reasonable candidate for discriminating individuals with some potentiality for creative performance in the visual arts . . ." (10, p. 3). As of yet there is no information concerning the predictive validity of the test. In a sample dealing with a ninth grade population, the observed reliability ($r_{tt}$) was .63.

**Match Problems.**—The test is a measure of the ability to change direction in solving a problem or to reinterpret information in various ways. This may be interpreted as originality in dealing with concrete visual material; the examinee must produce solutions to the problems. A statement of validity is not offered by the authors. With three different groups of ninth-grade students, Guilford (17) found the test to have reliabilities of .70-.72.

**Sketches.**—The test is an unpublished test which has been developed by the Aptitudes Research Project at the University of Southern California. It requires the ability to produce many figures that conform to simple specifications. The examinee is asked to "add figural details to several replications of the same basic design to produce a variety of recognizable objects" (17, p. 29). There apparently is
no available information as to the validity of the test at the present, although Sketches appears to be the most nearly "univocal" measure of divergent production of figural units. The test has been found to have a reliability of .57 at this time (17).

Summary

It has been pointed out that in a rapidly changing and expanding world, creativity is being recognized as essential for good mental health, for progress in business, and for the survival of the culture. Mere recognition of the need for creativity is not enough. The American system of education must assume the initiative in the study of the creative process and of those factors which inhibit or facilitate creativity. Education must also assume the responsibility for providing experiences which will stimulate the creativity of every child.

Realizing the importance of creativity and believing that early adolescence is an important developmental stage during which creativity may be stymied, the researcher undertook this study at the junior high school level to ascertain the effects of certain socio-cultural factors on creativity in art as determined by a battery of five tests.

Chapter II (p. 23) will be specifically concerned with the related research pertaining to the influence of these socio-cultural factors on the American way of life.
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CHAPTER II

CREATIVITY, CONFORMITY, AND THE AMERICAN CULTURE

Creativity cannot exist separate and apart from the climate of its environment. It exists within a social context and is evaluated by social standards (18). Therefore, creativity must be considered in its relationship to the culture—the American culture in this case. The American culture today constitutes a technological society.

It would appear . . . that the science-dominated world of today is a paradox. While bringing the earth's people face to face, while collapsing time and space, science has achieved an amazing schism between its world and the world of humanity which is being transformed by that science. It has created great uncertainty and fear, a sense of spiritual isolation in the midst of physical proximity. It has tended to dehumanize man by making him over in the image of the machine he operates (59, pp. 17-18).

It is a society marked increasingly by fear and suspicion. There are those who feel that it is a society almost devoid of humanness, a society of groups. The present culture is typified by a social order in which everyone is doing the same thing at the same time: apartment or housing tract living, group thinking, togetherness, mass communication, group dynamics, group therapy (30). If creativity is an individual experience, as it seems to be, how can it flourish and withstand the pressures of the mass culture?
Creativity and the Culture

Since the American people expend a great deal of time and money scouting professional athletes and importing soccer and hockey players, while spending negligible amounts in searching out creative talent, no doubt a re-evaluation of both creativity and the culture is necessary. There are many definitions of creativity, but most agree that to bring something into being or to produce something new is essential to creativity. Newell summarizes it: "Creative activity appears simply to be a special class of problem-solving activity characterized by novelty, unconventionality, persistence, and difficulty in problem formulation" (18, p. 66). Rhodes states, "Creative production is the outcome of certain kinds of forces playing upon certain kinds of individuals as they grow up and as they function" (35, p. 308). Artistic creativity is defined by Kaufman as:

... the bringing into expressive being of a new artistic form or aesthetic idea, or a novel and fresh rearrangement of previous combinations of elements, expressively and aesthetically through active personal behavior interrelating with perception and experience (22, p. 262).

There is debate among psychologists and educators as to whether the process or the product is the more important in the evaluation of creativity. Some feel that the finished object is only a by-product of the process and, therefore, of secondary importance. Others feel that the assessment of the product is of the more value.
There are also different theories as to what constitutes the potential for creativity. Guilford (1) suggests that there are five basic components in creative thinking: (a) fluency, or the ability to produce a large number of ideas; (b) flexibility, demonstrated by a variety of approaches; (c) originality, which calls for unusual ideas; (d) redefinition, that is to perceive in a new and different way; (e) elaboration, which is the ability to go beyond what is given, to make more complex.

Dodson (7) perceives four levels of creativity. The first is the self-expression level in which knowledge, depth of insight, and skill are lacking, the spontaneous drawings of young children being characteristic of this level. The second stage is the impression level in which there is a tendency to control spontaneity and to strive for the development of the techniques of realism, objectivity, and completeness which make a finished product. At the third level, the innovative, the individual acquires and displays ingenuity with materials, methods, and techniques. The fourth level is seldom reached, for it is that of the genius. This level is reached only when one understands the basic assumptions in a process and goes beyond them, achieving something new and abstract.

Gardner also recognizes four basic steps as being involved in the creative process:

First, there is the long immersion of the sensitive mind in some specific medium which gives delight and fulfillment, whether it be the world of color, tone, movement, space. . . . The second phase in creativeness
appears when this sensitivity, this demand upon the world for contact and assimilation, leads to the acquisition of storehouses full of experiences which consolidate themselves... into "higher units" or structure patterns or ordered experience... It is from these great storehouses, based upon years of accumulation and incubation, that the third phase, the "sudden inspiration" of the composer, the dramatist, or the scientist, derives... The fourth step which always emerges in the process of creating is the "hammering-out" or the sifting and testing, the critical evaluating and perfecting of the work done (30, pp. 129-131).

Eisner (9, 10, 11, 12) has developed a typology of creativity which applies specifically to the visual arts. He hypothesizes that there are four types of creators: (a) the boundary pushers, who are always pushing the limits of ideas or objects; (b) the esthetic organizers, who have a highly aesthetic way of organizing visual qualities; (c) the inventors, who produce new objects by combining materials; (d) the rare boundary breakers, who reject the assumptions of others, formulate new premises, and develop a new system of thought.

In the classroom boundary pushing is displayed by the student who, for example, uses a wooden spoon as a printing tool; inventing, by the child who combines plaster and clay to create a new building material; boundary breaking, by the student who makes his painting upon a sphere rather than on a flat surface; and aesthetic organizing, by the child who focuses upon the aesthetic organization of visual form (12, p. 12).

As demonstrated by these diverse opinions as to the components of creativity, it would seem obvious that creativity is a complex trait having many facets. Creativity is not confined to a gifted few; it is potentially distributed throughout the population (17). This can be observed in the actions of small children who manifest spontaneity and individuality...
when not restricted or regimented by adult ideas and standards (2).

We know from watching children in progressive schools that the desire to create must be almost universal, and that almost everyone has some measure of originality which stems from his fresh perception of life and experience, and from the uniqueness of his own fantasy when he is free to share it (30, p. 453).

"The child himself does not abandon creativity spontaneously, but does so under pressure from adults who want him to think and act 'realistically'" (23, p. 75). The creative potential, however, is not the same in quality or quantity everywhere. Those who display one type of creativity do not necessarily demonstrate another nor does every individual possess creativity to the same degree (11, 45). The youngster who is creative in science tends to be low in artistic achievement (50). Research has shown that people tend to develop along whatever lines they find rewarding. If only one or two types of talent, such as scientific creativity, are rewarded, then other types, such as art, fall by the wayside (54).

The present era is one in which old habits and traditions are not sufficient to meet the social and political changes taking place in the world. There are those who cling to old ideas in a search for identity. They are frightened of changes lest they cause the social order to tumble. This fear is without basis, says Kaufman, since "... the security we seek is more likely to be found in the kaleidoscopic variety and force of change than in the so-called stable and frozen aspects of an unchanging surrounding" (22, p. 17).
Rogers further states that

... a generally passive and culture-bound people cannot cope with the multiplying issues and problems. Unless individuals, groups, and nations can imagine, construct, and creatively revise new ways of relating to these complex changes, the lights will go out. Unless man can make new and original adaptations to his environment as rapidly as his science can change the environment, our culture will perish (34, p. 64).

Adaptivity and flexibility (or creativity if one prefers) must be cultivated from childhood onward in order to successfully meet and deal with life's challenges (2). Self-discovery and self-emancipation can come about only through the cultivation of the idea that creation in itself is satisfying and rewarding (30).

It is important that the culture stress the growth of creative personalities since these seem to be the ones which "... function in terms of flexibility, openness, capacity to accommodate conflicts and ambiguities, fearlessness of the strange and unknown, and an ability to integrate disparate elements" (20, p. 16). Creativity, then, can be equated with essential humanness: "These are the essence of being human: development and search; self-examination; search for purpose and meaning; and realization of one's essential qualities by confronting the problem of a meaningful life" (2, p. 25).

Creativity will not spring from the untaught, for creativity is the talented recombination of that which is known into something new (4). The creative potentialities in every
individual must be carefully nurtured. Without encouragement from the culture these potentialities will not mature and bloom.

You can buy the most expensive bushes in the world but without proper planting, the right soil, fertilizer, insecticides, water, sunshine, and loving care—your roses may never see the light of day. So it is, I believe, with Creativity (34, p. 6).

Some individuals are far more gifted than others; they have latent talents which, if encouraged, might make a unique contribution to society. Such talent needs to be identified early and exposed to a stimulating environment. Identification of such individuals at maturity is too late.

. . . generally speaking studies of the history of highly creative and productive individuals show early appearance of their ability, substantial exposure in a stimulating environment and tremendous concern over many years with the activity in question (57, p. 27).

Murphy (30), however, feels that early identification is just a beginning. The youth of today must be taught how to use today's group structures to find creative solutions for shared problems. Secondly, they must be helped to channel the intensities of their early responses into the diverse areas in which discovery and creativeness may flourish without smothering their early enthusiasm and naivete.

Periods of great creativity appear to occur in cycles throughout history, seemingly with certain patterns involved in their occurrence:

There must, of course, be savings, capital, surplus value; there must be leisure; there must be an individual or an oligarchy or a social class that cares more about discovery of the new than about conquest as such, or
magnificence in display, or the unlimited snobbery of forced adulation imposed upon slaves and flatterers. There must be intellectual curiosity, or delight in new aspects of color and tone, or some other enrichment of experience. . . . Those intellectual and esthetic cravings . . . must be combined with leisure, purchasing power, and interpersonal power in a manner permitting the evolution of specific creative activities (30, pp. 144-145).

The present era seems to have the necessary requisites for becoming one of history's creative epochs. The advanced technology of the American culture has made possible low-cost, mass-produced, effective implements to simplify daily living. But this is not enough; there is a void:

. . . there springs up . . . to fill the spaces, the amenities in wood, metal, and leather which are everywhere recognized as having a personal value and meaning proportional to the individuality and flexibility that went into the production (30, p. 108).

The arts seem to provide the needed touch of warmth and humanness missing in the sterile environment created by computers and machine technology. In considering creativity and the culture, the value of the visual arts must also be weighed.

The Importance of Art

The need for and importance of art in modern society has never been greater. "Our society must have the subjective and humanizing values of the arts to balance the objectivity and materialism of science and technology" (60, p. 11).
Drews (8), basing her observations on recent studies, suggests that many engineers who test high in ability but lack interest in the humanities may be prevented from being highly creative or from being able to handle high-level management positions as a result of their deficiency of cultural sophistication.

Through art experiences an individual develops an awareness of the aesthetic qualities existent in his surroundings. The result of such experiences, the art product, reflects the individual's relationship with and participation in his environment. "The art expressions of any person or period are direct human statements rooted in the spirit and ideas of the artist and his times" (59, p. 21). When this relationship is understood, it becomes clear that "creativity . . . is possible in the visual arts for any person, no matter how young [or old], who draws directly on his experience" (59, p. 21). The arts give form to inward experiences, making them conceivable:

As soon as the natural forms of subjective experience are abstracted to the point of symbolic presentation, we can use those forms to imagine feeling and understand its nature. Self-knowledge, insight into all phases of life and mind, springs from artistic imagination. That is the cognitive value of the arts (2, p. 7).

When one is involved in an art experience, he not only creates a work of art, but he also re-creates himself:

In other words, as there is an interconnection between the formative processes and the psychophysical
responses of the originator, it can be said that he who forms artistically in turn forms himself. Hence the unfolding of inherent art abilities takes on high significance with respect to the needs of the whole personality. This is especially true for those who suffer from a lack of self-confidence resulting from general neglect of their creative potentialities. It may further concern all those who live under depressive conditions, those who are occupied with automatic, mechanical work, who do not know the power that springs from the achievement of creation (38, p. 28).

Each idea that emerges reflects the creator, his values, and his conditioning to life's everyday experiences (35). Genuine artistic work has such a profound effect upon the life of man that the unfolding of his art abilities becomes an indispensible cultural element. Artistic activity, which serves as the pictorial realization of man's conceptions, may help to form a better and more congenial world (38).

The most important function of art then is to translate feeling and emotion into a plane or level which all can understand and contemplate (2). This creative experience, this translation of one's innermost self, is not without expense.

Creative change comes at the high price of surrender of comfortable habits. Development of self-reliance and independence comes at the high cost of surrender of comfortable dependencies. Imagination and expression come at the painful cost of surrender of comfortable routines, formulae, and manuals of instruction. Adventure and excitement come only if we are willing to give up security and safety (2, p. 36).

Many adults cut themselves off from creativity by clinging to society's customs and by placing their security before
curiosity (5). The conformist, antithetic to the creator, wants to avoid uncertainty and to maintain a safe and stable environment.

Conformity and the Culture

Increasing pressure toward conformity and uniformity are apparent throughout the American culture. Mass communications are bringing the same news, music, and ideas to millions of people with the inherent danger of producing a single approach or mass homogenization of thought (13, 46). The complexity of the various structures, social, political and educational, within which the culture operates demands uniformity in order to function smoothly (59). To deviate from this uniformity, to "rock the boat," brings strong repercussions.

