THE RELATIONSHIP OF STRUCTURED AND NON-STRUCTURED STIMULI FOR ART PRODUCTION TO SELECTED PERSONALITY FACTORS

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DISSERTATION

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CHAPTER I

INTRODUCTION

Efforts to encourage student progress in art production on the college level have included motivational stimuli which are almost as varied as the expressive aspects of the visual arts. Since many college art teachers have no courses in teaching methods, curriculum, learning theory, or educational psychology, they approach teaching in an "intuitive" manner (very similar to their method of creating art). Their method of teaching is based more on imitative behavior (imitation of their former teachers) than any scientific approach to teaching. Their method of motivating students has encompassed stimuli from clear, explicit, and well-formulated directions to vague and nebulous expectations. Part of this deviation in teaching methods among college art teachers has been caused by the ambiguity inherent in aesthetics. Another cause of this variety in teaching that exists in art schools was stated by Kaelin as the ". . . reverberating echo of the anonymous cliche: artists are born and not made" (20, p. 69). Another statement by Kaelin exemplified the conflict among the various teaching methods employed by art teachers:

> There seems to be a deeply felt conviction that art is a discipline which cannot be taught, while on the other hand the conviction is belied by many examples of successful artists who have learned

> at least the rudiments of their craft from some kind of teacher (20, p. 70).

Psychologists and the lay public have entertained many diverse theories on the artist's personality. The artist has often been depicted as a bizarre, neurotic non-conformist; however, many contemporary psychologists have a different view toward the personality of the artist. Maslow (22) stated that many writers make psychological health and creativeness almost synonymous. He also mentioned that healthy people are able to accept and use their "primary processes" rather than always controlling them and that this was one of the main conditions conducive to creativity. Barron (3, p. 213) has advanced the point of view that the disposition towards creativeness may function as an organized mode of responding to experience and that socially disrated traits of rebelliousness, disorderliness, and exhibitionism, as well as socially valued traits of independence of judgment, freedom of expression, and novelty of construction and insight may be associated with creative predispositions in the personality structures of artists.

Scientific research in art eduction related to personality characteristics of the art student has been on a more microcosmic level than theoretical psychology on the artist. Many research studies in art education have indicated that personality characteristics of students are related to the student's art production and experience. Burgart (5) found that art

experience was significantly related to self-sufficiency, social independence, non-conforming behavior, flexibility of response, flexibility in manipulation of environment, and ability to identify with self-concept. Burkhart (6) in experimentation with a creativity-personality continuum in art noted that students who worked in a process which he termed "deliberate" are restricted by rigid standards set by authority figures and suggested that our present analytical teaching methods may be damaging to this type of student.

Statement of the Problem

The problem of this study was to determine whether there was any relationship between selected personality variables and art production with structured and non-structured stimuli.

The purposes of the study were as follows:

1. To compare the effect of structured and non-structured stimuli on art production of selected college art majors and minors.

2. To determine the relationships of certain personality variables as measured by the Edwards Personal Preference Schedule to aesthetic production as influenced by structured and non-structured stimuli.

Hypotheses

The following hypotheses were formulated for examination within the framework of the above stated purposes of the research:

1. The structured stimulus group will have a significantly higher mean score on aesthetic production than will the non-structured stimulus group.

2. The following hypotheses are made for those subjects in the structured stimulus group:

A. There will be a significant positive correlation between each of the following personality variables and aesthetic production:

1. Deference
2. Order
3. Exhibition
4. Succorance
5. Change
6. Endurance

B. There will be a significant negative correlation between each of the following personality variables and aesthetic production:

1. Autonomy
2. Dominance
3. Abasement
4. Heterosexuality
5. Aggression

C. There will be no significant correlation between the following personality variables and aesthetic production:

1. Affiliation
2. Intraception
3. Nurturance
4. Achievement

3. The following hypotheses are made for those subjects in the non-structured stimulus group:

A. There will be a significant positive correlation between each of the following personality variables and aesthetic production:

1. Order
2. Exhibition
3. Autonomy
4. Dominance
5. Change
6. Endurance

B. There will be a significant negative correlation between each of the following personality variables and aesthetic production:

1. Deference
2. Succorance
3. Abasement
4. Heterosexuality
5. Aggression

C. There will be no significant correlation between the following personality variables and aesthetic production:

1. Affiliation
2. Intraception
3. Nurturance
4. Achievement

4. The following relationships will exist between the structured stimulus group and the non-structured stimulus group in regard to the personality variables:

A. Subjects in the structured stimulus group who score high (top one third) on each of the following variables will have a significantly higher mean on aesthetic production than subjects in the non-structured stimulus group who score high on the variables:

1. Deference
2. Succorance

B. Subjects in the structured stimulus group who score high (top one third) on each of the following variables will have a significantly lower mean on aesthetic production than subjects in the non-structured stimulus group who score high on the variables:

1. Autonomy
2. Dominance

Background and Significance of the Study

Differences exist among personality theorists in their analysis and interpretation of the relationship between certain

aspects of personality of the artist and the aesthetic products that he creates. Theories have attempted to explain the relationship of personality to art by examining the artistic products found in man's divergent cultures. Most general theories espoused by anthropologists explain art as manifestations of superstition and religion and the artist's "feelings" interacting in a social millieu; however, many of these theories about personality and the art product are ambiguous and indistinct. They are primarily concerned with explaining social forces rather than specific individual personality attributes. Only with the advent of psychoanalysis has the latter aspect occurred. Hatterer (18) and Schneider (28) have made interesting psychoanalytic approaches to artists and their personalities.

In a comment relevant to this study, Schneider said:

> In modern psychoanalytic literature, to simplify clinical investigation, the psychology of creating has sometimes been set up as tantamount to the psychology of art. This tends to blur the distinction between intent and result (and thus wipes out the phenomenon of endowment); this lack of distinction seductively leads to the view that art is a combination of neurotic subliminination and reaction-formation to intolerable aggressive impulses. It is true that all forms of "making things" have certain features in common. But we are concerned with those specific attributes that distinguish the consistent creative artist from the "makers" (28, p. 63).

Dewey (8), as a philosopher-psychologist, epitomized an empirical approach to personality and the art product. He discussed some psychological aspects of aesthetics and in the

process stated: "Because of the individual interests and attitude of the artist, because of the individual character of every work of art, the specifically personal contribution must be sought in works of art themselves" (8, p. 245).

Most research on personality and the art product has been on the "fringe" of investigation into the creative process. Behaviorial scientists such as Ray (26) considered originality to be the true component of creativity and following his mode of thinking, many studies use the two terms synonymously. Since many authorities believe an important criterion for judging an art product is its originality, a review of research relating creativity to personality may add relevance and greater clarity of focus to the area being examined in the present study.

Guilford (15) described characteristics which he called mental abilities and aptitudes, and he pointed out some personality traits associated with creativity when he said, "Individuals who are high on scores for ideational fluency are inclined to be more impulsive, more ascendant, and more confident and to have a stronger appreciation of creativity" (15, p. 151).

Tyler (31) described a study by Getzels and Jackson which indicated a relation between personality and creativity exists. The study concluded that creative students (sixth through twelth grades) used freer fantasy, more humor, more

playfulness, and more violence in story telling and picture completion.

Taylor, without describing the personality scale used (which must have been very similar to the Edwards Personal Preference Schedule), made the following comments on personality and creativity:

> There is some evidence that creative persons are more autonomous than others, more self-sufficient, more independent in judgment (they go against group opinion if they feel ti is incorrect), more open to the irrational in themselves, more stable, more feminine in interests and characteristics (especially in awareness of their impulses), more dominant and self-assertive, more complex, more self-accepting, more resourceful and adventurous, more radical (Bohemian), more self-controlled and possibly more emotionally sensitive, and more introverted but bold (30, pp. 27-28).

Taylor (30, p. 37) also stated that typical correlations for personality and originality scales range from .10 to .30.

MacKinnon conducted research comparing creative with non-creative architects and described the creative person (especially the creative architect) according to responses on the California Psychological Inventory as follows:

> He is dominant (Do scale); possessed of those qualities and attributes which underlie and lead to the achievement of social status (Cs); poised, spontaneous, and self-confident in personal and social interaction (Sp); though not of an extremely sociable or participative temperament (low Sy); intelligent, outspoken, sharp-witted, demanding, aggressive, and self-centered; persuasive and verbally fluent, self-confident and self-assured (Sa); and relatively uninhibited in expressing his wories and complaints (low Wb).

> He is relatively free from conventional restraints and inhibitions (low So Sc), not preoccupied with the impression which he makes on others and thus perhaps capable of great independence and autonomy (low Gi), and relatively ready to recognize and admit self-views that are unusual and unconventional (low Cm).
>
> He is strongly motivated to achieve in situations in which independence in thought and action are called for (Ai). But, unlike his less creative colleagues, he is less inclined to strive for achievement in settings where conforming behavior is expected or required (Ac). In efficiency and steadiness of intellectual effort (Ie), however, he does not differ from his fellow workers.
>
> Finally, he is definitely more psychologically minded (Py), more flexible (Fx), and possessed with more femininity of interests (21, pp. 161-162).