In everybody's life one can observe the effect of the pressure of society, as represented by parents, teachers, peers, toward the formation of a more or less definite, closed view of life and the world, a certain code of behavior as well as often very definite views about things and people and what they are there for. . . . The parents answer the child's endless questions and their answers usually transmit the labels of the culture, . . . whether they are useful or useless, . . . etc. Inasmuch as the child looks upon the parent as all-knowing, or with fear, he accepts these views and with them very often the implicit assumption that these answers contain all there is to the subject. Obviously, there are great variations in parents with regard to the wish . . . to impose their views as the only ones on the child or to further the child's own explorative curiosity; with regard to their own awareness of, and
readiness to admit, the limited nature of their knowledge or . . . their wish to appear as omniscient or as the ones who always know best.

In addition to the closure of the world which results from the transmission of a familial and/or cultural viewpoint, parental curbing of the child's exploratory drive can also be a factor that interferes with the world-openness of the child and often leads to a more or less powerful strengthening of the tendency to avoid the unknown and remain embedded in the familiar. The more worried the parents are about the dangers of the world, the more likely are they to impart this view to the child (37, p. 187).

Independent thought is becoming more difficult because the population explosion encroaches on the privacy of the individual. The Cold War and current unrest freezes an individual into ideological orthodoxy and forces him to side with particular group allegiances. Society expects the individual to fulfill many social roles and to bear the burden of many social problems. Life is so transitional, so kaleidoscopic, that new problems arise before old ones can be solved (13).

Conformist thinking involves an escape from anxiety, relief from pressure, and a sense of being in step with the group.

Conformist thinking is most dramatically revealed when the individual yields in his judgments under group pressure. The pressures from the group need not be explicit; that is, the group need not overtly threaten or coerce the individual. The pressures may be implicit; that is, the mere existence of a group judgment which the individual perceives to differ from his own may exert pressure on him, pressure arising out of fear of being wrong, of 'being out of step' with the group (13, p. 211).
The wants served by conformity are the wants for group acceptance and group prestige (13). Modern technologies and wealth have not helped man to overcome his urge to seek protection with and his dependence on the "in-group" (39).

People who feel rejected by a group to which they wish to belong are much more sensitive to group pressures and conform much more to the ideas and standards of the group than do those people who feel accepted (14). The reproach or contempt on the part of the group, whether real or imagined, can be a crushing force on the individual (13). He finds that the "best" thing to do is to be friendly, agreeable, cooperative, and strive for the interests of the group without disturbing the status quo. As Sanford says,

"With respect to ideas and issues the thing is to be openminded and noncontroversial, above all to avoid unpleasantness; if an ethical decision has to be made, the proper course is to see what the others think (6, p. 12)."

When an individual bases his actions and experiences on appearances or on the expectations and standards of others or when he is concerned with status and approval, his growth as a self-actualizing entity is impaired. He increasingly erases his identity, becoming a part of the mass. Moustakas feels that the conformist loses touch with his inner being:

"The conforming person does not use his own resources, his own experiences, but takes his direction from experts, authority figures and traditional guides. Somewhere
along the way he has given up his actual identity and submerged himself into acceptable group modes. He has been rejected by others as a unique, independent self and he has come to reject himself. He is cut off from vital self-resources which would enable him to grow in accordance with his talents and to find his place in the world. He has lost touch with himself (3, p. 88).

Creativity is inhibited by conformity. Those persons who conform most readily are usually the least creative. For the most part, the conformist is less intelligent, less flexible and less fluent in his ideas than the creative individual. Being emotionally more repressed, he denies himself access to his creative subconscious. He lacks faith in his own ideas, deferring to those of the group. Not only is he more conventional in his views, but often he is also rigid and authoritarian. He seeks security and acceptance, avoiding novelty and the unsettling challenges of creativity (23). The conformist is lower in ego-strength and has pronounced feelings of personal inferiority and inadequacy. He expresses attitudes of a more conventional and moralistic nature. He exhibits a strong sociocentric orientation and an intense preoccupation with other people. The conformist is passive, suggestible, and highly dependent on others (18).

The present era is marked by increasing inter-dependence of one individual upon another:
The more we feel dependent on others, the greater our fright can be at what others may be doing. The greater the fright, the greater the lunge for conformity, the more difficult the position of the innovator, the greater the proportion of energy spent by people adjusting to one another in the system, and the less energy available for realizing the unique integrations that are requisite for creative beings (29, p. 274).

This era is also characterized by some rather peculiar paradoxes: a work-play dichotomy, an emphasis on self-effacement rather than self-confidence, and a success-orientation with its ensuing emphasis on the prevention of frustration and the seriousness of failure (32, 42, 45, 52). In this era one is supposed to dislike work and enjoy only play. The hard worker is looked down upon. He is not supposed to exert more effort or produce more than the average or the group. "This carries a real threat to creative power. For belief in the rewards of hard work did much to make our people ingenious; and the loss of that belief can do much to tear down their creative urge" (32, p. 87). Self confidence has been replaced by modesty as the trait to emulate:

Self-effacement has been glorified to the point that many young Americans are almost ashamed to advance ideas. As a result, many brain children of great promise are strangled by their own parents before anyone ever hears of them (32, p. 97).

Success has become all-important. That which is detrimental to success should be prevented; it is not allowed. To be successful the individual must learn to get along with
the group and learn to value those attributes which are valued by the culture. Reaching the goal is most important; conformity denies the right to fail (42). Parents tend to rob their children of curiosity, resourcefulness, and initiative by solving all their problems and negating all their crises (52). Parents do not allow their children to fail lest they develop "complexes." However, without setbacks and discontinuities, growth cannot take place.

Creativity, on the other hand, disallows the existence of failure. If a process fails or an idea is unsuccessful, it has been good experience. The striving toward goals is the important thing (42).

Since the main obstacles to the growth of creativity seem to be cultural, the significance of the environment's role is its encouraging or discouraging influence on the development of the child's potentialities (37). During the preschool years, when the brake is put on fantasy and imaginative play, the child starts to regard his imagination as an inferior faculty (23). Parents reinforce these cultural pressures toward conformity in order to achieve the happiness and security they want for their children (52). The child learns to suppress or redirect drives and impulses which are at odds with those of the culture. During childhood or the period of socialization, the pattern of manifest behavior is learned:
"The extent of the inhibition of impulse and the nature of the manifest behavior is a function of the particular standards and child-rearing activities of the groups within which the children are brought up" (15, p. 117). In the elementary school, the teacher stresses harmony of the group rather than individual progress (23). Sanctions are exercised against questioning and exploration (52). There is a decline of creative thinking ability at age thirteen due to the stresses imposed by cultural discontinuities. In the secondary school, there is emphasis on work being accurate and handed in on time rather than on originality.

As childhood gives way to adolescence and adulthood, there is a shifting from autocentric or subject-centered perception to allocentric (object-centered) perception. However, a secondary autocentricity, capable of restricting one's awareness, develops during this shift (30). "This secondary autocentricity is acquired mainly during the process of socialization as the growing person absorbs his society's conventional responses to the world" (23, p. 36). One's creative potential (as well as IQ) reaches its peak in the late teens; the creative capacity is not likely to develop further (23).

The gifted child is not particularly valued by teachers in the classroom or by parents at home; he is not deemed a
good prospect to succeed as an adult. Pressures toward conformity are stronger in regular mixed classes than in special classes for the gifted, and are stronger in urban areas than in rural areas (52).

The high IQ's tend to converge upon stereotyped meanings, to perceive personal success by conventional standards, to move toward the model provided by teachers, to seek out careers that conform to what is expected of them. The high Creatives tend to diverge from stereotyped meanings, to produce original fantasies, to perceive personal success by unconventional standards, to seek out careers that do not conform to what is expected of them (49, p. 56).

A person has the choice of clinging to the past, to the ways of his family, peer group and community and of retaining the security of "embeddedness" or he can develop an interest in and love for a larger and richer world. He can fully experience life only when he "does not cling to the protection of the familiar and the past" (37, p. 14).

There are several other socio-cultural influences closely allied with conformity which must be considered: namely, ethnic influences, the sex role, peer pressures, socio-economic background, the family, and cultural background.

**Ethnic Influences**

Studies relating ethnic differences to creativity are few in number. One reason for this lack, perhaps, is the close alliance which has in the past existed within the
American culture between ethnic-group membership and social class. Researchers may have felt that too many uncontrollable variables in such a study would make the results questionable. Wylie (58), in a study to assess children's estimates of their schoolwork ability, found that Negro students made much more modest estimates of their abilities than did white students; such modest estimates were also true of children having lower-class status.

A test for conformity in a California experiment showed the following:

Negroes, Jews, Mexicans and other minority group members turned up in the groups tested; they tended to have higher conformity scores than members of major racial-religious groups. The possibility that this was due to lower intelligence . . . was ruled out; their IQ scores were no lower than the other groups tested (14, p. 20).

Apparently, certain ethnic groups, in their desire to be accepted in the culture and in their search for security, are highly conforming. Since high conformity is contrary to those conditions necessary for creativity, it would seem logical for such groups to rate low in creativity.

The Sex Role

There is in the American culture of today a tremendous emphasis on sexuality and the "appropriate" sex role which exacts a toll on creativity (54). Youngsters are pushed by
their parents into early dating and early "growing-up" regardless of the child's level of maturation. Magazine advertisements and television commercials constantly bombard youth with the importance of females becoming more feminine and males becoming more masculine through the use of a particular product.

There exists much emphasis on masculinity, on the rugged outdoorsman, and on the handsome athlete. Talk, reading, intellectualism, and sensitivity are considered to be "sissy."

The more creative a person is the more he reveals an openness to his own feelings and emotions, a sensitive intellect and understanding self-awareness, and wide-ranging interest including many which in the American culture are thought of as feminine (19, p. 47).

In our culture, sensitivity is definitely a feminine virtue, while independence is a masculine value. Thus we may expect the highly creative boy to appear more effeminate than his peers and the highly creative girl to appear more masculine than hers (54, pp. 111-112).

As a result of the traditional American emphasis on masculinity, virility, and hardiness, men have a horror of femininity or femaleness. They are threatened by softness, fantasy, and emotional "childishness" (34). This fear seems to be particularly evident in the lower socio-economic groups. Concerning the lower-class male, Maslow says,

If he's been brought up in a tough environment, "feminine" means practically everything that's creative: imagination, fantasy, color, poetry, music, tenderness,
languishing; being romantic, in general, is walled off as dangerous to one's picture of one's own masculinity (34, p. 97).

Although creativity is felt by many to be effeminate, Torrance (52, 54, 56) has found in studies with children that boys solve problems more creatively than do girls and are, in fact, superior in creative thinking. Boys are also more skilled at motor and manipulative tasks, but girls are accomplished at verbal skills. These differences seem in part to be culturally induced. Girls enjoyed tasks requiring creative scientific thinking (primarily a masculine interest in the past), but the contributions of boys to this area were more highly valued by the peer group. Wylie (58) found that, in general, girls had a lower estimate of their own abilities than boys had of theirs. Torrance comments that

> It seems apparent by our differential rewards for boys and girls we make taboo entire areas of experiencing. In so doing, we reduce these pupils' potentialities as human beings. We reduce their openness to experience and their contacts with their environments (56, pp. 103-104).

The change from a natural enjoyment of and identification with artistic activities to inhibition and loss of satisfaction in creative experiences, which occurs around puberty, is not completely understood. Deep-seated psychological and physiological influences are at work, in part due to emerging values (22).
Peer Pressures

The pressures of the sex role toward conformity are reinforced and paralleled by the pressures of peer groups. The child at school learns by the time he is in the fourth grade that he must perform as a group member, not as an individual. He has learned

... social subordination and accommodation, ostracism, segregation into groups, disparagement, stereotyping, competition and compromise. ... Strong dependency upon consensual validation develops, and unusual ideas are laughed at, ridiculed, and condemned. The child sees those around him not so much as enemies but as sources of humiliation, anxiety, and punishment with respect to that which they communicate; and this tends to reduce the freedom and enthusiasm of communication (54, p. 94).

Peer pressures become even stronger as the child grows older. Because of their strong need for identification, adolescents have a special concern with group maintenance and social conformity. American teen-agers have their own economy, vocabulary, language systems, and "in" groups.

To secure a sense of identity and to provide cohesiveness for the groups that form within this society, values, behavior patterns, and role expectations are sanctioned when congruent with the expectations of the group or punished when they threaten the activities or status of the groups within that society (9, p. 467).

These adolescent views tend to be more "closed" and limited than those of many parents, and deviants from these views even more ostracised socially (37). Groups exercise pressures on their highly creative members to reduce their production of ideas through hostility, criticism, and ridicule (56).
The highly creative adolescent who engages in novel modes of creative behavior or productivity may produce behaviors or products that are not acceptable to the standards of the group to which he belongs. If he belongs to a group, for example, that values athletic achievement and if his talents lie in scientific or artistic activities, such activities may become exceedingly difficult for him to engage in without feeling outside of the group and of risking its acceptance of him (9, p. 468).

When such an adolescent has new ideas or insights into a problem, he runs the risk of being thought peculiar if he expresses his thoughts. He is torn between resolving his inward need to express himself and the fear of criticism from the group. If he lacks sufficient ego-strength to risk peer criticism, he represses his ideas and thereby lessens his development (9).

Smith (39), in a study of pre-adolescent boys, found no direct evidence of peer pressure to control or oppose creative expression. He concluded that a student's level of creativity does not influence his acceptance by the peer group. This study, however, was conducted in a private school which probably had a more homogeneous and permissive attitude than was normal.