Many studies conducted in the area of art education have implied directions similar to those of the present investigation. Frankston (11) conducted a study that described the effects of two programs (prescribed and self-developed) and two methods of teaching (spontaneous and divergent) on the art performances of adolescents. According to his research, the teacher art strategies appeared to have little effect on student performances. Beittel (4), in a review of research on art education, described a study that he did where he varied three conditions between drawing sessions. He found art quality to be influenced by process feedback and self-discovered evaluative criteria. Beittel mentioned another study that he conducted which questioned generalizations associating personality with drawing style. Gordon (14), as a result of his investigation,

advocated the need of personality examinations for use by art educators that would make clearer related implications of the effects of personality on art than those personality examinations investigated in his study.

An exploratory study by Hardiman and Johnson (17) described the presentation of varying motivational stimuli for art production. The study involved written structured, scrambled, and non-structured stimuli that were used on groups of art students. Hardiman and Johnson concluded that the type of stimuli for motivating influenced the product, ". . . a structured stimulus develops a structured product, a scrambled stimulus develops a scrambled product, and a non-structured stimulus motivates self-dependence rather than stimulus dependence in product development" (17, p. 17).

Final implication of the significance of this study, was made after investigation of the literature. No direct reference to correlation of personality characteristics to art production under different stimulus conditions using college art majors was found.

Definition of Terms

The following terms were defined for this study:

1. Personality Variables. The personality variables consisted of those variables which are measured by the Edwards Personal Preference Schedule. See Appendix A.

2. Motivational Stimulus. The class conditions created by the art teacher for his students was considered to be a motivational stimulus. For the purpose of this study, two specific operational definitions of motivational stimulus follow:

A. Structured Stimulus. This was a motivational stimulus that was organized and thematic in nature. The stimulus was in the form of a two and one half feet by four and one half feet reproduction of one of Picasso's most famous paintings, Guernica. The painting is basically monochromatic and has rather sharply defined non-painterly overlapping shapes which should influence collage production; Jansen stated that this painting met ". . . the ultimate test of the validity of collage construction" (19, p. 525). See Appendix F.

The structured stimulus was considered as an external stimulus - a stimulus that originated outside the individual.

B. Non-structured Stimulus. This was a motivational stimulus that did not provide any specific examples or modes of attack but only "stimulated" the student to use self-developed approaches to art production.

The non-structured stimulus was approached in a manner similar to Haeffle's definition of the Rorshach

as ". . . a completely unstructured situation in which no right or wrong answers are involved, and where free use of the imagination can be tapped" (16, p. 127).

The non-structured stimulus was considered as an internal stimulus - a stimulus that originated within the individual.

3. Collage. The method of gluing objects (paper, fabrics, bric-a-brac) onto a flat surface that was developed by Picasso and Braque was considered a collage. This study was concerned with collages created from clippings taken from Life magazine and developed on a twelve by twenty-two inch sheet of white tag-board.

4. Aesthetic Production. This was the finished art product of those subjects involved in this study. This product was a collage that was rated by professional artists/teachers on an ordinal scale covering relative aesthetic merit.

Limitations of the Study

The study was limited to freshman and sophomore art majors or art minors who were enrolled in Art 144 or Art 145 (both are courses in basic design) at North Texas State University in the spring semester of 1968.

Basic Assumptions

The following assumptions were made for this study:

1. The selected personality variables included those aspects of personality relevant to the population which the groups used in this study represented.

2. The rating of aesthetic products by professional artists/teachers was sufficiently valid to warrant its use as an experimental criteria.

3. The population sample used was representative of freshman and sophomore art major and art minors at North Texas State University.

Source of Data

Data for this study were derived from the responses of students who were enrolled in Art 144 and Art 145 classes that were offered at North Texas State University. Each student who was in the selected classes created a collage. Only those collages that were produced by freshman and sophomore art majors or art minors were used as data for this study. The data for the personality variables were derived from the Edwards Personal Preference Schedule which was administered to the previous subjects in the class meeting that followed the production of the collage.

Statistical Procedures for Treating Data

The acquired data were treated in the following manner:

1. The tenability of hypotheses one and four was tested by the *t* test between independent means of two groups. The .05 level of significance was used to accept or reject the null

hypotheses.

2. The tenability of hypotheses two and three was determined by the Pearson Product Moment Correlation Coefficient formula. An appropriate table was consulted to determine the .05 level of significance.

3. Judge agreement was determined by the Pearson Product Moment Correlation Coefficient.

Summary

With the increasing awareness and interest of our contemporary society in the artist and the art product, this study recognized the need for investigation into the training of the artist in relationship with selected personality variables. Theories and experimentation in various areas (psychology, creativity, and art education) have indicated a relationship between the artist's personality and his art production. This study, in seeking to obtain additional knowledge associated with the training of the artist, concentrated on two divergent motivational stimuli for art production. The data were collected from freshman and sophomore art majors and art minors who were enrolled in basic design classes at North Texas State University. The data consisted of a collage created by the students which was ranked by professional artists/teachers and the students' responses to the Edwards Personal Preference Schedule. Hypotheses were formulated to

test the relationships between personality variables, motivational stimuli, and the art product; and statistical methods for treating the data were described. Terms, limitations, and assumptions were discussed and explained in order to clarify the purpose of the study.

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CHAPTER II

SURVEY OF LITERATURE

The college art instructor of today frequently acts as a synthesizer of diverse knowledge from psychology, education, art history, and studio methods. His interaction with his students is based on a multitude of factors. One of these factors is the motivational stimulus that he uses in presentation of assignments to his students. Knowledge that is attained through teaching experience leads the art instructor to realize the diversity in personalities of his students; he realizes that a stimulus which seems to motivate some students often seems to be inadequate for others. Recognition of this difficulty, a broader knowledge of overall teaching method, knowledge of the desired end product, and methods of evaluating this product are implied and often specifically recognized, throughout the literature, as problems which permeate the teaching of art. Despite the ambiguities encountered in teaching art, many art educators tend to be objective and optimistic. Hastie stated:

> Art teachers, as any kind of teacher, must know how to manipulate all of the variables, especially their own behaviors, that determine learning. To explain and control the teaching of art requires a science and technology of art teaching (18, p. 257).

Keel (22) commented on the contemporary state of instructional practices of art education in colleges and universities. He stated that a gradual shift took place from theoretical and historical treatment to exploratory and creative studio work.

> Colleges without art instruction generally added some kind of program, frequently with an emphasis on studio practice and on contemporary forms of expression. A new tradition of responsible studio instruction gradually became established as professional painters, sculptors, printmakers, ceramists, photographers, designer-craftsmen, and others accepted and adjusted to their role as bona-fide college faculty members (22, p. 48).

Instruction and the College Art Student

Smith (31) suggested that everything we know about teaching has come from philosophy and psychology by speculation. He mentioned that the actual process of teaching is acquired by observation unless teaching can be described as an observable and modifiable form of behavior. His premises are applicable to the teaching of art in college. Weitz summed up his approach to these premises with the following statement:

> Our circle is drawn and I can stop. I began by asking whether the teaching of art rests on a true theory of it. I then tried to show that the teaching of art does not, cannot, and need not, rest on such a theory. Rather, that the theories of art comprise different sets of directions - indeed, the best there are - for the richest possible participation in the arts. If my argument is correct, teachers of art should go to the theories of art not for nonexistent true definitions but for all their fertile suggestions about the very teaching of art, since the theorists themselves have been the best instructors (37, p. 56).

According to Eisner (11), research in art has not been limited to investigations in the behaviorial sciences. He considered philosphic inquiry to be a form of research and that work, such as that by Ecker, has been important because it emphasized the cognitive aspect of artistic experience. Eisner mentioned that art has often been considered emotional while ". . . other subject areas, such as mathematics and the sciences, have been considered products of thought" (11, p. 321). Eisner remarked that art may be considered visual problem solving.

> For, if art activity is mediated activity, it is intelligent activity carried out in behalf of aesthetic ends, then surely such activity can be made more intelligent through appropriate instruction (11, p. 321).

Eisner commented further on the need for research in the teaching of art. He stated that more scientific research had been done in the years between 1950 and 1960 than had been done in the first half of the century. He pointed out the need for new theories that would tie loose-ended non-theoretical studies into a comprehensive approach to art education. Hausman (20) suggested that research in the teaching of art should be directed towards the dynamic relationship between the student, the teacher, and the teaching environment. He pointed out that art students approach their activities with their own values, perceptions, and expectations. In regard to this, Hausman stated that research should investigate the ". . . relationships between a person's self-image and his expectations as tointrinsic and extrinsic

rewards" (20, p. 1112).

Beittel (5) described a teaching experiment conducted by Burkhart and Nitschke which involved ninety-five college students in a semester's work under the following conditions:

1. A depth approach which allowed the students to do over a dozen works in any medium they chose.

2. A breadth approach which allowed the students to do an average of three works in six different media.

Beittel interpreted Burkhart and Nitschke's conclusions by stating:

> It thus appears that the more media used, the less is the progress in spontaneity and aesthetic quality of products. Conversely, the more products per medium, the greater is the progress in both spontaneity and quality. Teacher differences are ruled out to an extent because even within the depth groups, where there was freedom of choice in number of media used and in number of works done, these relationships persisted (5, p. 391).

Another study that was related to the variables which are inherent in the teaching of art was concerned with the influence of college art instructors upon their students' painting styles. Doerter (10) conducted the study with a random sample of eight students from each of five painting classes that were selected from the state university of Pennsylvania and two Pennsylvania state colleges. The procedure consisted of rating the first and final paintings of the students and two paintings of each instructor and then relating the students' work with their instructor's paintings; Doerter developed two instruments that achieved

the previous. Doerter made the following conclusion and theoretical implications derived from his conclusion:

> The investigator concludes that this study shows evidence that college painting students are influenced into a stylistic painting expression similar to that of their instructors. That this particular objective was intentional on the part of the teachers is doubtful. This type of influence seems to be in opposition to the general statements of teaching philosophy espoused by fine artists and art educators.
>
> The findings of this research should encourage painting teachers to re-examine either the general objectives or the current practices of instruction. Perhaps the strong ego, needed to support and maintain creative individuals and instructors, must become more flexible during instructional periods. This flexibility and tolerance would allow for diversity and freedom of choice of student style and expression. If students are cognizant of the instructor's personal painting expression, then the students must be assured that many forms of individual expression are acceptable and valid in the studio (10, p. 53).

Further investigation of the effect of the teaching approach on the art product was evidenced in a research project that was supported by the federal Office of Education. Frankston (12) investigated the effect of two art programs (self-developed and prescribed) and two methods of teaching (spontaneous and divergent) on the art products of adolescents. This created a two by two study with nine to fifteen students in each of the four groups. The students were selected from the Children and Teen-age Art Classes of the Art Education Department of The Pennsylvania State University. From his measurement, Original Aesthetic Quality, Frankston was able to evaluate the quality of the students' art products. Frankston concluded that the program which was developed by

the teacher (self-prescribed) was better for the spontaneous teacher than the divergent teacher and that the two methods of teaching seemed to have no difference in effect on the students' art production.

Hardiman and Johnson (17) conducted an exploratory study on the effect of motivational stimulus structure on the art products of eighty-eight students, mostly college sophomores, from art education classes at The Pennsylvania State University. The study presented the unaltered Gettysberg Address as the structured stimulus to a group of thirty-one students, the Address taken apart and reconstructed as the scrambled stimulus to a group of twenty-seven students, and twenty-four emotive words derived from the Address as the non-structured stimulus for a group of thirty students. The groups were given a time limit of seventy-five minutes to create a collage utilizing various periodicals. Four judges used a five point scale for rating the collages on five bi-polar criteria: aesthetic naivete - aesthetic sophistication, impersonal symbolism - personal symbolism, random composition - clustered composition, non-dominant color - dominant color, and verbal dependence - non-verbal dependence. The statistically significant results indicated that the structured group was rated higher on aesthetic sophistication than the scrambled group, the non-structured group was rated higher than the scrambled group which in turn was rated higher than the structured group on personal symbolism, and the

structured group was rated higher than the scrambled group on the clustered composition.

Personality and the Artist

Many diverse theories have been promulgated on the artist's behavior and the causitive factors for the creation of art. One of the earliest and most forceful theories was developed from psychoanalysis. Waelder quoted a theory from Freud on the behavior of the artist:

> An artist is originally a man who turns away from reality because he cannot come to terms with renunciation of instinctual satisfaction which it at first demands, and who allows his erotic and ambitious wishes full play in the life of phantasy by making use of special gifts to mould his phantasies into truths of a new kind, which are valued by men as precious reflections of reality (36, p. 25).

From investigations of several case studies, Fried (13, p. 163) concluded that the productivity of the artists involved in her study was positively affected by psychoanalytic therapy and that the old adage that the artist who becomes emotionally well ceases to create was disproven. Fried described powerfully stored qualities of aggression as inhibitory factors in the solution of the artist's work problems. She stated that the artists resorted to productive and creative means of subliminating aggressive energies. Read (28, p. 95) had a theory that was in contradiction to that of Fried on "the integration of personality" through psychoanalysis:

> but is in no objective sense scientific. The well-adjusted personality, the 'good mixer', is a terrible bore. A society is kept together by its tensions, by currents that alternate, by an overall vibration of conflicting forces. Let us assume that it is a good thing to be kept alive, but it is not necessary, for the present discussion, to assume more (28, p. 95).

Arnheim (1) mentioned that some psychologists are satisfied with the idea that art is produced or consumed because it is "pleasing," and he pointed out the inadequacy of this theory because it could not explain why an activity is pleasing. He mentioned that psycho-analytic theories of artistic motivation were open to serious objections because of their one-sidedness, and that this one-sidedness was caused by lack of a substantial alternate theory.

Stein and Heinze (32, p. 295) cited a study by Roe that utilized data from twenty living American painters. Roe had concluded that the characteristics of the group included aspects of a better than average intelligence, tendencies toward abstract thinking, and a non-aggressive personality. Other characteristics included emotional adaptations that were passive, and ability for self-discipline and hard work. Roe found that none of these characteristics could successfully differentiate them from other successful business men. Stein and Heinze (32, p. 296) cited another article by Roe that continued investigation of the previous twenty painters. The study utilized data from clinical interviews, study of the men's work, Rorschach tests, and Thematic Apperception

Test scores. Roe found extreme heterogeneity in the results of the Rorschach analysis and decided that there was no personality pattern common to all artists; she concluded that creative ability may exist without being shown in the Rorschach or one might be a successful artist without having creative ability. Results on the Thematic Apperception Test tended to confirm the results of the Rorschach. General directions of non-aggression and a tendency toward passive, feminine interests were found on the Thematic Apperception Test.

In another study cited by Stein and Heinze (32, p. 295), Munsterberg and Mussen tested seven hypotheses that were derived from psychoanalytic theory and empirical research. The study utilized a group of thirty art students and a group of thirty non-art students; both groups were equated from age, sex, and years of college attendance. Ten of the Thematic Apperception Test cards and a questionaire related to the subjects interests and participation in artistic activities were administered to the groups. After statistical testing of the hypotheses, Munsterberg and Mussen concluded that the artists have quieter, more introverted personalities and suffer from more intense guilt feelings, and that the artists were less likely to have overt aggressive tendencies. Munsterberg and Mussen indicated that the artists were more concerned with acceptance and approval of their work than personal success while the non-artists were more inclined to accept the demands of society and parental pressure. The non-

artists placed greater value on broad, superficial social relations.

In a study conducted at the Institute of Personality Assessment and Research, Barron described a bi-polar factor which opposed ". . . a preference for perceiving and dealing with complexity to a preference for perceiving and dealing with simplicity" (2, p. 311). Barron reviewed the Welsch Figure Preference Test and the Barron-Welsch Art Scale and other related developments that led up to the research that he covered in his article. Barron's conclusions were based primarily on relationships found in a sample of forty male graduate students from different departments of the University of California. The subjects were studied by a large number of objective tests, and experimental procedures and various personal interviews were conducted. From these tests, correlates were identified for the factor variable "complexity":

1. This variable was positively related to personal tempo, verbal fluency, impulsiveness, expansiveness, originality, good taste, artistic expression, intellect, sense of humor, breadth of interest, sensuality, sentience, aesthetic interest, effiminacy, and femininity in men.

2. The complexity variable was negatively related to naturalness, likeability, lack of deceitfulness, adjustment and abundance values, rigidity and constriction, control of impulse by repression, political-economic conservatism,

subservience to authority, ethnocentricism, and social conformity.

Child (9) conducted a study which reached conclusions similar to many of the previous conclusions made by Barron. The study was an effort to measure the personality correlates of aesthetic judgment in college students. The subjects used by Child were 138 men; one was a graduate student and the rest were undergraduate students at Yale University. In two group sessions and one individual session, the subjects were administered the following tests: skill of perception in visual form (adapted from Thurstone), Psychological Corporation Test of Spatial Relations, Barron's Ink Blot Test, Myers-Briggs Type Indicator, Independence of Judgment Scale, Gough's Masculinity-Femininity Test, Franck Drawing Completion Test, Barron-Welsch Art Scale, and many other tests developed or adapted by Child. He made the following conclusions:

1. Aesthetic judgment is related to amount of background in art.

2. No statistical significances of relationship were found between aesthetic judgment and the following (although Child did question the measures which he used): skill in perceiving visual form, skill in perceiving human meaning in ambiguous stimuli, masculinity versus femininity, and originality.

3. He did find significant positive correlations with

the following: tolerance of complexity, scanning, independence of judgment, anxiety as measured by a questionaire, and several measures of visual preferences. A significant negative correlation was found between aesthetic judgment and viscerotonia (love of comfort and relaxation).

Child stated:

> Of special importance is the general pattern into which a number of findings fall, suggesting that good aesthetic judgment is in large measure an outcome of a general cognitive approach to the world, an approach involving search for complex and novel experience which is then understood and evaluated through relatively autonomous interaction of the individual with objects providing such experience. The aesthetic value of works of art, on this hypothesis, would be a function of their aptness for engaging and rewarding the attention of a person whose cognitive approach to the world is of this character (9, p. 510).

Much research in art education has been developed from theories and research conducted by Burkhart. A schism away from the traditional procedure of ranking or judging art products on a Gestalt (the overall appearance) aesthetic quality of high or low was caused by Burkhart (7) through his advancement of methods that rated the art product on process as well as the actual product. He found spontaneous and deliberate processes to create a polarity in the production of an art object. He defined spontaneous handling as a freedom or ease in the use of materials and rendering of forms and deliberate as opposite to this. He also used objective definitions for rating the two, such as sharp or clean contours

for deliberate versus burred or rough contours for the spontaneous. The subjects used in one investigation reported by Burkhart consisted of forty-four students from the ninth and tenth grades in a high school in Finneytown, Ohio. Twenty-two of these were considered spontaneous and twenty-two were considered deliverate. In self-descriptions, the spontaneous highs rated themselves as self-confident, uninhibited, and versatile while the spontaneous lows rated themselves as aloof, noisy, egotistical, and self-confident. The deliberate highs rated themselves as clever, conservative, pleasant, practical, modest, and organized while the deliberate lows rated themselves as painstaking, simple, weak, and worrying. Measures of personality structure that were used on these subjects included Barron's measure for complexity, a test for "Estheticism," a test of originality developed by Gough and Barron, the Allport-Gordon-Lindsay study of values, a test for "Liberalism," a test for "Social Maturity," a test for "Development Status," and a test to measure non-authoritarianism. All of the previous tests had a correlation within the range of .38 to .62. with the spontaneous deliberate continuum. Beittel stated his interpretation of Burkhart's research as ". . . a process-in-product criterion which has significant connections to predictors in the personality domain" (5, p. 382).