In a study of artistic creativity in high school pupils, conducted in 1957-58, Michaels (28) found that one of his experimental groups was so influenced by the use of a peer art standard that the students' self-concepts did not grow and that students' art products decreased significantly in the quality of individuality of expression.
Observations of the preference of American teen-agers for similarity in dress, hair styles, music, entertainment and other leisure-time activities, would make it seem apparent that the adolescent peer pressures during the present era produce an excessive insistence on conformity.

*Socio-Economic Background*

The traditional American cultural ideal is that individuals should develop mastery over their environment. This becomes a reality by the culture's providing varying amounts of social resources or things as rewards for this behavior (27). Much of human striving, then, is to gain these rewards or achieve a favorable place in the social order (34). In this competitive struggle, the lower-class individual is poorly rewarded. In fact, the culture tends to discriminate against the lower-class child to his serious and often permanent detriment. He is not popular at school; he is not part of the "in" group. The disadvantaged child lags in verbal skills and does not understand much of the middle-class culture, nor do the teachers understand him. Even the creatively-gifted youngster in this group appears hopelessly crude and unsophisticated to his middle-class teacher. He is often stubborn, negativistic, and unwilling to accept things merely on his teacher's assertion (55). Obviously these characteristics do not endear him to his teachers nor are these traits
conducive to a positive teacher-pupil relationship or to the friendly, relaxed atmosphere necessary for creative experiences.

Individuals living in any given social class are subjected to economic and psychological problems of living which are different in amount and kind from those in other classes (21). The lower-class father suffers anxiety because of his weaker position in the power and prestige structure of society. This anxiety leads the father to demand rigid conformity from the child to protect against negative sanctions from a society which frowns on deviant behavior. Those persons of low social status and those who live in stable or rural areas have strong external restraints, which can be defined as "the degree to which behavior is required to conform to the demands and expectations of others in the external world" (27, p. 60).

Lower-class fathers exhibit more stringent child-rearing practices: they are stern, severe, aggressive, and use punitive techniques. The lower-class boy associates masculinity with aggressiveness. There is a distinct dichotomization of the sex roles with no overlapping (27).

Another reflection of the physical orientation is to be found in the deprived individual's admiration for strength and endurance, two of his principal economic assets. His great interest in sports, and admiration for prize fighters and baseball heroes, is one reflection of his attitude toward physical prowess. This interest may stem, in part, from a way of life that calls for considerable "ruggedness." The man who stands up well under these difficult conditions of life is well thought of (36, pp. 29-30).
Although he seldom has opinions concerning community and national affairs, there are some spheres concerning which the lower-class individual has strong, inflexible ideas. These areas include morality, punishment customs, the role of women and of intellectuals. Education may be useful in that it opens doors and creates opportunities, but intellectual speculation and ideas are unrealistic and thus are not useful. The lower-class citizen is more likely than not to be a rigid, tradition-oriented person whose attitudes are not open to reason:

The average, underprivileged person is not individualistic, introspective, self-oriented, or concerned with self-expression. It is unlikely that he will embrace an outlook that prefers moderation, balance, seeing all sides of an issue (36, p. 27).

The lower-class family is apt to be large and loosely organized. There is seldom a close parent-child relationship. Individualism and self-concern is not encouraged in the child; he must learn to fit into the family group. Parents stress the importance of youngsters' showing respect for and obedience to all adults (36).

A large portion of the American populace is contained within the middle-class culture. Middle-class individuals are concerned with gaining status and avoiding any type of behavior which might be construed as lower-class. These persons are thought to be very moral, to be good parents and good citizens, to be known and liked in their communities, to be occupationally successful (24).
Middle-class child-rearing practices differ from those in the upper or lower classes. Children at this level usually are disciplined by reasoning rather than by physical punishment. Middle-class parents seem anxious about their child's formation of the internal standards which guide his relationships with other people. There is also parental preoccupation with the image which the child (and family) presents to friends, neighbors, and teachers.

The upper-class individual derives both power and behavior control from his inherited status and family name. His family membership is an asset in his social dealings, but the family group carefully legislates his occupation and leisure activities, as well as the behavior of the rest of the family (27).

The upper class appears to exercise stronger authority over children (especially into adulthood) because compliance brings both emotional and material rewards. By contrast, the lower classes may have less to offer both emotionally (their approval may be less important due to their lower status) and materially (27, p. 24).

The deprivation of social approval is frustrating as well as being a threat to the individual's personality and security (27). In this vein, Tumin raises the following hypothesis:

...the capacity for and interest in one's creative self arises and is acted upon proportionate to the amount of status-assurance and security which the individual possesses. ... acceptance would mean that the individual felt integral to and within the social order and did not view his individual unique strivings for creative expression as undesirable marks which
might result in his losing the favorable status-definition he so urgently desires (34, pp. 107-108).

Most individuals dare not accept the challenge of the creative experience until they have achieved status-safety and assurance (34). As a result the individual who is a member of a lower social class or of a minority group is so apprehensive and so culture-bound that he cannot give way to creativity.

The Family

The status of the family determines the ethnic influences and the socio-economic background of a child and teaches him his sex role as well. Since the child's earliest socializing experiences occur within the family, it is these influences which do much to determine the interests and expectations of the child. According to Roe, that which affects our interests affects the areas in which we function creatively:

Basically my feeling about the origin and development of interests is that they arise out of the child's earliest experiences in the family. They are determined primarily by the areas in which his attention is given free flow in the family structure and the way in which he is handled in particular situations (48, p. 99).

Taylor and Holland have similar opinions about the home: "Home environments also may be regarded as external influences enhancing or hindering the development of those attributes which have been found to be predictors of creativity" (45, p. 29).

The two most powerful inhibitors to creativity during early childhood are premature attempts by parents to eliminate
fantasy and to hold the child back from certain experiences, feeling that he is not yet old enough for them (45). Although most children naturally begin to recognize the major differences between fact and fantasy by the time they are six, parents begin to suppress fantasy one or two years earlier for fear of what the neighbors or in-laws will say. The child, as a result, is likely to discount his own abilities to create in this manner.

Various studies (15, 16, 45, 47, 48, 54) have been conducted with regard to parental influence on creativity. These studies presented the following significant findings: (a) the parents of more creative subjects had not gone as far educationally as the parents of the less creative; (b) the parents of the more creative children were of somewhat lower socioeconomic status; (c) the size of the community in which the subject grew up did not influence his creativity; (d) the subjects had real respect but not close affection for their fathers; and (e) individual divergence was permitted and risks were accepted in the creative family. Another finding was that the fathers of more creative individuals had greater occupational autonomy or independence, i.e., were in those occupations allowing more freedom from authority. The technological occupations, defined as all modern industrial occupations except managerial, clerical and sales, were much less autonomous (27). Torrance (54) found that, in the families of highly creative children, there was little clinging to one
another, but that there was open expression of strong feeling. In these families the father interacted strongly and positively with the child.

Getzels and Jackson (15, 16) found that the families of youngsters who had high IQ's but who were not highly creative showed the following generalizations: there were greater conformity to child-centeredness, greater conformity to conventional standards, greater pressures for scholastic achievement, and more subscriptions to mass media magazines. The parents of high-IQ children were almost exclusively housewives and apparently had more time to devote to their children.

It appears, then, that highly intelligent, well-educated, upper-middle-class families have a tendency to bring about closure in the creative experiences of their offspring, whereas parents in clerical or sales-oriented occupations seem to allow their youngsters opportunity for creative expression.

Cultural Background

Conformity also sways cultural orientation or interest in art, music, literature and drama. An individual's prestige depends upon his taste. Lynes (25) implies that the upper-class culture is the preferred model which lower cultures emulate. According to Lasswell (24), the middle-class art patron is expected to accept the tastes and judgments of the upper-class without comment or criticism.
The upper and the lower classes are free from psychological sanctions about the acquisition or admiration of the arts and art objects. But the middle class is characterized by the internal fear that psychological sanctions will be invoked against them for the expression of inappropriate tastes in art. Middle-class persons rely heavily upon professional decorators, professional critics, and the opinions of upper-class persons in their excursions into the arts (24, p. 230).

Russell Lynes (25, 26) has written an interesting commentary on the tastes of the American culture. Instead of the usual social classes, Lynes divides the population into highbrows, middlebrows, and lowbrows. Income and social status do not necessarily decide into which category an individual is placed. In this context "browedness" means taste. The highbrows, usually in the ill-paid professions, are more critic than creator. They associate culture with every aspect of daily life, an attribute which distinguishes them from the middlebrows.

For the highbrow, this means preferences for avant-garde literature, art and music; radical concern with functionality and beauty of material surroundings; special concern with the intellectual appreciation of objects, events, and processes; and most likely a highly developed dilettantism in one or two areas in which he is an amateur (24, p. 230).

The middlebrows are reasonably well-off but are unsure of what they like. The group is dominated by women, but the male middlebrows are the ones who serve on the committees which determine the design of the new hospital or of a new school. The lowbrow is the man who sits at home in an overstuffed chair, wearing his undershirt, drinking beer, watching
television, longing to have the money to buy that which is advertised in the commercials (24).

Lynes also has a "horizontal" group called the "Upper Bohemians" who differ from the upper-class or the aristocracy; this group exists between the middle class and the aristocracy. Upper Bohemians have both the money and the courage to be unconventional. Upper Bohemians are lawyers, writers, architects, editors, publishers, and persons in advertising, public relations, and other forms of communication.

The Upper Bohemian is

... culturally hep, but he is not a cultural hep-cat. ... He is a sophisticated patron of the arts, so sophisticated that for the most part he lets other people gamble on them. His discriminating taste in paintings and books and furniture has nothing, he is convinced, to do with fashion; it has only to do with permanent quality. ... He is not in the least worried about his taste or concerned with being told what is chic. ... He makes a sharp distinction between fashion and style. Anyone can follow fashion, he believes; only a man of taste can distinguish style (25, pp. 33-34).

... The Upper Bohemians do not lend themselves to statistical analysis, but they come mainly from two socially secure segments of society. It would be my guess that the largest number are the sons and daughters of the professional classes, the offspring of the law and medicine, of academics and clergymen. They have been brought up in an atmosphere in which the achievements of the mind have been put ahead of the achievements of the bank balance ... (25, pp. 42-43).

The Upper Bohemian, because of his position outside a particular social class, serves as a balance between the classes. He mixes with other kinds of people and takes part in "causes." The appreciation of the arts, like every other facet of American life, is enmeshed in the web of conformity.
The Upper Bohemians may offer the ultimate hope for breaking these restricting bonds. It remains, however, for additional research to determine which group is the more creative or which is the more encouraging of creativity in its children.

Art and Education

Finally, in the examination of creativity, conformity, and the American culture, consideration must be given to art education, the field which, perhaps more than any other, is encouraging creativity today. If education is to fulfill its responsibilities in a democracy, it must recognize the unique abilities of each youngster and help him to develop these talents fully. To do so means that the school cannot confine itself solely to the development of intellectual talents but must also encourage creative thinking. Creativity is a component of artistic creation which cannot be taught, but acceptance of the principles which lead to creativity can be learned (31). It seems somewhat paradoxical that in order to create, to produce something new, one must first be conversant with the ideas of others (23). "The creative person must have available to him means or media through which he can express himself" (40, p. 317). As a writer must be familiar with spelling and grammar in order to convey his ideas, an artist must master certain techniques and be familiar with such materials as paint or clay in order to express his ideas. Familiarity with materials, however, is not enough; a friendly
environment is often necessary if the artist or creator is to conceive of and give birth to his ideas.

... a culture fosters creativity to the extent that it provides an individual with the opportunity to experience its many facets. A culture that limits the freedom of a person to study in one or a variety of areas cuts down his opportunity to pick out the gaps that exist in the culture and also keeps him from learning the necessary media of communicating his feeling or ideas (40, p. 318).

Are art experiences worthwhile? Is the expenditure for art in the American system of education justifiable? "Yes," says Cramer Owen (33), who conducted an investigation of creative potential at the junior high school level. From the two-and-one-half year longitudinal study, Owen found that members of a group who experienced a special art training program were more creative in art and in thinking after their participation in the program. He concluded that divergent art experiences tend to develop imagination and creativity in early adolescents. Furthermore, he determined that these experiences develop in the individual a higher degree of sensitivity, greater originality, and increased tendency toward complexity of idea and expression, and more skill in handling art media.

Harding (34) believes that the primary obligation of education is to train the mind; the prime requisites for this crucial task are creativity, originality, and inventiveness. Art education provides these and more, says Lowenfeld: "Creative activity in the arts helps build a sensitive awareness
not only to colors, shapes, textures, etc., but also to people and their feelings" (34, p. 12).

Studies at the nursery school level indicated that if a child is given an increased number of materials and opportunities in various media, he will develop a greater enjoyment of creative, imaginative experiences. To develop creative talent it is important that children be permitted and encouraged to manipulate or play around with ideas and objects. Torrance feels that there is an urgent necessity to make children more sensitive to a wide range of environmental stimuli through an atmosphere of permissiveness marked by a sense of security and an absence of fear: "I have a very strong hunch that it is a matter of being sensitive to the stimuli which furnish the raw materials for the particular kind of creativity involved" (34, p. 34).

Not all art programs, however, allow for creativity or provoke stimulating experiences. Often the environment of the school is inhospitable to genuine commitment and intense experience in the arts (22). Some teachers are so insistent upon conventional ways of doing things and place so many limitations upon what a student may do that all enthusiasm is lost (34). There also tends to be an over-emphasis on variety, which, when done for its own sake, is not likely to develop artistic productivity (10). There is a need to maximize the number of choices or opportunities available, but the decision should be the student's. The student should
be allowed to evaluate his own work, for "... nothing is quite so hostile to the maximization of creativity as the competitive grading system which prevails in our schools" (34, p. 109).