After concluding his discussion of Burkhart, Beittel mentioned some research that he and Burgart did:

> Burgart and I began to collect measures of generalized personality traits related to creativity tests and criteria. Fourteen such tests were taken from existing sources (Gough, 1957; Bales and Couch, The Value Profile: Cattell, The Sixteen Personality Factors Questionnaire), while nine remaining scales were composed by Burgart and me. In all, there were 415 items in our first research version. Factor analysis on a variety of art and nonart college and graduate populations indicated that the major dimensions dealt with were the following: (a) flexibility, (b) spontaneity, (c) nonconformity, (d) rich internal life, and (e) independence and self-sufficiency (5, p. 385).

Beittel proceeded, from the previous statement, to describe a study conducted by Burkhart with art and non-art students in which many of these scales correlated with judgments of spontaneity in art products. However, Gordon (14), in a study that consisted of thirty female non-art majors and thirty female art majors found no relationship between the Gough Adjective Check List (a test composed of a check list of three hundred self-descriptive adjectives) and the spontaneous-divergent continuum. The art group did display more spontaneous and less divergent characteristics than the non-art group.

Summary

The survey made evident the lack of knowledge concerning the effect of the many variables related to the teacher/learner relationship in the teaching of art. The theories and studies related to college art instruction indicated that art teaching and its effect may be objectively investigated in some areas. The literature on instruction also indicated that many factors may be operating that influence the student's art production - factors that art instructors may not recognize. The literature on personality and the artist indicated that there is interaction between the artist's personality and his productivity. Some of the tests mentioned in the research have shown correlation between identifiable and definable personality variables and the artist's product.

The survey has indicated that there are no specific studies concerned with the purposes of the present study, but directional trends of thought and synthesis of the various areas support the hypothesis that motivational stimuli should have different effects on the art production of students in relationship to personality variables.

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CHAPTER III

PROCEDURES OF THE STUDY

In order to obtain a large sample of art students, courses offered in Art 144 and Art 145 (both are basic design classes) were selected because they equaled a total of eighteen classes - more than any other related lab courses offered in the Art Department at North Texas State University in the spring semester of 1968. These classes consisted of a potpourri of various art majors, art minors, and elective students. The basic design classes are required of all art majors and include ". . . experimentation with a range of media in the solution of problems involving the use of point, line, shape, mass, space, texture, color and form in two- and three-dimensional design" (12, p. 116).

Subjects

The 144 subjects that were used in this study were selected from 12 classes (out of eighteen) in basic design that were offered in the spring semester of 1968 at North Texas State University. The original classes consisted of students of diverse educational objectives; from these students, only those who listed themselves as art majors or art minors of freshman or sophomore classification were used in the final data tabulation. The female subjects outnumbered the male subjects in an approximate ratio of two to one - probably because of the large number of females that major in art education or minor

in art. The subjects were predominatly second semester freshmen because of the planning of most art degree programs. Most of the subjects had an exposure of one design class and were taking Art 144 or Art 145 as the final course of a two course requirement. Since the experiment took place approximately one week after the beginning of the semester and the investigator requested each design instructor not to assign work in collage, the subjects should have been comparable in adeptness with collage construction. The final 144 subjects consisted of freshman or sophomore art majors or art minors. From the original 180 subjects in the 12 classes, 35 were deleted because of classification other than freshman or sophomore art major or art minor and 1 was deleted to equalize the data tabulation for the purpose of statistical testing of the hypotheses.

Description of Instruments

Instruments were used that would provide measurements related to the purpose of this study. The Aesthetic Production Rating Scale was developed in order to have a valid criterion for measuring the art products. The Edwards Personal Preference Schedule was selected as an indicator of the personality variables of the subjects.

The APRS was developed by conducting a pilot study using collages from two design classes that were not used in the experiment. Eight judges were selected from the North Texas State University faculty on the basis that they had thirty

graduate hours of course work in art and had experience with teaching design. Each of the eight judges was requested to rate thirty-six collages on a nine point ordinal scale. The judges ranked the collages considered superior in the end of the scale that was valued at nine points to those aesthetically inferior at the end of the scale valued at one point. Each judge was required to place four collages in each area of the nine point scale. Each judge took from twenty to ninety minutes for rating of the collages in the pilot study. Table I indicates simple correlation coefficients of the judges' ratings.

TABLE I

CORRELATIONS OF JUDGES' RATINGS
FOR PILOT STUDY

	J-1	J-2	J-3	J-4	J-5	J-6	J-7	J-8
J-1		.45	.63	.60	.77	.26	.54	.26
J-2			.31	.41	.48	.08	.40	.09
J-3				.64	.79	.33	.56	.43
J-4					.69	.51	.61	.40
J-5						.40	.62	.35
J-6							.24	.14
J-7								.43
J-8								

Judges 2, 6, 7, and 8 were consistently lower in agreement than the other judges. Consultation with these judges indicated that personal symbolism in the collages influenced their judgment. Consultation with Judges 1, 3, 4, and 5 (the lowest correlation among their judgments was .60) indicated that they tended to rate the collages on their aesthetic value (use of the art elements and art principles was valued more than personal symbolism.

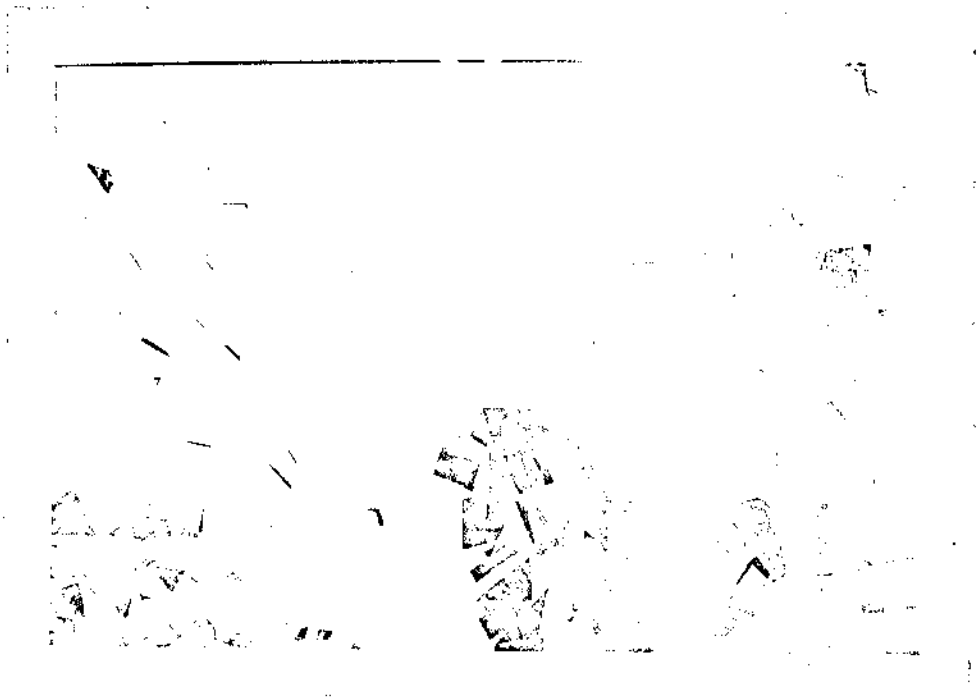

Fig. 1 -- Mosaic-like pattem in collage.

2. To avoid personal bias as one judge indicated the three child-like figures in Figure 2 could have caused his rating the collage high because the figures were similar to elements in his own work.

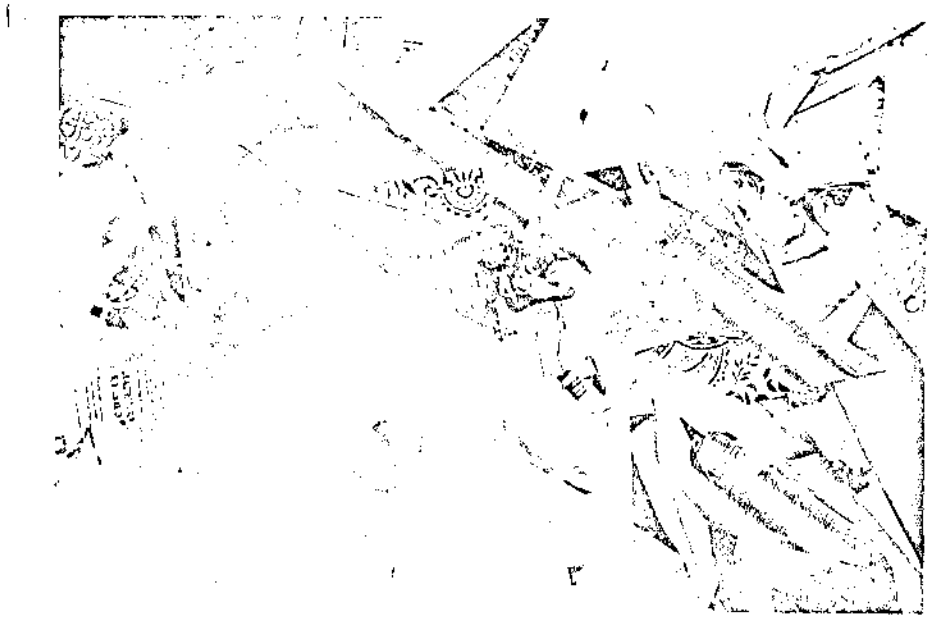

Fig. 2--Personal bias in rating collage

3. To avoid rating collages having clever personal symbolism high as in Figure 3.

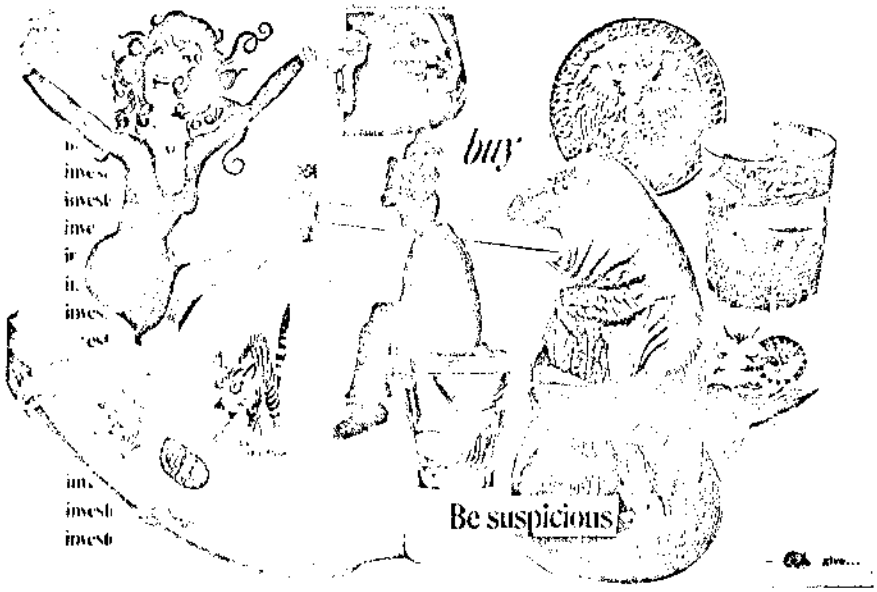

Fig. 3--Clever personal symbolism in collage.

4. To realize accidental classifications will occur as in Figure 4 which illustrates a collage rated low by one judge. Discussion with the judge indicated that he thought his rating on this particular collage should have been higher, but it was possible that he could have accidently shifted the collage into the wrong stack during the process of rating.

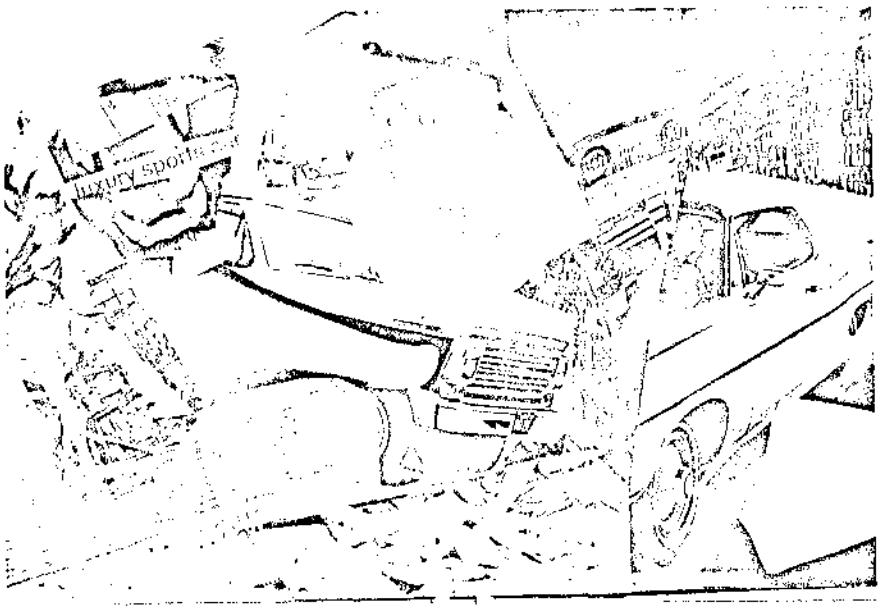

Fig. 4--Accidental classification in rating collage.

The remaining three photographs indicate the collages that the judges rated in perfect unison. The following comments are explanations that developed from discussions with the judges on the agreement in their ratings:

1. Figure 5 illustrates a collage that was consistently rated low. The collage was considered weak in design and cliche-like in approach to personal symbolism.

Fig. 5--Consistently rated low collage.

2. Figure 6 illustrates a collage that was consistently rated average. The repetitive visual theme and shapes were considered average.

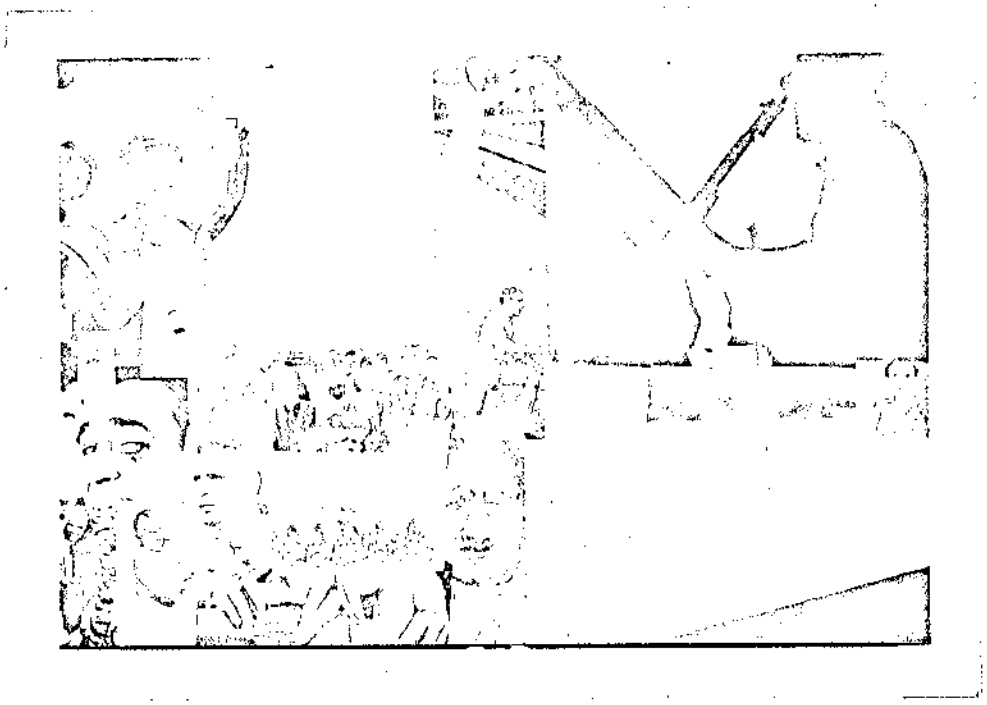

Fig.6--Consistently rated average collage.

3. Figure 7 illustrates a collage that was consistently rated high. The alternation of a similar visual element (the oval) and the use of the negative space as a factor in the design was considered superior.

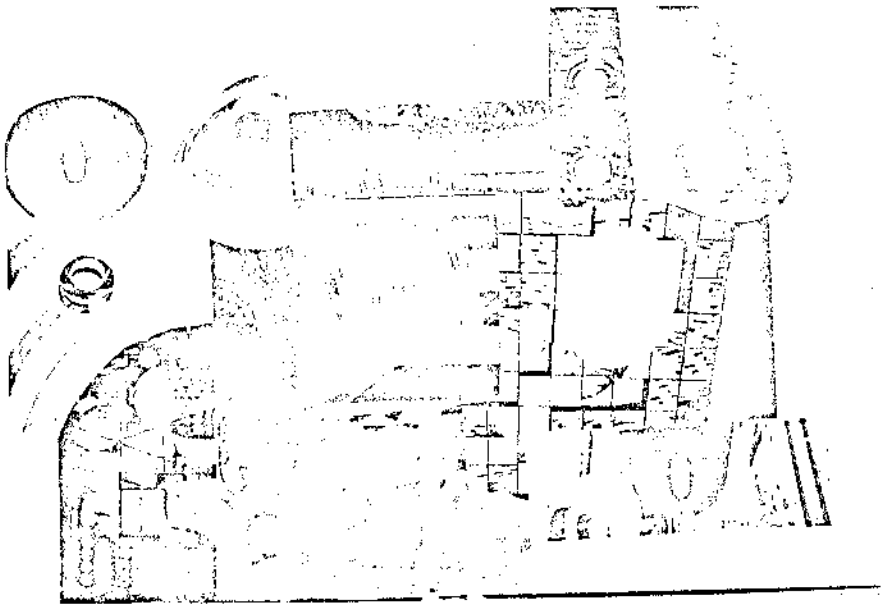

Fig. 7--Consistently rated high collage.

The information in Appendix B was presented to each judge before the rating was made of the 144 collages used in this study. Each collage was given a score of one to nine by the judges in a manner identical to that described for use with the pilot study. Each judge took approximately three hours in rating the collages. The total of the four judges' ratings was the subject's final score on the collage.