Lack of guidance and stimulation may also dampen enthusiasm. If a student is left completely alone so that he is forced to utilize only his reproductive memory, his spontaneous creativity probably will not be activated (38). Apparently, creative growth and development is greatest when the student creates from his own experience in a permissive situation in which there is no stress on the final product and in which there is emphasis on self-expression (28).

Anderson reports a study conducted by Schafer-Simmern in which children of similar artistic performance were exposed to intensive training over a period of time. It was found "... that some children later performed at a high quality level and that others did not, despite the fact that they started out at the same point and had similar amounts of practice" (57, p. 19). This would suggest that not all children profit from art experiences, or at least the same types of experience.

True creativity in art is not a consciously controlled activity to produce a desired result. The professional artist does not have a preconceived image fixed in his mind nor does he have inflexible beliefs about how to achieve his goal. This is not meant to imply that creative activity is completely
random and without purpose. "Creative activity in art, then, is activity subject to critical control by the artist, although not by virtue of the fact that he foresees the final result of the activity" (51, p. 99). It is essential that the artist express what occurs in his encounter with the world without having blinders placed on him by the sociocentric point of view (37).

Accordingly, says Kaufman,

... in the final analysis, the development of artistic form is very much the product of inner vision, combining the unique perceptions and emotions of the individual with the sensuous and symbolic possibilities of the art material with a cultural context (22, p. 70).

Summary

Creativity, which is so vital to the survival of man and his culture, is in danger of being extinguished by the conformity which persists in every nook and cranny of American life. Every individual possesses inherent creative abilities, although not to the same degree or kind. Socio-cultural influences, however, are exerting great pressures to inhibit these creative talents during early childhood. It is the responsibility of American education to foster an environment in which creativity is recognized, encouraged, and rewarded. Philosophies and practices already existent in art education seem to be the quickest and most obvious way of dealing with this crisis. Not only does art education provide expediency,
but it also provides a humanizing aspect to a technological world and helps man better understand himself.

Chapter III will be concerned with (a) a description of the subjects involved in this study, (b) the procedures used in collecting the data, (c) the derivation of the socio-cultural factors, and (d) the procedures followed in treating the data.
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CHAPTER III

METHODS AND PROCEDURES

The purpose of this study was to determine whether any relationship existed between the artistic creativity of junior high school students and certain socio-cultural factors: ethnic group, sex, social class, community size, art training, cultural orientation, father's occupation, and father's education. To accomplish this, a battery of five tests (previously described in Chapter I) and a questionnaire (see Appendix A) were administered to the participants in this study.

Description of Subjects

The students involved in this study were enrolled in the eighth grades of eight public junior high schools in North Texas and Central Texas during the spring school term of 1967. The selection of the rural-community schools and the small city schools was based (a) on the individual community's being economically and culturally representative of Texas towns similar in size, (b) on the individual school's having an enrollment of sufficient size to obtain a group of approximately thirty eighth-grade students, and (c) on the willingness of the school administrations to participate in the study. Towns in which there were public junior colleges or
four-year institutions were avoided to eliminate the possibility of getting an unusually large number of professional people in the community and more cultural opportunities, which conditions might have unduly influenced the results so far as social class, cultural orientation, and father's occupation and education were concerned. The large-city schools in which the administrations were willing to participate in research concerning artistic creativity were chosen in order to obtain a normative distribution of social classes and ethnic groups.

A total of 273 students were involved in the study. Of these students, 124 were from schools in three rural communities, each having a population of less than 3,000; 64 students were from schools in a small city having a population of approximately 25,000; and 85 students were from a large city of 98,000. The large-city students included one group of 27 students from a predominantly upper-middle class white school, one group of 30 from a Negro school, and a group of 28 from a school having a number of Latin-American students of working class and lower-middle class backgrounds. Although the rural schools also were representative of the three ethnic groups, the small-city groups had no Latin-American or Negro students.

The students in the three rural communities were comprised of the particular school's total eighth-grade population.
The groups from the small-city and large-city schools were selected by their respective principals for ease in scheduling for testing purposes.

Procedures for Collecting Data

The questionnaire and the battery of five tests were administered by the researcher in the rural-community schools during a one-hour period on two successive days, and in the large-city schools during one two-hour period. In the small-city schools, "local" teachers administered the tests over a two-week period to coincide with "home-room" periods. The same time restrictions per individual test and the same testing order were used in all schools, regardless of the testing arrangement. The instructions followed by the teachers in testing are exhibited in Appendix C. No names were used on any tests or questionnaires. Each student was given an identifying number which he used on his tests and questionnaire. Each school was assigned a list of numbers so that there would be no duplication of numbers. Either the local teacher or the researcher marked the questionnaires as to the ethnic group of each student.

In every case the students were given the questionnaire and tests several weeks after the beginning of the term, depending on the individual school's schedule of events, in order that they might adjust to the ordinary school routine. The questionnaire and the tests were administered during the same week, except in the small city groups. During the first
testing period, the students filled out the questionnaire and took the Making Objects, the Match Problems, and the Sketches tests, all of which required a total of one hour. On the second day they took the Barron-Welsh Art Scale, an untimed test requiring approximately fifteen to twenty minutes, and the Paper Shapes test which requires twenty-five minutes. If for some reason a student missed one day, his tests were discarded. The tests were not given more than once in any one school.

**Derivation of Socio-Cultural Factors**

Several socio-cultural factors were derived from the questionnaire: ethnic group, sex, social class or socio-economic background, community size, art training, cultural orientation, father's occupation, and father's education.

**Ethnic Group**

The three ethnic groups considered in this study were divided numerically as follows: Latin-American, 18 students; Negro, 40 students; white, 215. Ethnic group membership was marked on each questionnaire by the "local" teacher or the researcher.

**Sex**

Of the participating students, 149 were males and 124 were female.
Social Class

To determine the social class of each student, an adaptation of Hollingshead's two-factor Index of Social Position (3, 5) was used. This version of the Index of Social Position is derived from the father's level of education and his occupation. These two factors are individually separated into seven-point scales, ranging from one (high) to seven (low). In the two cases in which the student lived with the mother only, her education and occupation were substituted for the father's.

The educational scale is based on the premise that individuals who have similar educations tend to have similar tastes and attitudes and will tend to exhibit similar patterns of behavior (3). Education very simply is the number of years of schooling which a person has completed. The ranking of the educational scale used was as follows:

1 point—graduate professional training
2 points—college graduate
3 points—partial college (at least one year)
4 points—high school graduate
5 points—partial high school
6 points—junior high school
7 points—less than eight years of school

The researcher felt that Hollingshead's occupational scale (3) was not definitive enough for the purposes of this study. Therefore a variation of the Hollingshead scale was
worked out using the National Opinion Research Center (NORC) scale, which classifies occupations into a continuum or scale based on prestige. "A simple ordered scale does not require any particular degree of relationship among the items scaled; it only requires that they be in sequence with respect to the quality involved" (4, p. 72).

An index developed by Reiss (6) organizes occupations into the major occupational groups used by the Bureau of Census in 1950 (and again in 1960), and gives them an NORC "score." According to NORC scores, the divisions of the occupations commonly found in this study appear in the example in Appendix D. The ranking of the occupational scale was as follows:

1 point — 88 to 94 NORC score
2 points — 81 to 87
3 points — 74 to 80
4 points — 67 to 73
5 points — 60 to 66
6 points — 49 to 59
7 points — 34 to 48

The number of points on the education scale was multiplied by a weight of four and the points for the occupation scale by a weight of seven. The two products were added to give a composite score which ranged from eleven (upper class) to seventy-seven (lower class). The composite scores were ranked as follows:
11 to 17 points—upper class
18 to 30 points—upper-middle class
31 to 48 points—lower-middle class
49 to 65 points—working class
66 to 77 points—lower class

For the purposes of this study the upper class and the upper-middle class were combined to form one group which hereafter is called the upper-middle class. Four classes were used, therefore, in the determination of the influence of socio-economic background on creativity.

Community Size

As previously noted, in this study three "rural communities" were used which ranged in size from 1,300 to 3,000 population. Many of the students in these communities live on farms or ranches in the surrounding areas. Many of the adults in these communities commute to jobs in large towns or cities within a distance of fifty miles. The small-city schools utilized herein are located in the same city, which has a population of over 25,000. The city is a retail trade center with a diversity of manufacturing; small grains, livestock, oil, and natural gas are also important. The remaining three schools are in a city of 98,000, which is an industrial center surrounded by rich agricultural and dairying country.
Art Training

Several items on the questionnaire were used to ascertain whether the student was currently enrolled in a school art program, whether he had been enrolled in a school art program elsewhere, or whether he had received art training outside of school, and how many years of art training he had had. Any student with at least one year of art training of any kind and from any source was categorized as having had art training.

Cultural Orientation

Cultural orientation of the student's family was primarily determined from items on the questionnaire. From one (low) to four (high) points were given in four categories: (a) magazines to which the student's family subscribed, (b) enrollment in art courses and attendance at art shows or exhibits, (c) music lessons and attendance at concerts, and (d) newspapers to which the student's family subscribed. The points were added for a total score: twelve to sixteen points were considered as having definite cultural orientation, six to eleven points, somewhat culturally oriented, zero to five points, non-culturally oriented. The weightings given the items in the various categories may be found in Appendix E.

Two of the rural communities (both under 2,000) were noticeably lacking in cultural opportunities. There was no art program in either of the schools, no public library in
either community, and no discernible indication of cultural interest. Although both towns were within twenty miles of a university town which had offerings in music, art, and drama, only two or three students in each school had attended such events, according to the information supplied on the questionnaire. The third rural community, having a population of approximately 3,000, had a school art program which the administration was trying to revise. During the week of testing, a traveling art exhibit from a nearby college (twenty miles) was installed—the first opportunity a number of the students had had to view art works first-hand.

The small city did offer some cultural opportunities. The junior high schools had a seventh grade art program; the community had a public library; and a small, private college located in the city had an art gallery open to the public.

The large-city schools had, in the junior high schools, an art program which made good use of display cases for art work. Paintings and other art works were frequently on exhibit at a gallery on the campus of a sectarian university in the community and at a large shopping center. For the previous two years, members of the Junior League had been taking reproductions of paintings into the elementary schools, explaining to the youngsters the periods of history in which they were painted, and reviewing the artists' lives and work.
The city had a very fine modern library, in addition to the university library. The community also boasted a civic theatre and sponsored a symphony group.

**Father's Occupation**

The father's occupation was placed in one of twelve categories developed from a rationale given by Lasswell (4), based on the Bureau of Census grouping. In the event the student was living only with his mother, the mother's occupation was substituted. The categories do not directly pertain to social class; they are grouped according to similarities of job characteristics or job training. The categories were as follows:

1. Professional, technical and kindred workers  
2. Farmers and farm managers  
3. Managers, officials and proprietors, except farm  
4. Clerical and kindred workers  
5. Sales workers  
6. Craftsmen, foremen and kindred workers  
7. Operatives and kindred workers  
8. Private household workers  
9. Service workers, except private household  
10. Farm laborers and foremen  
11. Laborers, except farm and mine  
12. Unemployed or retired
Father's Education

The educational level of each father was determined from the questionnaire by the system explained earlier in this chapter.

Procedures for Treating Data

Four of the tests, Barron-Welsh Art Scale, Making Objects, Match Problems, and Sketches, were scored according to the scales set up by the test authors. The fifth test, the Paper Shapes, designed specifically for use in this study, was judged by a panel of five persons experienced in art education; the group included an art supervisor in a large city school system, a junior high school art teacher, a college art teacher, and two doctoral students in art. Each judge rated each test on a five-point scale which had arbitrarily been decided upon, with a scoring sequence as follows: five points was considered very creative; four, somewhat creative; three, average; two, below average; one point, poor. Very Creative was defined as a design in which the use of lines, shapes and colors achieved an expression which was unique and individual; it was imaginative; it was pleasing to the eye; it incorporated the principles of design: balance, harmony, relatedness of parts, and emphasis.

After all the judges had rated the test, the scores were totaled, divided by five in order to get the average, and then multiplied by ten to eliminate decimals. To determine
the inter-reliability of the judges' ratings, a simple correlation was computed, averaged, and found to be .39, which was low but positive.

Often, in "jurying" art products, judges disagree as to the quality and creativeness of the work. In this instance, however, the manner of scoring may have accounted for the low correlation. The judges were generally agreed on the scoring of a very creative test (five points) or a poor test (one point). There was disagreement as to the shading of difference between somewhat creative and average, or between average creative and below average. A more logical procedure might have been to score the tests in three steps: high creative, average creative and low creative.

All of the scores from the five tests were put into a correlational matrix, and factor analysis was used to determine the loadings or factor structure of the tests. The Barron-Welsh Art Scale (with a factor loading of .78) and the Paper Shapes (.75) indicated a common factor, which became the criterion in a multiple correlation. The Making Objects (.84), the Match Problems (.53), and the Sketches (.84) had a second factor in common, which was not present to an appreciable degree in the first two tests.

A multiple regression equation was developed to show the relationship between the two factors or variables. The problem was to combine the several different scores in such a way that the errors of prediction would be as small as possible.
The statistical device by which a number of predictors are combined to yield a single score having the highest possible correlation with a criterion is the multiple regression equation, summarized by the coefficient of multiple correlation (2, p. 164).

The objective in multiple correlation is to determine how to weight the variable in such a way that the correlation will be as high as possible (2). Regression weights or beta coefficients were derived through a statistical process. Each raw test score was converted to a z score and multiplied by its beta weight. These derived scores were summed to give each student a composite score of creativity. For simplicity of understanding, the composite z scores were transformed to yield a distribution with a mean of fifty and a standard deviation of ten (Z).

Using these composite scores as the dependent variable, each of the eight hypotheses was then tested by analysis of variance to determine their influence:

a. Creativity and ethnic group: Latin-American, Negro and white.

b. Creativity and sex: male and female.

c. Creativity and social class: upper-middle, lower-middle, working, and lower.

d. Creativity and community size: large city, small city, and rural.

e. Creativity and art training: previous art training and no art training.
f. Creativity and cultural background: definite cultural orientation, some cultural orientation, no cultural orientation.
g. Creativity and father's occupation.
h. Creativity and father's education.

In any instance in which the $F$ ratio was significant, Fisher's $t$ test was computed to determine whether selected pairs of means differed significantly. The level of significance was arbitrarily set at the .05 level to determine the acceptance or rejection of the hypotheses.

Summary

In order to determine whether any relationship existed between the artistic creativity of junior high school students and certain socio-cultural factors, a questionnaire and a battery of five tests were administered to 273 eighth-graders in North Texas and Central Texas. The students were selected to be representative of three ethnic groups—Latin-American, Negro and white; three classes of population—large city, small city, and rural community; and a cross-section of social classes.

Through factor analysis, beta weights were assigned to each of the tests. The test scores for each student were converted to $z$ scores, weighted, and then summed to yield a composite score. The socio-cultural factors and the creativity scores were then submitted to an analysis of variance to ascertain any significant differences among the different
groups. The results of this statistical procedure are presented and described in the following chapter.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

STATISTICAL ANALYSIS OF DATA

The data obtained in this study were analyzed to determine whether any relationship existed between certain socio-cultural factors and the artistic creativity of the junior high school students involved in the study. The results are reported in this chapter in terms of the hypotheses presented in Chapter I. Two statistical treatments, simple analysis of variance, and Fisher's t, were utilized to interpret the results. In this study the .05 level of significance was arbitrarily decided upon as the basis for rejecting the null hypothesis. Therefore, when any F or t ratio reached the .05 level, the null hypothesis was rejected.

Table I shows the means and standard deviations for the five tests used in this study.

TABLE I
MEANS AND STANDARD DEVIATIONS FOR THE FIVE TESTS USED

<table>
<thead>
<tr>
<th>Test</th>
<th>Experimental</th>
<th></th>
<th></th>
<th>Norms</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Barron-Welsh</td>
<td>25.52</td>
<td>12.56</td>
<td>276</td>
<td>23.93</td>
<td>10.08</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Paper Shapes</td>
<td>23.88</td>
<td>7.12</td>
<td>276</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Making Objects</td>
<td>29.47</td>
<td>10.42</td>
<td>276</td>
<td>36.13</td>
<td>9.52</td>
<td>205</td>
<td></td>
</tr>
<tr>
<td>Match Problems</td>
<td>6.13</td>
<td>3.62</td>
<td>276</td>
<td>8.69</td>
<td>4.67</td>
<td>205</td>
<td></td>
</tr>
<tr>
<td>Sketches</td>
<td>14.12</td>
<td>4.94</td>
<td>276</td>
<td>16.12</td>
<td>4.95</td>
<td>205</td>
<td></td>
</tr>
</tbody>
</table>

*No figures are available since this test was designed specifically for this study.
A comparison of the mean test scores and standard deviations for the experimental groups used in this study and for the groups on which the tests were "normalized," as seen in Table I, indicated that the eighth-grade students from Texas who participated in this study performed favorably. The "norms" for the Making Objects, the Match Problems, and the Sketches test were established on a ninth-grade sample in California. The means for the "norm" group were somewhat higher than those of the experimental group. The additional year of maturation may account for most of this difference. The "norms" shown for the Barron-Welsh Art Scale were obtained from a group of six- and eight-year-olds. This suggested that the mean for the experimental group on this particular test should have been higher. In the study mentioned earlier non-artists had a mean score of twenty-two, whereas college art students averaged forty.

Table II shows the analysis of variance of mean differences in creativity scores for three ethnic groups.

Hypothesis one predicted that there would be no significant difference in the creativity scores of three ethnic groups: Latin-American, Negro, and white. An inspection of Table II shows an F ratio of 11.63, which is significant at the .001 level. Further examination was advisable when a significant F ratio was obtained; therefore, the t technique was
utilized to test the significance of the difference between the pairs of group means.

**TABLE II**

**ANALYSIS OF VARIANCE OF MEAN DIFFERENCES IN CREATIVITY SCORES FOR THREE ETHNIC GROUPS**

<table>
<thead>
<tr>
<th>Kind of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Variance Estimate</th>
<th>F</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between means</td>
<td>2228.17</td>
<td>2</td>
<td>1114.09</td>
<td>11.63</td>
<td>.001</td>
</tr>
<tr>
<td>Within means</td>
<td>25877.62</td>
<td>270</td>
<td>95.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28105.79</td>
<td>272</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The relationships between the scores in Table III indicate that there was almost no difference between the creativity of Latin-American and Negro students. White youngsters, however, were significantly more creative than both Latin-American and Negro students. The differences between Latin-American and white youngsters were significant at the .05 level and between Negro and white students at the .001 level.

It is quite possible that other factors may have entered in. The Latin-American and Negro children, as a whole, tended to be from the lower social classes, to have less cultural orientation, and to have parents who ranked low on the educational attainment scale. Nevertheless, on the basis of the findings of this study, hypothesis one was rejected; and it was concluded that membership in certain ethnic groups might have in some way affected a student's artistic creativity.
TABLE III
MEANS, STANDARD DEVIATIONS, FISHER'S $t$, AND LEVEL OF SIGNIFICANCE FOR CREATIVITY SCORES OF THREE ETHNIC GROUPS

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Creativity Score</th>
<th>Mean</th>
<th>SD</th>
<th>$t$</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latin-American</td>
<td>45.72</td>
<td>43.98</td>
<td>8.92</td>
<td>6.72</td>
<td>.63</td>
</tr>
<tr>
<td>Negro</td>
<td>43.98</td>
<td></td>
<td></td>
<td></td>
<td>NS</td>
</tr>
<tr>
<td>Latin-American</td>
<td>45.72</td>
<td>51.44</td>
<td>10.11</td>
<td>-6.28</td>
<td>.001</td>
</tr>
<tr>
<td>White</td>
<td>51.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negro</td>
<td>43.98</td>
<td>51.44</td>
<td>10.11</td>
<td>-6.28</td>
<td>.001</td>
</tr>
<tr>
<td>White</td>
<td>51.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis two stated that there would be no relationship between the student's sex and his artistic creativity. Since the $F$ ratio in Table IV was .06 (non-significant), the hypothesis was retained.

TABLE IV
ANALYSIS OF VARIANCE OF MEAN DIFFERENCES IN CREATIVITY SCORES FOR MALES AND FEMALES

<table>
<thead>
<tr>
<th>Kind of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Variance Estimate</th>
<th>$F$</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between means</td>
<td>6.31</td>
<td>1</td>
<td>6.31</td>
<td>.06</td>
<td>NS</td>
</tr>
<tr>
<td>Within means</td>
<td>26099.48</td>
<td>271</td>
<td>103.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>26105.79</td>
<td>272</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The lack of significant difference in the creativity scores due to sex seems unusual when it is recalled from the review of literature that great pressure is placed by the American culture upon youngsters to conform to their expected
sex roles. Since artistic creativity is considered to be an effeminate trait, it would seem that boys would have suppressed their creative inclinations.

The third hypothesis stated that there would be no relationship between artistic creativity and socio-economic background. The $F$ ratio of 12.10 was significant at the .001 level (See Table V), indicating that socio-economic background was influential.

**TABLE V**

ANALYSIS OF VARIANCE OF MEAN DIFFERENCES IN CREATIVITY SCORES FOR FOUR GROUPS AS RELATED TO SOCIAL CLASS

<table>
<thead>
<tr>
<th>Kind of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Variance Estimate</th>
<th>$F$</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between means</td>
<td>3342.90</td>
<td>3</td>
<td>1114.30</td>
<td>12.10</td>
<td>.001</td>
</tr>
<tr>
<td>Within means</td>
<td>24762.89</td>
<td>269</td>
<td>92.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28105.79</td>
<td>272</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The upper-middle and lower-middle classes performed more creatively than did the working and lower classes as may be seen in the comparison of pairs of mean scores in Table VI on page 87. There were differences significant at the .001 level between students in the upper-middle class and the working class, between the upper-middle class and the lower class, between the lower-middle class and the working class, and between the lower-middle class and the lower class.
The middle-class families, having more education and being more affluent, appeared to be more open to and more interested in esthetic experiences. For the most part, the children from working and lower class families seemed to be less aware of cultural events which took place in their own or nearby communities. The null hypothesis was rejected, and it would thus appear that a definite difference in creativity existed among the various socio-economic groups, the upper-middle and lower-middle classes being more creative.

Hypothesis four indicated that no relationship would be found between the size of the community in which a student
lived and his creativity score. The $F$ ratio found in Table VII was $5.02$, significant at the $.01$ level.

**TABLE VII**

ANALYSIS OF VARIANCE OF MEAN DIFFERENCES IN CREATIVITY SCORES FOR THREE GROUPS AS RELATED TO COMMUNITY SIZE

<table>
<thead>
<tr>
<th>Kind of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Variance Estimate</th>
<th>$F$</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between means</td>
<td>1007.45</td>
<td>2</td>
<td>503.73</td>
<td>5.02</td>
<td>.01</td>
</tr>
<tr>
<td>Within means</td>
<td>2709.34</td>
<td>270</td>
<td>100.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28105.79</td>
<td>272</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An examination of the $t$ ratios in Table VIII shows the small-city students to be significantly more creative than the students from either the large city or the rural community. The former $t$ was significant at the $.05$ level, the latter at the $.01$ level of significance.

However, these results may be somewhat suspect. Through chance, there were no Latin-American or Negro students in the sampling from the small city, whereas these ethnic groups were represented in the other samples. It has been demonstrated above that ethnic group does influence creativity. These results are also contrary to the findings of Getzels and Jackson (See Chapter II) that the size of the community in which a subject grew up did not influence his creativity. Their research, however, was conducted with adult subjects. Socio-economic background may have also been involved. Only 6 per cent of the students in the small city were in
this group, and almost 18 per cent from among the rural-community students. These chance factors would suggest that further investigation is necessary before the null hypothesis can be rejected without reservation.

TABLE VIII
MEANS, STANDARD DEVIATIONS, FISHER'S t, AND LEVEL OF SIGNIFICANCE FOR CREATIVITY SCORES OF THREE GROUPS AS INFLUENCED BY COMMUNITY SIZE

<table>
<thead>
<tr>
<th>Community Size</th>
<th>Creativity Score</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>t</td>
<td>Level</td>
</tr>
<tr>
<td>Large city (N = 85)</td>
<td>49.20</td>
<td>10.40</td>
<td>-2.55</td>
<td>.05</td>
</tr>
<tr>
<td>Small city (N = 64)</td>
<td>53.42</td>
<td>9.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large city (N = 85)</td>
<td>49.20</td>
<td>10.40</td>
<td>.34</td>
<td>NS</td>
</tr>
<tr>
<td>Rural community (N = 124)</td>
<td>48.72</td>
<td>10.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small city (N = 64)</td>
<td>53.42</td>
<td>9.23</td>
<td>3.05</td>
<td>.01</td>
</tr>
<tr>
<td>Rural community (N = 124)</td>
<td>48.72</td>
<td>10.02</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis five predicted that there would be no influence on creativity due to previous art training. The F ratio of .68 was found to be lacking in significance; therefore, the hypothesis was sustained. Table IX shows the analysis of variance of the mean differences involved.

This finding was contrary to those reported in the review of literature. Although creativity tests do discriminate between artists and non-artists at a college or adult level, art training at an earlier age apparently does not exert a discriminating influence. There is also the possibility that an intermediate category, some art training, should
have been established to differentiate those students who had
had only one year of training from those who had had several.
A third explanation would involve a re-evaluation of school
art programs. It is quite possible that an art teacher will
be rigid in her thinking, stressing the finished art product
rather than the creative processes involved in art. Not
infrequently, art teachers resort to the "signs and strate-
gems" of the popular or mass culture in order to "sell" the
junior high school student on art. This hypothesis certainly
demands further study.

TABLE IX

ANALYSIS OF VARIANCE OF MEAN DIFFERENCES IN CREATIVITY
SCORES FOR TWO GROUPS AS RELATED TO ART TRAINING

<table>
<thead>
<tr>
<th>Kind of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Variance Estimate</th>
<th>F</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between means</td>
<td>69.89</td>
<td>1</td>
<td>69.89</td>
<td>.68</td>
<td>NS</td>
</tr>
<tr>
<td>Within means</td>
<td>28035.90</td>
<td>271</td>
<td>103.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28105.79</td>
<td>272</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis six, which predicted that there would be no
relationship between cultural orientation and creativity,
was rejected since the obtained F ratio of 10.83 was signifi-
cant at the .001 level. The mean differences in creativity
scores are in Table X, and the t ratios are in Table XI.
It may be seen in Table XI that there was not a sufficiently discriminating difference between definite cultural orientation and some cultural orientation. Although the difference reached the .11 level instead of the arbitrarily established .05 level of significance, it would suggest that there was some definite difference. The mean difference between definite cultural orientation and no cultural
orientation was significant at the .001 level. There was a significant difference of .01 between the group having some cultural orientation and the group having none.

Since there were significant differences between the culturally-oriented groups and the group having no cultural orientation, it was assumed that cultural orientation was directly related to creativity in art.

Table XII shows the mean differences in creativity as related to the father's occupation.

TABLE XII

ANALYSIS OF VARIANCE OF MEAN DIFFERENCES IN CREATIVITY SCORES FOR TWELVE GROUPS AS RELATED TO FATHER'S OCCUPATION

<table>
<thead>
<tr>
<th>Kind of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Variance Estimate</th>
<th>F</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between means</td>
<td>3003.10</td>
<td>9</td>
<td>333.68</td>
<td>3.48</td>
<td>.001</td>
</tr>
<tr>
<td>Within means</td>
<td>25098.76</td>
<td>262</td>
<td>95.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28101.86</td>
<td>271</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis seven predicting that there would be no relationship between the father's occupation and the student's artistic creativity was rejected. The analysis of variance of mean differences in creativity as related to the father's occupation indicated that there were differences which were significant at the .001 level (See Table XII). There were no individuals falling in two of the categories (eight and
ten), so only ten groups were used in determining the degrees of freedom.