Table II indicates the agreement among the judges' final ratings.

TABLE II

CORRELATIONS OF JUDGES' FINAL RATINGS ON THE COLLAGES

	J-1	J-2	J-3	J-4
J-1		.47	.52	.53
J-2			.69	.64
J-3				.58
J-4				

N=144

The lowest agreement depicted, .47, was accepted as significant for a large number (144) of ratings on art products. (This correlation is similar to agreement found throughout the literature on studies that have utilized aesthetic ratings on art products.)

The Edwards Personal Preference Schedule is a forced choice inventory which was designed by Edwards to show the relative importance of fifteen needs within the individual (see Appendix A). The scale contains 210 different pairs of forced choice statements and has items from each of the 15 sub-scales paired off twice against items from the other 14. The instrument has norms based on students from 29 colleges and universities and adults from a nation wide census-based

sample. The test is untimed and requires about 45 minutes; it may be machine scored or hand scored (6). Gekoski (9) stated that the reliability coefficients for the scores vary from .74 to .88. Validity descriptions covered agreements between test scores and self ranking; slight agreement with personality tests such as the Minnesota Multiphasic Personality Inventory and the Guilford-Zimmerman have been found (1). Buros (3) has a lengthy descrption which included mention of a multitude of studies that utilized the test.

Some of the data available that suggested the validity of using the EPPS as an instrument for this investigation developed from studies dealing with conformity (the non-structured stimulus could allow for a freedom in approach that would enable more non-conforming behavior in the art production). Levy (11) found a positive correlation of Affiliation and Nurturance and a negative correlation of Heterosexuality with his measure of conformity. Gisvold (10) found a negative correlation of .54 significant at the .02 level of confidence between Autonomy and Conformity scores. Christensen (4) found no relationship between design, texture, or color preferences and the EPPS; however, this conclusion was with art related preferences and not art production.

Procedures for Collecting Data

Permission to conduct the study with Art 144 and Art 145 classes that were taught in the spring semester of 1968 was requested and granted from the chairman of the Art Department at North Texas State University.

Because of the impracticality of random assignment to large groups (space limitation for collage production) and inability to interfere with the students' course schedules, the sample utilized six sub-groups for both the structured and non-structured groups. Thirteen classes of Art 145 were taught, and among these, there were five occasions when two classes met at the same time. Five classes of Art 144 were taught, and among these, there was one occasion when two classes met at the same time. This made a total of six occasions when two classes met at the same time. These six occasions were used to randomly assign, by sex, the students from the two classes meeting at the same time to a structured or non-structured sub-group to last for one experimental session during their regular class period. Random assignment by sex was used to avoid any influence that could be attributed to sex differences between the sub-groups. Each of the six sub-groups (of the structured and non-structured groups) was combined with the other like sub-groups; these two combinations were treated as a whole, for their respective groups, in data tabulations.

Exposure to the motivational stimuli took place the second week after the beginning of the semester. The investigator administered the two different stimuli to the appropriate sub-groups at various times throughout the week. The investigator tried to control any conceivable relevant variable, e.g., room displays. Administration consisted of giving each student in the structured sub-groups a copy of the instructions found in Appendix C. The investigator made as few verbal comments as possible; he did state that the exhibited reproduction could influence the theme, composition, or method of handling magazine clippings. Each student in the non-structured stimulus group received a copy of the instructions found in Appendix D, and practically no verbal comments from the investigator were necessary. The stimuli were administered at the same time to the structured and non-structured sub-groups that met at the time (the groups met in different rooms). On one occasion, the structured stimulus sub-group was started first and then the administrator immediately went to the room of the non-structured stimulus group and initiated the experimental procedure; the administrator spent the remaining time equally between the two groups. On the next occasion, the non-structured sub-group was started first; this alternation of which group to begin first continued thoughout the other four occasions. Comparable materials (a sheet of plain white tagboard, fourteen by twenty inches, and a

complete copy of a recent, 1966-1968, issue of Life magazine - the issue was different for each member of the sub-group) were provided to all subjects for the production of the collage that was rated. The students were requested prior to the experiment to bring their own scissors and glue. They were allowed seventy-five minutes to complete the collage; however, each group usually had one or two students remaining at the end of this time whom the investigator had to encourage to leave.

During the administration, the investigator was asked a few questions such as, "Does the space have to be solidly filled?" The investigator was non-commital and non-directive when it was necessary, out of courtesy to the students, to reply to these questions.

The EPPS was administered to the students during the students' regular class period in the class meeting that followed the stimuli exposure. Since two classes met at the same time, the investigator would start one class and then the other. He divided his time between the two classes in the remaining time necessary for students to complete the EPPS. The EPPS was later scored by hand following the procedure outlined in the test manual (6, pp.7-8).

The students were requested to label their collages and their EPPS answer sheet with the last four digits of their social security number, their major, and their classifications. The last four digits of the student's social

security number were used in an attempt to provide the student complete anonymity.

Statistical Procedure

The Pearson Product Moment Coefficient Correlation formula and the t test for significance of difference between independent means were used on the hypotheses in order to test the hypotheses for statistical significance. The .05 level of significance was used on all the hypotheses in order to accept or reject the null hypothesis. The Pearson Product Moment Correlation Coefficient formula was used to determine judge agreement.

Hypothesis I: The t test for significance of difference between two independent means was used to test the statistical difference between the structured and non-structured groups on their scores for aesthetic production.

Hypothesis II: The Pearson Product Moment Correlation Coefficient formula was used to determine the correlation of the aesthetic production score of the students in the structured stimulus group with their scores on the personality variables.

Hypothesis III: The Pearson Product Moment Correlation Coefficient formula was used to determine the correlation of

the students in the non-structured stimulus group with their scores on the personality variables.

Hypothesis IV: The *t* test for significance of difference between two independent means was used to determine if the students in each group who scored high on selected personality variables had a statistically significant difference in means on their aesthetic production score.

Summary

The 144 subjects in this study were selected from basic design classes (Art 144 and Art 145) that were taught in the spring semester of 1968 at North Texas State University. The subjects were randomly assigned by sex to two different stimulus groups. One group received a structured stimulus and one group received a non-structured stimulus for the production of a collage. The collages were rated by professional artists/teachers who had been through a training program to provide consistent criteria for use in their ratings based on a nine point ordinal scale. The subjects were administered the EPPS in order to determine ratings on the selected personality variables. The collected data was organized and tested statistically in order to ascertain significant differences and correlations. The Pearson Product Moment Correlation Coefficient formula and the *t* test for significance of difference between independent means were used in testing

the hypotheses; the .05 level of significance was used to accept or reject the null hypothesis.

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CHAPTER IV

RESULTS AND DISCUSSION OF RESULTS

The major purposes of this investigation were to determine significant differences between structured and non-structured stimuli for art production of college art majors and minors of freshman or sophomore classification, and determine the relationships of personality variables as measured by the Edwards Personal Preference Schedule to art production under a structured or non-structured stimulus. The raw data from the subjects were scored and tabulated in order to be processed by an IBM 1620 Computer. The computation utilized an analysis of variance program that obtained the information necessary to compute a *t* test; the *t* test procedure was used to determine the level of significance for the difference between two means. Computation also involved utilization of a Pearson Product Moment Correlation Coefficient program in order to determine significant relationships among the selected personality variables.

Hypothesis I

The data for testing Hypothesis I were obtained from derivation of the mean scores on aesthetic production for the structured group and the non-structured group. The mean of the subjects in the structured group was compared to the mean of the subjects in the non-structured group by using the *t* test for the significance of difference between two

independent means. Table III is an analysis of the difference between means of the structured stimulus group and the non-structured stimulus groups on aesthetic production. A mean

TABLE III

DIFFERENCE IN MEANS BETWEEN THE STRUCTURED STIMULUS GROUP AND THE NON-STRUCTURED STIMULUS GROUP ON AESTHETIC PRODUCTION

Group	Number	Mean	Standard Deviation	*t*	Level of Significance
S	72	19.81	8.55		
N-S	72	20.19	8.47	-.2723	NSD*

*No significant difference (.05 level is 1.65)

difference was considered significant at the .05 level of significance (df=142) if the *t* ratio was at 1.65 or greater in the direction predicted. As can be seen from Table I, the *t* did not attain this level of significance, and thus, the null hypothesis was accepted.

This lack of difference between means on aesthetic production indicates that the presentation of a structured stimulus or non-structured stimulus, as defined by this study, has no difference in effect on group differences in the art products of freshman and sophomore art majors and art minors.

Hypothesis II

The testing of Hypothesis II required the computation, by the Pearson Product Moment Correlation Coefficient, of

the correlations between the structured stimulus subjects' scores on aesthetic production and their scores on the personality variables. Table IV depicts the findings relevant to Hypothesis II.

Sub-hypothesis A under Hypothesis II predicted a significant positive correlation of Deference, Order, Exhibition, Succorance, Change, and Endurance with aesthetic production under a structured stimulus. Analysis of Table IV indicates that all of the personality variables had a positive direction except Change; however, none of the variables was considered significant at the .05 level of significance. The correlations for this sub-hypothesis range from -.01 to .18. The correlation of .20 or greater in the predicted direction was considered significant at the .05 level. The correlation of .18 suggests that a positive relationship may exist between Order and aesthetic production under a structured stimulus. The null hypothesis was accepted for each of the correlation predictions that Deference, Order, Exhibition, Succorance, Change and Endurance would have a positive correlation with aesthetic production under a structured stimulus.