A comparison of the mean scores as grouped by father's occupation is shown in Table XIII below.

**TABLE XIII**

MEANS, STANDARD DEVIATIONS, FISHER'S t, AND LEVEL OF SIGNIFICANCE FOR CREATIVITY SCORES OF TWELVE GROUPS AS INFLUENCED BY FATHER'S OCCUPATION

<table>
<thead>
<tr>
<th>Father's Occupation</th>
<th>Creativity Score</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>t</td>
<td>Level</td>
</tr>
<tr>
<td>Professional, technical (N = 35)</td>
<td>53.09</td>
<td>10.92</td>
<td>1.56</td>
<td>NS</td>
</tr>
<tr>
<td>Farm owners, managers (N = 10)</td>
<td>47.60</td>
<td>9.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional, technical (N = 35)</td>
<td>53.09</td>
<td>10.92</td>
<td>.62</td>
<td>NS</td>
</tr>
<tr>
<td>Managers, proprietors (N = 33)</td>
<td>51.61</td>
<td>12.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional, technical (N = 35)</td>
<td>53.09</td>
<td>10.92</td>
<td>-3.37</td>
<td>NS</td>
</tr>
<tr>
<td>Clerical workers (N = 10)</td>
<td>54.40</td>
<td>7.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional, technical (N = 35)</td>
<td>53.09</td>
<td>10.92</td>
<td>-1.74</td>
<td>.10</td>
</tr>
<tr>
<td>Sales workers (N = 13)</td>
<td>58.62</td>
<td>9.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional, technical (N = 35)</td>
<td>53.09</td>
<td>10.92</td>
<td>1.22</td>
<td>NS</td>
</tr>
<tr>
<td>Craftsmen, foremen (N = 65)</td>
<td>50.58</td>
<td>9.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional, technical (N = 35)</td>
<td>53.09</td>
<td>10.92</td>
<td>2.59</td>
<td>.01</td>
</tr>
<tr>
<td>Operatives (N = 64)</td>
<td>47.77</td>
<td>9.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional, technical (N = 35)</td>
<td>53.09</td>
<td>10.92</td>
<td>2.26</td>
<td>.05</td>
</tr>
<tr>
<td>Service workers (N = 35)</td>
<td>46.27</td>
<td>7.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional, technical (N = 35)</td>
<td>53.09</td>
<td>10.92</td>
<td>3.25</td>
<td>.01</td>
</tr>
<tr>
<td>Laborers (N = 13)</td>
<td>42.77</td>
<td>7.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional, technical (N = 35)</td>
<td>53.09</td>
<td>10.92</td>
<td>2.01</td>
<td>.05</td>
</tr>
<tr>
<td>Unemployed or retired (N = 14)</td>
<td>46.86</td>
<td>5.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm owners, managers (N = 10)</td>
<td>47.60</td>
<td>9.59</td>
<td>-1.13</td>
<td>NS</td>
</tr>
<tr>
<td>Managers, proprietors (N = 33)</td>
<td>51.61</td>
<td>12.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm owners, managers (N = 10)</td>
<td>47.60</td>
<td>9.59</td>
<td>-1.55</td>
<td>NS</td>
</tr>
<tr>
<td>Clerical workers (N = 10)</td>
<td>54.40</td>
<td>7.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father's Occupation</td>
<td>Creativity Score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>------------------</td>
<td>--------</td>
<td>--------</td>
<td>----</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>t</td>
<td>Level</td>
</tr>
<tr>
<td>Farm owners, managers (N = 10)</td>
<td>47.60</td>
<td>9.59</td>
<td>-2.68</td>
<td>.01</td>
</tr>
<tr>
<td>Sales workers (N = 13)</td>
<td>58.62</td>
<td>9.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm owners, managers (N = 10)</td>
<td>47.60</td>
<td>9.59</td>
<td>- .90</td>
<td>NS</td>
</tr>
<tr>
<td>Craftsmen, foremen (N = 65)</td>
<td>50.58</td>
<td>9.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm owners, managers (N = 10)</td>
<td>47.60</td>
<td>9.59</td>
<td>- .05</td>
<td>NS</td>
</tr>
<tr>
<td>Operatives (N = 64)</td>
<td>47.77</td>
<td>9.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm owners, managers (N = 10)</td>
<td>47.60</td>
<td>9.59</td>
<td>.33</td>
<td>NS</td>
</tr>
<tr>
<td>Service workers (N = 15)</td>
<td>46.27</td>
<td>7.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm owners, managers (N = 10)</td>
<td>47.60</td>
<td>9.59</td>
<td>1.17</td>
<td>NS</td>
</tr>
<tr>
<td>Laborers (N = 13)</td>
<td>42.77</td>
<td>7.71</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>9.59</td>
<td>.18</td>
<td>NS</td>
</tr>
<tr>
<td>Unemployed or retired (N = 14)</td>
<td>46.86</td>
<td>5.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers, proprietors (N = 33)</td>
<td>51.61</td>
<td>12.33</td>
<td>- .79</td>
<td>NS</td>
</tr>
<tr>
<td>Clerical workers (N = 10)</td>
<td>54.40</td>
<td>7.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers, proprietors (N = 33)</td>
<td>51.61</td>
<td>12.33</td>
<td>-2.19</td>
<td>.05</td>
</tr>
<tr>
<td>Sales workers (N = 13)</td>
<td>58.62</td>
<td>9.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers, proprietors (N = 33)</td>
<td>51.61</td>
<td>12.33</td>
<td>.49</td>
<td>NS</td>
</tr>
<tr>
<td>Craftsmen, foremen (N = 65)</td>
<td>50.58</td>
<td>9.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers, proprietors (N = 33)</td>
<td>51.61</td>
<td>12.33</td>
<td>1.83</td>
<td>.10</td>
</tr>
<tr>
<td>Operatives (N = 64)</td>
<td>47.77</td>
<td>9.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers, proprietors (N = 33)</td>
<td>51.61</td>
<td>12.33</td>
<td>1.75</td>
<td>.10</td>
</tr>
<tr>
<td>Service workers (N = 15)</td>
<td>46.27</td>
<td>7.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers, proprietors (N = 33)</td>
<td>51.61</td>
<td>12.33</td>
<td>2.76</td>
<td>.01</td>
</tr>
<tr>
<td>Laborers (N = 13)</td>
<td>42.77</td>
<td>7.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers, proprietors (N = 33)</td>
<td>51.61</td>
<td>12.33</td>
<td>1.51</td>
<td>NS</td>
</tr>
<tr>
<td>Unemployed or retired (N = 14)</td>
<td>46.86</td>
<td>5.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clerical workers (N = 10)</td>
<td>54.40</td>
<td>7.63</td>
<td>-1.02</td>
<td>NS</td>
</tr>
<tr>
<td>Sales workers (N = 13)</td>
<td>58.62</td>
<td>9.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clerical workers (N = 10)</td>
<td>54.40</td>
<td>7.63</td>
<td>1.15</td>
<td>NS</td>
</tr>
<tr>
<td>Craftsmen, foremen (N = 65)</td>
<td>50.58</td>
<td>9.00</td>
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</table>
TABLE XIII—Continued

<table>
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<th>Father's Occupation</th>
<th>Creativity Score</th>
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<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>t</td>
<td>Level</td>
</tr>
<tr>
<td>Clerical workers</td>
<td>(N = 10)</td>
<td>54.40</td>
<td>7.63</td>
<td>1.99</td>
</tr>
<tr>
<td>Operatives</td>
<td>(N = 64)</td>
<td>47.77</td>
<td>9.60</td>
<td></td>
</tr>
<tr>
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<td>(N = 10)</td>
<td>54.40</td>
<td>7.63</td>
<td>2.04</td>
</tr>
<tr>
<td>Service workers</td>
<td>(N = 15)</td>
<td>46.27</td>
<td>7.54</td>
<td></td>
</tr>
<tr>
<td>Clerical workers</td>
<td>(N = 10)</td>
<td>54.40</td>
<td>7.63</td>
<td>2.82</td>
</tr>
<tr>
<td>Laborers</td>
<td>(N = 13)</td>
<td>42.77</td>
<td>7.71</td>
<td></td>
</tr>
<tr>
<td>Clerical workers</td>
<td>(N = 10)</td>
<td>54.40</td>
<td>7.63</td>
<td>1.86</td>
</tr>
<tr>
<td>Unemployed or retired</td>
<td>(N = 14)</td>
<td>46.86</td>
<td>5.84</td>
<td></td>
</tr>
<tr>
<td>Sales workers</td>
<td>(N = 13)</td>
<td>58.62</td>
<td>9.37</td>
<td>2.70</td>
</tr>
<tr>
<td>Craftsmen, foremen</td>
<td>(N = 65)</td>
<td>50.58</td>
<td>9.00</td>
<td></td>
</tr>
<tr>
<td>Sales workers</td>
<td>(N = 13)</td>
<td>58.62</td>
<td>9.37</td>
<td>3.64</td>
</tr>
<tr>
<td>Operatives</td>
<td>(N = 64)</td>
<td>47.77</td>
<td>9.59</td>
<td></td>
</tr>
<tr>
<td>Sales workers</td>
<td>(N = 13)</td>
<td>58.62</td>
<td>9.37</td>
<td>3.33</td>
</tr>
<tr>
<td>Service workers</td>
<td>(N = 15)</td>
<td>46.27</td>
<td>7.54</td>
<td></td>
</tr>
<tr>
<td>Sales workers</td>
<td>(N = 13)</td>
<td>58.62</td>
<td>9.37</td>
<td>4.13</td>
</tr>
<tr>
<td>Laborers</td>
<td>(N = 13)</td>
<td>42.77</td>
<td>7.71</td>
<td></td>
</tr>
<tr>
<td>Sales workers</td>
<td>(N = 13)</td>
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<td>9.37</td>
<td>3.12</td>
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<td>(N = 14)</td>
<td>46.86</td>
<td>5.84</td>
<td></td>
</tr>
<tr>
<td>Craftsmen, foremen</td>
<td>(N = 65)</td>
<td>50.58</td>
<td>9.00</td>
<td>1.64</td>
</tr>
<tr>
<td>Operatives</td>
<td>(N = 64)</td>
<td>47.77</td>
<td>9.60</td>
<td></td>
</tr>
<tr>
<td>Craftsmen, foremen</td>
<td>(N = 65)</td>
<td>50.58</td>
<td>9.00</td>
<td>1.54</td>
</tr>
<tr>
<td>Service workers</td>
<td>(N = 15)</td>
<td>46.27</td>
<td>7.54</td>
<td></td>
</tr>
<tr>
<td>Craftsmen, foremen</td>
<td>(N = 65)</td>
<td>50.58</td>
<td>9.00</td>
<td>2.63</td>
</tr>
<tr>
<td>Laborers</td>
<td>(N = 13)</td>
<td>42.77</td>
<td>7.71</td>
<td></td>
</tr>
<tr>
<td>Craftsmen, foremen</td>
<td>(N = 65)</td>
<td>50.58</td>
<td>9.00</td>
<td>1.29</td>
</tr>
<tr>
<td>Unemployed or retired</td>
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<td>5.84</td>
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<tr>
<td>Operatives</td>
<td>(N = 64)</td>
<td>47.77</td>
<td>9.60</td>
<td>1.63</td>
</tr>
<tr>
<td>Service workers</td>
<td>(N = 15)</td>
<td>46.27</td>
<td>7.54</td>
<td></td>
</tr>
</tbody>
</table>
Students whose fathers were in professional or technical occupations were significantly more creative than those whose fathers were operatives (.01), service workers (.05), laborers (.01), unemployed or retired (.05). It should be noted that the children of clerical workers and of sales workers were slightly more creative than the children of professionals. This seems to agree with the findings of other studies (See Chapter Two) that parents in the professional and technical areas place more importance on intellectual achievement than on creativity. The offspring of managers and proprietors were significantly (.01) more creative than the children of laborers. Students whose fathers were clerical workers were significantly more creative than students whose fathers were employed as operatives (.05), as service workers (.05), or as laborers (.01). The children of craftsmen were significantly (.01) more creative than those of laborers.
The progeny of sales workers proved to be the most creative group. They were more creative than the youngsters in the other nine groups; the differences were significant when they were compared with students whose fathers were farm owners or managers (.01), managers and proprietors (.05), craftsmen (.01), operatives (.001), service workers (.001), laborers (.001), unemployed or retired (.01). A possible explanation may be that the types of jobs which fall within the category of sales workers demand more initiative and creativity for success. The person who can think of new or better ways to present his product to the public is the one who is most successful in this area. In reference to and agreement with the findings reported in Chapter II, sales jobs would seem to offer more occupational autonomy. As was noted, such autonomy seems to be found among the fathers of creative individuals. It may be that these families more often encourage creative behavior in their children.

The eighth and final hypothesis stated that there would be no relationship between a student's creativity and his father's educational background. The $F$ ratio of 3.95 is shown in Table XIV.
TABLE XIV

ANALYSIS OF VARIANCE OF MEAN DIFFERENCES IN
CREATIVITY SCORES FOR SEVEN GROUPS AS
RELATED TO FATHER'S EDUCATION

<table>
<thead>
<tr>
<th>Kind of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Variance Estimate</th>
<th>F</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between means</td>
<td>2300.71</td>
<td>6</td>
<td>383.45</td>
<td>3.95</td>
<td>.001</td>
</tr>
<tr>
<td>Within means</td>
<td>25895.08</td>
<td>266</td>
<td>97.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28105.79</td>
<td>272</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since the ratio was significant at the .001 level, it was assumed that a relationship existed between a student's creativity in art and his father's educational background. The relationships between the creativity scores of the students as grouped by father's education may be seen in Table XV below.

TABLE XV

MEANS, STANDARD DEVIATIONS, FISHER'S t, AND LEVEL OF SIGNIFICANCE FOR CREATIVITY SCORES OF SEVEN GROUPS AS INFLUENCED BY FATHER'S EDUCATION

<table>
<thead>
<tr>
<th>Father's Education</th>
<th>Creativity Score</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate, professional (N = 14)</td>
<td>51.00</td>
<td>7.79</td>
<td>-.59</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>College graduate (N = 36)</td>
<td>52.83</td>
<td>12.23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate, professional (N = 14)</td>
<td>51.00</td>
<td>7.79</td>
<td>-.41</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Partial college (N = 28)</td>
<td>52.36</td>
<td>10.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate, professional (N = 14)</td>
<td>51.00</td>
<td>7.79</td>
<td>.00</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>High school graduate (N = 83)</td>
<td>51.00</td>
<td>9.42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate, professional (N = 14)</td>
<td>51.00</td>
<td>7.79</td>
<td>-.49</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Partial high school (N = 31)</td>
<td>52.55</td>
<td>10.58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father's Education</td>
<td>Mean</td>
<td>SD</td>
<td>t</td>
<td>Level</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>-------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Graduate, professional (N = 14)</td>
<td>51.00</td>
<td>7.79</td>
<td>1.91</td>
<td>.10</td>
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<tr>
<td>Junior high school (N = 29)</td>
<td>44.86</td>
<td>7.90</td>
<td>1.65</td>
<td>.10</td>
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</tr>
<tr>
<td>College graduate (N = 36)</td>
<td>52.83</td>
<td>12.23</td>
<td>.19</td>
<td>NS</td>
<td></td>
</tr>
<tr>
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<td>52.36</td>
<td>10.03</td>
<td>.93</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>High school graduate (N = 83)</td>
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<td>9.42</td>
<td>.11</td>
<td>NS</td>
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<tr>
<td>College graduate (N = 36)</td>
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<td>.32</td>
<td>.01</td>
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<td>Junior high school (N = 29)</td>
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<td>.01</td>
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<td>12.23</td>
<td>3.15</td>
<td>.01</td>
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</tr>
<tr>
<td>Less than eight years (N = 52)</td>
<td>46.10</td>
<td>8.90</td>
<td>.63</td>
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</tr>
<tr>
<td>Partial college (N = 28)</td>
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<td>10.03</td>
<td>-.07</td>
<td>NS</td>
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</tr>
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<td>High school graduate (N = 83)</td>
<td>51.00</td>
<td>9.42</td>
<td>.28</td>
<td>.01</td>
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</tr>
<tr>
<td>Partial college (N = 28)</td>
<td>52.36</td>
<td>10.03</td>
<td>2.71</td>
<td>.01</td>
<td></td>
</tr>
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<td>Partial high school (N = 31)</td>
<td>52.55</td>
<td>10.58</td>
<td>.75</td>
<td>NS</td>
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</tr>
<tr>
<td>Junior high school (N = 29)</td>
<td>44.86</td>
<td>7.90</td>
<td>2.89</td>
<td>.01</td>
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</tr>
<tr>
<td>Less than eight years (N = 52)</td>
<td>46.10</td>
<td>8.90</td>
<td>.82</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>High school graduate (N = 83)</td>
<td>51.00</td>
<td>9.42</td>
<td>2.82</td>
<td>.01</td>
<td></td>
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<tr>
<td>Partial high school (N = 31)</td>
<td>52.55</td>
<td>10.58</td>
<td>3.02</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>Junior high school (N = 29)</td>
<td>44.86</td>
<td>7.90</td>
<td>.89</td>
<td>.01</td>
<td></td>
</tr>
</tbody>
</table>
TABLE XV—Continued

<table>
<thead>
<tr>
<th>Father's Education</th>
<th>Creativity Score</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>t</td>
<td>Level</td>
</tr>
<tr>
<td>Partial high school</td>
<td>52.55</td>
<td>10.58</td>
<td>2.89</td>
<td>.01</td>
</tr>
<tr>
<td>Less than eight years</td>
<td>46.09</td>
<td>8.90</td>
<td>- .54</td>
<td>NS</td>
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<tr>
<td>Junior high school</td>
<td>44.86</td>
<td>7.90</td>
<td>- .54</td>
<td>NS</td>
</tr>
<tr>
<td>Less than eight years</td>
<td>46.09</td>
<td>8.90</td>
<td>- .54</td>
<td>NS</td>
</tr>
</tbody>
</table>

The children of college graduates were significantly (.01) more creative than those of men who completed only junior high school and those of men who had less than eight years of schooling. Those students whose fathers had partial college training or who were high school graduates were more creative than those whose fathers had completed junior high school or less; the $t$ ratios were significant at the .01 level. The same results were found when the students whose fathers had partial high school training were compared with those whose fathers had completed junior high school or less. All groups, except the children of graduate professionals, were significantly more creative than those whose fathers had not gone beyond junior high school. In reference to the findings mentioned in Chapter II that the parents of more creative subjects had not gone as far educationally as the parents of the less creative, the results would seem to indicate that those falling within the middle steps of the education scale
tend to be more creative. Moreover, the lack of education seems to be closely allied with low socio-economic status and lack of cultural orientation.

In summation the null hypothesis was retained for hypotheses two and five: there was no relationship between a student's creativity in art and his sex or between his creativity and his previous art training. Hypotheses one, three, four, six, seven, and eight were of sufficient statistical import to reject the null hypothesis. Therefore, it was assumed that a significant relationship existed between the artistic creativity of a junior high school student and the following socio-cultural factors: ethnic group, socio-economic background, community size, cultural orientation, father's occupation, and father's education.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was designed with the intent of determining the relationship between certain selected socio-cultural factors and selected junior high school students' creativity in art. A questionnaire was used to determine the following socio-cultural factors for each of the students: ethnic group, sex, social class, community size, cultural interest in the home and community, and the amount of previous art training. A composite score of creativity for each student was derived from a battery of five tests: the Barron-Welsh Art Scale, the Paper Shapes test, the Making Objects test, the Match Problems test, and the Sketches test.

The subjects participating in this study consisted of groups of eighth-grade students enrolled in public junior high schools in North Texas and Central Texas during the spring term of 1967. The 273 students represented three ethnic groups: Latin-American, Negro, and white; three classes of population: large city, small city, and rural community; and a cross-section of social classes.
Eight hypotheses were investigated in this study:

1. That there would be no relationship between artistic creativity and the student's ethnic group.

2. That there would be no relationship between the student's sex and his artistic creativity.

3. That there would be no relationship between artistic creativity and socio-economic background.

4. That there would be no relationship between the size of the city in which the student lived and his artistic creativity.

5. That there would be no relationship between previous art training and artistic creativity.

6. That there would be no relationship between the cultural orientation of the student's family and community and his artistic creativity.

7. That there would be no relationship between the father's occupation and the student's artistic creativity.

8. That there would be no relationship between the parent's educational background and the student's creativity.

Two statistical techniques, analysis of variance and Fisher's t, were used to treat the results obtained from the collection and tabulation of the data. An arbitrary level of significance was set at .05.
Findings

An analysis of the data revealed the following:

Hypothesis one: There was no significant difference in the creativity of Latin-American and Negro students. White students were significantly more creative than either Latin-American or Negro students.

Hypothesis two: There was no relationship between a student's sex and the student's artistic creativity.

Hypothesis three: Students in the upper-middle class performed more creatively than did students in the working class and in the lower class. Youngsters in the lower-middle class had higher creativity scores than did working class and lower-class youngsters. The children of working and lower-class families seemed to be less aware of cultural events which took place in their own or nearby communities.

Hypothesis four: Students from a small city were significantly more creative than the students from either the large city or from the rural communities.

Hypothesis five: Previous art training had no influence on creativity.

Hypothesis six: There was a significant difference in creativity scores between students having a definite cultural orientation and students having no cultural orientation. Students having some cultural orientation were significantly more creative than those having no cultural orientation.
Hypothesis seven: Students whose fathers were in professional or technical occupations were significantly more creative than those students whose fathers were operatives, service workers, laborers, unemployed or retired. The children of managers and proprietors were more creative than the children of laborers. The offspring of clerical workers were significantly more creative than those whose fathers were employed as operatives, as service workers, or as laborers. The children of craftsmen were more creative than those of laborers. The progeny of sales workers were the most creative group, having higher creativity scores than the youngsters in all the other groups. The differences were significant when the children of sales workers were compared with those whose fathers were farm owners or managers, managers or proprietors, craftsmen, operatives, service workers, laborers, unemployed or retired.

Hypothesis eight: Those students whose fathers had academic work in the professions did not achieve scores which were significantly more creative than the students whose fathers had less education. The children of men having a college degree, partial college training, a high school diploma, or partial high school training were all more creative than those of men having a junior high school education or less.
Implications

Based on an examination of the literature and of the findings, certain implications concerning the obligations of the art teacher to her students would seem feasible:

1. Since a positive relationship exists between artistic creativity and a student's ethnic group, the art teacher should take steps to provide an experiential setting in which the student from a minority group does not feel compelled to conform in order to be accepted. The school is in the particularly fortunate position to accept the responsibility for encouraging and developing the innate creative potentialities of all individuals. Furthermore, the art classroom situation should, under these circumstances, take advantage of the creative possibilities of all learning situations.

2. As there are no apparent sex differences related to artistic creativity, the teacher need not be concerned with sex differences--only with individual differences of approach.

3. Because of the relationship of artistic creativity to socio-economic background the middle-class teacher should strive to establish both an understanding of and a rapport with the lower-class child, and assist the child to understand the culture which is primarily oriented toward the middle-class. An adequacy of teachers, who are sensitive to the needs of children and are knowledgeable about the nature of art, doubtless will require a revision of college teacher-training programs. Colleges and universities might well
orient their students to the need for understanding the economically and culturally deprived youngster.

4. Although there seemed to be a significant relationship between creativity in art and the size of the city in which a student lives, these results are suspect and demand further investigation. As previously stated, if any portion of a student's battery of tests was missing, the student was excluded from the study. Since the testing in the small city extended over a two-week period, absenteeism may have eliminated students from minority groups and lower socio-economic classes.

5. If creativity is a concern of art education, then the lack of relationship between previous art training and artistic creativity would suggest that a re-examination and revision of existing art programs is advisable. Furthermore, art should be made a part of the curriculum in each school. The development of creative potentialities and esthetic awareness might very well be aided in culturally-deprived areas by traveling art exhibits, film strips, and moving pictures.

6. The relationship between cultural orientation and artistic creativity would indicate that art education should provide rich, cultural experiences for all children.

7. Although there is a definite relationship between the occupation and education of a student's father and the student's creativity, the teacher cannot alter these characteristics. The teacher and the school, however, can make the
school patrons aware of the importance of creativity in art as a humanizing factor in a technological age and make creative ideas and experiences rewarding for the student.

Conclusions

On the basis of the analysis of the data, and within the limitations of the study, certain conclusions may be made in reference to the population studied:

1. A relationship seemed to exist between artistic creativity and ethnic group.

2. Creativity did not seem to be related to the sex of a student.

3. Children from the upper-middle and lower-middle classes seemed to be more creative than youngsters from the working and lower classes.

4. Students from a small city seemed to be more creative than either rural-community youths or large-city students.

5. Previous art training apparently had no relationship to creativity in art.

6. A relationship seemed to exist between cultural orientation and creativity in art.

7. A relationship apparently existed between a student's artistic creativity and his father's occupation.

8. The children whose fathers were employed in jobs classified as salesworkers seemed to be more creative than youngsters whose fathers were in any other occupational area.
9. Students whose fathers had academic work in the professions were less creative than those students whose fathers had less education.

10. Youngsters whose fathers' educations ranged from partial high school training to that of a college graduate seemed to be more creative than those whose fathers had a junior high school education or less.

Recommendations

The following recommendations for further research are based on the results of this study:

1. Investigation using the same instruments should be conducted with matched ethnic groups and matched socio-economic backgrounds.

2. A thorough investigation concerning the influence of art training upon creativity in art should be made. This might involve (a) the development of a stimulating twelve-week art course suitable for junior high school students, (b) giving the tests of creativity at the beginning of a school term to both an experimental and a control group, (c) the participation of the experimental group in the art course, (d) a retest of the two groups at the end of the term, and (e) the statistical analysis of the differences, if any. This procedure might give a more adequate assessment of the value of art training at the junior high school level.

3. Further investigation, using the same hypotheses, should be conducted on a seventh-grade population and on a
ninth-grade population to determine whether the influence of these socio-cultural factors remains constant throughout junior high school.

4. Norms should be established for the Paper Shapes test by its utilization in test-retest situations.

5. Investigation should be made to determine the relative effect of the mother's and the father's education and employment on a student's creativity.
QUESTIONNAIRE

Circle your identifying numbers above. Read each question carefully and then put a checkmark ( ) in the blank space allotted for the answer which applies to you:

1. Are you a boy or a girl?
   1) Boy
   2) Girl

2. What is your present age?
   1) 12
   2) 13
   3) 14
   4) 15 or over

3. What is the size of the community in which you live?
   1) On a farm or in a town under 2,500
   2) In a town or city between 2,500 and 19,000
   3) In a small city between 20,000 and 90,000
   4) In a city over 95,000

4. Put a check mark by each of the following that you have in your home: a vacuum cleaner; an electric or gas refrigerator; a bathtub or shower with running water; two cars (don't count trucks); part or full-time paid help for the home; automatic dishwasher; I have had paid lessons in music, dancing, art or drama outside of school.