Sub-hypothesis B under Hypothesis II predicted a significant negative correlation of Autonomy, Dominance, Abasement, Heterosexuality, and Aggression with aesthetic production under a structured stimulus. Analysis of Table IV indicates that the correlations were in the predicted negative direction except for Autonomy. Further analysis indicates that the

TABLE IV

CORRELATION DATA ON THE PERSONALITY VARIABLES' RELATIONSHIP TO AESTHETIC PRODUCTION OF THE STRUCTURED STIMULUS GROUP

Variable	Mean	Standard Deviation	Correlation Coefficient
Achievement	14.19	4.03	.08
Deference	10.29	3.58	.08
Order	9.09	3.54	.18
Exhibition	14.63	3.45	.08
Autonomy	15.03	4.32	.00
Affiliation	15.32	3.70	.15
Intraception	16.90	4.47	.00
Succorance	11.26	4.41	.06
Dominance	12.24	4.51	-.24*
Abasement	14.47	5.28	-.13
Nurturance	15.35	4.53	.00
Change	18.81	4.70	-.01
Endurance	12.57	5.45	.09
Heterosexuality	16.53	5.15	-.07
Aggression	12.25	5.06	-.16
Consistency	11.81	1.72	-.20

N=72

*Significant at the .05 level (.20 or higher in the predicted direction. Consistency required a two-tailed test of .23)

correlations ranged from .00 to -.24. At the .05 level of significance, approximately one variable out of the sixteen could be significant by chance. But since a correlation of -.24 on Dominance is significant at the .02 level, the null hypothesis was rejected for the Dominance variable. The null hypothesis was accepted for each of the correlation predictions that Autonomy, Abasement, Heterosexuality, and Aggression would have a negative correlation with aesthetic production under a structured stimulus. However, the correlations of -.12 on Abasement and -.16 on Aggression, both of which are considered in the literature as influential on the artist's productivity, suggest a relationship.

The personality variable of Dominance, as measured and defined by the Edwards Personal Preference Schedule, does have a significant negative relationship with aesthetic production under a structured stimulus, but since this was an extremely low correlation, even if significant, discussion of this relationship must be irresolute. Having a structured stimulus may negatively influence the art production of some art students who are high on the personality variable of Dominance.

Sub-hypothesis C under Hypothesis II predicted no significant correlation of Affiliation, Intraception, Nurturance, and Achievement with aesthetic production under a structured stimulus. Analysis of Table IV indicates that none of the variables was significant at the .05 level of

significance. The correlations had a range of .00 to .15. Of this group of variables, Affiliation had the highest correlation which was .15.

The variable of consistency, a measure of the EPPS that indicates the number of identical choices which a subject makes to two sets of the same fifteen items, that is shown in Table IV with a correlation of -.20 was not predicted in the research hypotheses, but it was correlated because of a "hunch" suggested to the investigator. Since the direction of the variable was not predicted, a two-tailed test was necessary (2,pp: 61-63); the test of significance revealed the variable to be non-significant at the .05 level.

Hypothesis III

The testing of Hypothesis III followed the same procedure as Hypothesis II except the present hypothesis was concerned with the correlations between the non-structured stimulus subjects' scores on aesthetic production and their scores on the personality variables. Table V depicts the findings relevant to Hypothesis III.

Sub-hypothesis A under Hypothesis III predicted a significant positive correlation of Order, Exhibition, Autonomy, Dominance, Change, and Endurance with aesthetic production under the non-structured stimulus. Analysis of Table V indicates that all of the previous variables except Exhibition have a positive direction, but none of the variables attained the .05 level of significance. The

TABLE V

CORRELATION DATA ON THE PERSONALITY VARIABLES' RELATIONSHIP TO AESTHETIC PRODUCTION OF THE NON-STRUCTURED STIMULUS GROUP

Variable	Mean	Standard Deviation	Correlation Coefficient
Achievement	12.92	4.19	-.03
Deference	9.15	3.14	.00
Order	7.72	3.55	.19
Exhibition	14.56	3.02	-.09
Autonomy	13.58	4.77	.02
Affiliation	16.94	4.15	-.16
Intraception	16.64	4.69	.01
Succorance	12.56	4.61	-.02
Dominance	12.21	4.27	.09
Abasement	15.68	4.88	-.15
Nurturance	16.43	4.70	-.02
Change	18.81	5.33	.02
Endurance	11.10	5.24	.05
Heterosexuality	17.57	5.71	-.02
Aggression	13.43	4.65	-.04
Consistency	11.93	1.53	-.25*

N=72

*Significant at the .05 level (.20 or higher in the predicted direction. Consistency required a two-tailed test of .23)

correlations had a range of -.09 to .19. The variable of Order with the correlation of .19 almost reached the level of significance. Since the variable also approached this level in the structured group, there might be a positive relationship between the personality variable and aesthetic production under either stimulus. The research hypotheses for sub-hypotheses A under Hypothesis III were rejected, and the null hypotheses were accepted for the correlation predictions of Order, Exhibition, Autonomy, Dominance, Change, and Endurance being related to aesthetic production under a non-structured stimulus.

Sub-hypothesis B under Hypothesis III predicted a significant negative correlation of Deference, Succorance, Abasement, Heterosexuality, and Aggression with aesthetic production under the non-structured stimulus. Analysis of Table V indicates the range of correlations for these variables to be .04 to -.15. The correlation of -.15 for Abasement was the closest to the .05 level of significance, but the null hypothesis was accepted for each predicted correlation.

Sub-hypothesis C under Hypothesis III predicted no significant correlation of Affiliation, Intraception, Nurturance, and Achievement with aesthetic production under a non-structured stimulus. Analysis of Table V indicates that none of the variables was significant at the .05 level of significance. The correlations covered a range of .01 to

-.16. Of this group of variables, Affiliation had the highest correlation. The null hypotheses, which in this sub-hypothesis coincided with the research hypotheses, were accepted.

The variable of Consistency which is shown in Table V with a correlation of -.25 with aesthetic production was significant at the .05 level. The almost significant negative correlation of Consistency in the structured stimulus group and the significant negative correlation in the non-structured stimulus group suggest that there may be a negative relationship between consistency in taking a formal written test and aesthetic production for some individuals regardless of the motivational stimulus. Because of these correlations, the investigator followed a "hunch" and re-examined the data, omitting subjects in both groups whose Consistency score would be considered significantly low to render their scores invalid (as described by the test manual). Appendix E includes tables and explanations of information obtained through further analysis using the same statistical procedure on the data from the remaining subjects.

Hypothesis IV

For sub-hypothesis A-1 under Hypothesis IV, data for testing the significance of difference between those who score high (top one third) in Deference under the structured stimulus and those who score high in Deference under the non-structured

stimulus was obtained from the derivation of the mean for the aesthetic production scores in each group. The difference was compared by using the t test for significance of difference between the two independent means. Table VI is an analysis of the mean difference on aesthetic production scores for those high in Deference in the structured group and those high in Deference in the non-structured group. A mean difference was considered significant at the .05 level of significance (df=46) if the t ratio was 1.68 or greater. As can be seen from Table IV, the t did not attain the level of significance

TABLE VI

DIFFERENCE IN MEANS BETWEEN S'S HIGH ON DEFERENCE IN THE STRUCTURED STIMULUS GROUP AND S'S HIGH ON DEFERENCE IN THE NON-STRUCTURED STIMULUS GROUP ON AESTHETIC PRODUCTION

Group	Number	Mean	Standard Deviation	t	Level of Significance
S	24	20.71	8.25		
N-S	24	19.13	9.75	.5931	NSD

*No significant difference (.05 level is 1.68)

and thus the null hypothesis was accepted. There was no difference between subjects high on Deference in the structured stimulus group and the subjects high on Deference in the non-structured stimulus group.

Sub-hypothesis A-2 under Hypothesis IV was treated in the same manner as sub-hypothesis A-1. Since the t ratio of -.2124 depicted in Table VII fails to attain the necessary level of

significance for accepting the research hypothesis, the null hypothesis was accepted that there was no difference between the means of those subjects high on Succorance in the structured stimulus group and the subjects high on Succorance in the non-structured stimulus group.

TABLE VII

DIFFERENCE IN MEANS BETWEEN S'S HIGH ON SUCCORANCE IN THE STRUCTURED STIMULUS GROUP AND S'S HIGH ON SUCCORANCE IN THE NON-STRUCTURED STIMULUS GROUP ON AESTHETIC PRODUCTION

Group	Number	Mean	Standard Deviation	*t*	Level of Significance
S	24	19.46	8.47		
N-S	24	20.00	8.82	-.2124	NSD*

*No significant difference (.05 level is 1.68)

Sub-hypothesis B-1 under Hypothesis IV was treated in the same manner as sub-hypothesis A-1. Since the *t* ratio of -1.0017 depicted in Table VIII fails to attain the necessary level of significance, the null hypothesis was accepted. There was no significant difference between subjects high on Autonomy in the structured stimulus group and the subjects high on Autonomy in the non-structured stimulus group.