5. With whom do you live?
   1) Both parents
   2) Father only
   3) Father and step-mother
   4) Mother only
   5) Mother and step-father
   6) Adopted parents
   7) Other (specify) ____________________________
6. What is your father's or step-father's occupation? Put a check in the appropriate blank and then underline the specific occupation:

1) ____ Airline pilot, accountant, factory owner, minister, newspaper editor, optometrist, school teacher, veterinarian.

2) ____ Bookkeeper, farm owner, foreman, office clerk, policeman, radio announcer, reporter, telephone serviceman.

3) ____ Bus driver, bricklayer, carpenter, fireman, insurance agent, mail carrier, plumber

4) ____ Garbage collector, gardener, janitor, porter, shoe shiner, street sweeper, taxi driver

5) ____ Building contractor, electrician, manufacturer's representative, railroad engineer, store manager, welfare worker

6) ____ Automobile repairman, barber, cook, filling station attendant, laundry worker, machine operator, milk man, night watchman, painter, sales clerk, tenant farmer, truck driver, waiter

7) ____ Architect, banker, chemist, college professor, dentist, doctor, engineer, judge, lawyer, pharmacist

8) ____ Unemployed

9) ____ Other (specify in detail ____________________________

7. How much education has your father or step-father had?

1) ____ Graduate professional training

2) ____ Standard college or university graduate

3) ____ Partial college training (at least one year)

4) ____ High school graduation

5) ____ Partial high school

6) ____ Junior high school (through the ninth grade)

7) ____ Less than seven years of school

8. What is your mother's or step-mother's occupation? Check and underline.

1) ____ Bank teller, bookkeeper, librarian, professional (RN) nurse, ticket agent, welfare worker, secretary

2) ____ Beautician, dressmaker, practical nurse

3) ____ Doctor, lawyer, pharmacist, college professor

4) ____ Housewife

5) ____ Cook, household worker, laundry worker, waitress

6) ____ Buyer (for Dept. store), teacher

7) ____ Dancing teacher, office worker, telephone operator
9) Salesclerk, window decorator
9) Other (Specify in detail) ____________________________

9. How much education has your mother or step-mother had?
1) Graduate professional training
2) Standard college or university graduate
3) Partial college training (at least one year)
4) High school graduate
5) Partial high school
6) Junior high school (through the ninth grade)
7) Less than seven years

10. Do you have your own room or some place where you can be by yourself?
1) Yes •
2) No

11. Do you have any brothers and/or sisters?
1) Yes. How many? ____________
2) No

12. To what newspapers does your family subscribe?
1) Dallas Morning News
2) Houston Post
3) Ft. Worth Star-Telegram
4) Wall Street Journal
5) Waco Tribune
6) Other (specify) ____________________________
7) None

13. To what magazines does your family subscribe? Check and then underline.
1) Time, Newsweek, U.S. News & World Report, Life
2) Harper's, Atlantic Monthly, Fortune
3) Saturday Review, American Heritage, Horizon
4) Reader's Digest
5) Sports Illustrated, Field and Stream
6) Saturday Evening Post, Look
7) National Geographic, Holiday

1) House Beautiful, House and Garden
2) Better Homes & Gardens, American Home
3) Ladies Home Journal, Good Housekeeping, McCall's
4) Vogue, Harper's Bazaar, Glamour
5) Mademoiselle, Seventeen, Ingenue
6) Art News, American Artist, Craft Horizons
7) Others (specify) ___________________________________________________________________

15. Does your school offer an art course?
   1) Yes
   2) No

16. If the above answer is yes, are you currently enrolled in art?
   1) Yes
   2) No

17. If the answer to #15 is no, have you had art in another school?
   1) Yes. How many years? _____
   2) No

18. Have you ever taken special art courses or training outside of school?
   1) Yes. How many years? _____
   2) No

19. Have either of your parents taken art or crafts courses?
   1) Yes
   2) No

20. Does your community have an art museum or an art gallery?
   1) Yes
   2) No

21. Have you been to an art museum, art gallery or to some type of art show (at a bank, shopping center, sidewalk exhibit)?
   1) Frequently
   2) Occasionally
   3) Once
   4) Never

22. Have you attended a ballet, a musical, or the theatre?
   1) Frequently
   2) Occasionally
   3) Once
   4) Never
23. Have you finished a piece of art work (painting, ceramics, sculpture, etc.) on your own (not as part of a course)?
   1) Yes
   2) No

24. Have you exhibited a work of art in your school?
   1) Yes
   2) No

25. Have you exhibited a work of art in a city, county, or statewide show?
   1) Yes
   2) No

26. Have you won a prize or award in an art competition (painting, ceramics, sculpture, weaving, jewelry, etc.) at your school?
   1) Yes
   2) No

27. Have you won a prize or award in an art competition in a city, county, or statewide art show?
   1) Yes
   2) No

28. Have you had photographs, drawings, or other artwork published in a public newspaper or magazine?
   1) Yes
   2) No
PAPER SHAPES TEST

Encircle your identifying numbers above. Then, using the assorted pieces of paper (most of which are gummed) in the accompanying envelope, make a design in the space below which you consider interesting, imaginative, pleasing and creative. You may use all of the pieces or as few as you choose; you may use or combine them in any way you please that does not require the use of extra tools or materials. When you have decided on your design, lick the pieces and stick them onto the paper; you have twenty-five minutes in which to work.
INSTRUCTIONS TO TEACHERS

1. Each student is to be assigned a certain number as a means of identifying his questionnaire and tests; he will use the same number throughout. Enclosed are two copies of these numbers: please write the names of your students on the original and keep it for later interpretation of test results, the second list should be cut apart and each student given a copy of his number.

2. There are five tests of creativity and a questionnaire to be administered. Since the tests are timed, no student will be allowed to make up a test in the event that he is absent when it is given. Each student is asked to encircle the digits at the top of each test which comprise his identifying number. In encircling the numbers be sure that the first number is encircled the first time it occurs in the number sequence and the two succeeding numbers are to the right of it. For example, the number 423 would be encircled as follows:

   1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0

   All numbers are marked from left to right in sequence.

3. A number 2 or 2½ pencil should be used for the tests and questionnaire by all students.

4. On the first day please read the following explanation to your students:

   "You are being asked to participate in a research project which deals with creativity in art among junior high school students in Texas. You will be asked to answer a questionnaire and take five simple creativity tests. The purpose of the questionnaire is to find out if there are certain things in our everyday lives which help or hinder our creativity. No names will be used on the questionnaire or on the tests; the information will be kept confidential. The results of your test will in no way influence your school grades."

5. On the first day administer the questionnaire which takes approximately twenty minutes. As the questionnaires are turned in, will you encircle your group's code number
which is ul and the student’s ethnic group (Latin American, negro, white, other) on each questionnaire.

Example: ml m2 m3 u1 u2 u3 rc1 rc2 rc3 la n w o

6. On the second day the Match Problems test should be administered first. Students are not to open tests until told to do so. The test takes 14 minutes plus time for instructions.
   a. Have students encircle identifying numbers.
   b. Read aloud the test instructions as the students read them silently. This is done to control reading time and to achieve greater uniformity of understanding.
   c. Answer any questions by referring them as much as possible back to parts of the instructions.
   d. "Turn the page to Part I and begin working." Allow seven minutes. "Stop! Turn the page to Part II and begin working." Allow seven minutes. "Stop!"
   e. Collect booklets.

7. The Sketches test is also to be administered on the second day. Students are not to open the test until told to do so. The test requires 8 minutes plus time for instructions.
   a. Have students encircle identifying numbers.
   b. Read instructions aloud to students and answer any questions.
   c. "Turn the page to Part I and begin work." Allow 2 minutes. "Stop! Turn to Part II and begin work." Allow 2 minutes. "Stop! Turn to Part III and begin work." Allow 2 minutes. "Stop! Turn to Part IV and begin work." Allow 2 minutes. "Stop!"
   d. Collect tests.

8. The Making Objects test will be administered on the third day. Students are not to open the tests until told to do so. The test requires 6 minutes plus time for instructions.
   a. Have students encircle their identifying numbers.
   b. Read aloud the test instructions as the students read them silently.
   c. If there are questions, answer them briefly with as much of the same wording as is possible.
   d. "Turn the page to Part I and begin working." Allow three minutes. "Stop! Turn to Part II and begin working." Allow three minutes. "Stop!"

9. The Barron-Welsh Art Scale will also be administered on the third day.
   a. Each student should have a booklet and a separate answer sheet.
b. Have students encircle identifying numbers.
c. Read instructions to students.
d. This test is not timed, but the students will use approximately 15 minutes.

10. The final test to be administered is the Paper Shapes test, which allows 25 minutes working time.
   a. Each student should have an envelope and an answer sheet.
   b. Have students encircle identifying numbers.
   c. Read instructions to students.
   d. Answer questions in the words of the instructions as much as possible. The students may not use scissors or glue. They may tear the pieces, use pieces three-dimensionally, use as few or as many of the pieces as they desire—do not volunteer this information, however, you may answer these questions if they are asked.
   e. "When you have finished the test, please return any unused pieces to the envelope. Then turn in the envelope and the test, and wait quietly for the rest to finish. You may begin." Allow 25 minutes working time. "Stop!"
   f. Collect the tests and envelopes.

11. Please return any unused tests with the rest of the material.

12. THANK YOU SO VERY MUCH FOR YOUR HELP, PATIENCE AND COOPERATION.
A PARTIAL LIST OF OCCUPATIONAL CATEGORIES
ACCORDING TO NORC SCORES

Category One (one point)—NORC scores 88-94
Architect
Chemist
College professor
Dentist
Doctor
Judge
Lawyer
Scientist

Category Two (two points)—NORC scores 81-87
Accountant
Airline pilot
Armed forces, officer
Banker
Clergyman
Editor
Engineer
Minister
Osteopath
Optician
Optometrist
Pharmacist
Teacher
Veterinarian

Category Three (three points)—NORC scores 74-80
Artist
Building contractor
Buyer, department store
Chiropractor
County agent
Draftsman
Electrician
Farm owner or manager
Librarian
Store manager
Undertaker
Category Four (four points)—NORC scores 67-73
Bank teller
Bookkeeper
Cabinetmaker
Carpenter
Credit manager
Fireman
Floor manager, store
Foreman, manufacturing
Government worker
Insurance agent
Machinist
Manager, food and drink establishment
Nurse, R.N.
Oilwell worker
Photographer
Policeman
Proprietor, retail trade
Radio announcer
Real estate agent
Reporter
Salesman
Technician, medical and dental
Telephone serviceman or lineman

Category Five (five points)—NORC scores 60-66
Armed forces, enlisted
Auto repairman or mechanic
Baker
Barber
Bricklayer
Bus driver
Butcher
Machine operator in factory
Mail carrier
Manager of service station
Plasterer
Plumber
Repairman, radio or TV
Traveling salesman
Upholsterer

Category Six (six points)—NORC scores 49-59
Attendant, filling station, hospital, or parking lot
Clerk, store
Cook, restaurant
Deliveryman
Guard
Painter
Practical nurse
Shoe repairman
Taxi driver
Truck driver
Welder

Category Seven (seven points)—NORC scores 34-48
Bartender
Elevator operator
Garbage collector
Janitor
Laborer
Laundry worker
Night watchman
Paperhanger
Shoe shiner
Street sweeper
Waiter
WEIGHTINGS USED IN DETERMINING CULTURAL ORIENTATION

I. Magazines
   A. Ratings
      1. Class One—received a rating of four
         Atlantic Monthly
         American Heritage
         Art News
         Fortune
         Harper's
         Harper's Bazaar
         Holiday
         Horizon
         House Beautiful
         House and Garden
         National Geographic
         Time
         Vogue
      2. Class Two—received a rating of three
         American Home
         Better Homes and Gardens
         Field and Stream
         Glamour
         Life
         Look
         Newsweek
         Reader's Digest
         Saturday Evening Post
         Sports Illustrated
         U.S. News & World Report
      3. Class Three—received a rating of two
         Good Housekeeping
         Ingenue
         Ladies Home Journal
         McCall's
         Mademoiselle
         Seventeen
      4. Class Four—received a rating of one
         Farm magazines, children's magazines, movie and
         "true confession"-type magazines, etc.
B. Weightings
1. Four points
   a. Two class one magazines
   b. One class one and two class two magazines
   c. Four class two magazines

2. Three points
   a. Two class two magazines
   b. One class one and one class two magazines
   c. One class two and two class three

3. Two points
   a. Two class three magazines
   b. One class two and one class three magazines
   c. One class one

4. One point
   a. Two class four magazines
   b. One class two magazines

II. Attendance at art shows and participation in art courses
A. Four points--attends art shows frequently or participates in art courses regularly
B. Three points--attends art shows occasionally
C. Two points--has had at least one year of outside art training
D. One point--has attended an art show once

III. Music lessons and attendance at concerts
A. Four points--attends frequently
B. Three points--attends occasionally
C. Two points--has had music lessons only
D. One point--has attended once

IV. Newspapers
A. Four points.
   1. One large-city newspaper of wide circulation and high quality (Dallas Morning News, Houston Post, Wall Street Journal, etc.)
   2. One large-city paper of lesser circulation (Fort Worth Star-Telegram, Waco Tribune, etc.) and one small-city paper

B. Three points
   1. One large-city paper of lesser circulation
2. One small-city paper and one small community paper

C. Two points
   1. One small city paper
   2. Two small community papers

D. One point
   1. One small community paper

Each category could receive a maximum of four points. The points for the four categories were summed to five a total score. The rankings for the total number of points were as follows:

12 - 16 points--definite cultural orientation
6 - 11 points--some cultural orientation
0 - 5 points--no cultural orientation
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