Sub-hypothesis B-2 under Hypothesis IV was treated in the same manner as sub-hypothesis A-1. Since the *t* ratio of -2.2835, as shown in Table IX, was in the direction predicted and was significant at the .05 level of significance, the null hypothesis was rejected. Students

TABLE VIII

DIFFERENCES IN THE MEANS BETWEEN S'S HIGH ON AUTONOMY IN THE STRUCTURED STIMULUS GROUP AND THE S'S HIGH ON AUTONOMY IN THE NON-STRUCTURED STIMULUS GROUP ON AESTHETIC PRODUCTION

Group	Number	Mean	Standard Deviation	t	Level of Significance
S	24	18.88	8.92		
N-S	24	21.21	6.72	-1.0017	NSD*

*No significant difference (.05 level is 1.65)

who are high in Dominance as measured by the EPPS tend to produce an inferior art product under a structured stimulus when compared to art students high in Dominance under a non-structured stimulus.

TABLE IX

DIFFERENCE IN MEANS BETWEEN S'S HIGH ON DOMINANCE IN THE STRUCTURED STIMULUS GROUP AND S'S HIGH ON DOMINANCE IN THE NON-STRUCTURED STIMULUS GROUP ON AESTHETIC PRODUCTION

Group	Number	Mean	Standard Deviation	t	Level of Significance
S	24	16.58	6.59		
N-S	24	21.46	7.83	-2.2835	SD

*Significant Difference (.05 level is 1.68)

Summary

Interpretation of the results from computation of the data indicated that there were small measurable differences between the structured stimulus group and the non-structured stimulus group on aesthetic production. Of the two significant correlations obtained, only the one on Dominance correlated as predicted in the hypotheses for the structured stimulus group. Dominance was significant at the .02 level of significance. However, a correlation of -.24 is not high and only suggests that some individuals in the group had this negative relationship between their Dominance score and the aesthetic production rating. The significant negative correlation of the Consistency score with aesthetic production for the non-structured stimulus group and the nearly significant negative correlation for Consistency in the structured stimulus group suggested that being consistent in answering a formal written test is negatively correlated with the ability to produce a qualitatively superior art product. This result is similar to many implications of research in creativity and art education. The null hypothesis for all of the other predicted correlations was accepted. The *t* test for significance of difference between independent means that was used on several hypotheses produced a significant *t* ratio for only one of the sub-hypotheses. The

mean of those subjects high in Dominance in the structured stimulus group was significantly lower (at the .05 level of significance) than the mean of those subjects high in Dominance in the non-structured stimulus group.

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CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of the Study

The present study was an attempt to determine whether any relationship existed between selected personality variables and art production with structured and non-structured stimuli. The purposes of the study were to determine the effect of structured and non-structured stimuli on art production of college art students and to determine the relationships of the personality variables measured by the Edwards Personal Preference Schedule to art production under a structured and a non-structured stimulus. Theory and research from the literature in diverse fields that are concerned with instruction and the art student and personality and the artist acted as a catalyst for the development of the study; synthesis of research in instruction and personality provided a basis for the hypotheses and procedure.

Subjects of the study were selected from basic design classes taught at North Texas State University in the spring of 1968. The subjects, 144 freshman or sophomore art majors and art minors, were randomly assigned by sex to a structured or non-structured stimulus group; this made a total of 72 in each group. The collages produced in the one experimental session were rated by an Aesthetic Production Rating Scale. The APRS was developed by conducting a pilot study to establish

judge agreement and to isolate some of the variables relevant to the judging of the collage. After the experimental session, the Edwards Personal Preference Schedule, an instrument that measures fifteen personality variables based on Murray's theory of personality needs, was administered to the subjects.

The structured stimulus consisted of exposure to a reproduction of Guernica, a painting by Picasso, and a suggestion to the students that this reproduction should act as motivational stimulus for their collage. The non-structured stimulus consisted of a suggestion to the students to use self-developed approaches and their own ideas as motivational stimulus for their collage.

Statistical procedure utilized for testing the hypotheses included the t test for testing the significance of difference between two independent means and the Pearson Product Moment Correlation formula. The .05 level of significance was used on all of the hypotheses in order to accept or reject the null hypothesis.

The following were the proposed hypotheses and the results of their statistical treatment:

1. The structured stimulus group would have a significantly higher mean score on aesthetic production than the non-structured stimulus group. The t test did not show a significant difference between means of the two groups. The null hypothesis was accepted.

2. A significant positive correlation was predicted for the structured stimulus group between aesthetic production and the following personality variables: Deference, Order, Exhibition, Succorance, Change, and Endurance. A significant negative correlation was predicted for Autonomy, Dominance, Abasement, Heterosexuality, and Aggression. No significant correlation was predicted for Affiliation, Intraception, Nurturance, and Achievement.

Dominance did have a significant negative correlation with aesthetic production. The research hypothesis was rejected for all other variables - except the no significant correlation predictions which did not reach a level of significance and, thusly, were accepted. (Correlations computed after eliminating those subjects' tests that were low on Consistency scores negated the Dominance correlation and produced significant correlations for three other variables: negative correlations for Abasement and Aggression and a positive correlation for Order.)

3. A significant positive correlation was predicted for the non-structured stimulus group between aesthetic production and the following personality variables: Order, Exhibition, Autonomy, Dominance, Change, and Endurance. A significant negative correlation was predicted for Deference, Succorance, Abasement, Heterosexuality, and Aggression. No significant correlation was predicted for Affiliation, Intraception, Nurturance, and Achievement. The research

hypothesis was rejected for all of the variables - except the no significant correlation predictions which did not reach a level of significance and, thus, were accepted. The Consistency scores for the variables had a significant negative correlation with the aesthetic production scores in the non-structured stimulus group. (When those low on the Consistency scores were eliminated and new correlations were computed, the results were the same as previously except for the Consistency scores correlation which dropped from a -.25 to a -.04.)

4. Sub-hypothesis A-1 predicted that subjects in the structured stimulus group who scored high (top one third) on Deference would have a significantly higher mean score on aesthetic production that subjects high on Deference in the non-structured group. An identical hypothesis was made in sub-hypothesis A-2 for Succorance. The t test did not show a significant difference between the means of the two groups for either of the two sub-hypotheses; the null hypothesis was accepted for each of the sub-hypotheses.

Sub-hypothesis B-1 predicted that subjects in the structured stimulus group who scored high (top one third) on Autonomy would have a significantly lower mean score on aesthetic production than subjects in the non-structured stimulus group who scored high on Autonomy. The t test did not depict a significant difference on the means of the two groups; the null hypothesis was accepted.

Sub-hypothesis B-2 predicted that subjects in the structured stimulus group who scored high (top one third) on Dominance would have a significantly lower mean score on aesthetic production than subjects in the non-structured stimulus group who scored high on Autonomy. The *t* test did not depict a significant difference on the means of the two groups: the null hypothesis was accepted.

Sub-hypothesis B-2 predicted that subjects in the structured stimulus group who scored high (top one third) on Dominance would have a significantly lower mean score on aesthetic production than subjects in the non-structured stimulus group who scored high on Dominance. The *t* test revealed a *t* ratio of -2.2835. Since the *t* was in the predicted direction, a *t* of 1.68 or higher was significant at the .05 level (the .025 level is 2.02), the null hypothesis was rejected.

Conclusions

The conclusions drawn from the data of this study are as follows:

1. The motivational stimulus, whether structured or non-structured as defined by this study, has no difference in effect on the means of aesthetic products of freshman and sophomore art majors and art minors. This result suggests that some variable in the stimulus exposure would require further manipulation, possibly, a stimulus other than those used, length of exposure, or a variation in the social situation,

in order to cause a significant group difference between a structured stimulus and a non-structured stimulus for aesthetic production.

A theory, contrary to this investigation's hypothesis prediction, prevalent among some art educators that a non-structured stimulus will cause qualitatively superior art products was not supported by the results of this investigation. Difference in the results of various stimuli on the aesthetic production means of classroom groups remains to be scientifically determined.

2. None of the personality variables measured by the EPPS, except Dominance, has a significant relationship with art production under a structured stimulus. Dominance with a correlation of -.24 with aesthetic production was significant at the .02 level, but this was still a low correlation. Interpretation of the Edwards' definition of the Dominance variable (. . . to be a leader . . . to persuade and influence others . . .) suggests that the structured stimulus may not allow some students who are high in Dominance to fulfill the need that Dominance measured - and this lack of need fulfillment may be harmful to their aesthetic production (the contrary may be true for those students low in Dominance). The non-structured stimulus may enable more adequate need fulfillment for art students who are high in Dominance so that they do better when producing an art object with a non-structured stimulus. (When those low on the Consistency score were

eliminated and another correlation conducted, a significant negative correlation existed for Abasement and Aggression and a significant positive correlation existed for Order. The Dominance variable dropped from -.24 to -.13 which was no longer significant at the .02 level; this was apparently an interaction effect that resulted from the removal of those who were low on the Consistency score.)

3. Art students who are high on the personality variable of Dominance tend to produce an inferior art product under a structured stimulus when compared to art students high in Dominance under a non-structured stimulus. The non-structured stimulus may enable more adequate need fulfillment of Dominance so that art students who are high in Dominance do better with a non-structured stimulus than with a structured stimulus when producing an art product.

4. None of the personality variables measured by the EPPS have a significant correlation with art production under a non-structured stimulus. (This conclusion was also true when those low on the Consistency score were eliminated and another correlation conducted.) Apparently, the non-structured stimulus provides such a variety of approaches that it has no relationship with the personality variables measured by the EPPS.

5. Students high in the personality variables of Deference, Succorance, and Autonomy do not produce a qualitatively different art object under a structured motivational stimulus than students

high in these variables produce under a non-structured motivational stimulus.

6. The EPPS may not be significantly adequate for measuring personality variables related to art production.

7. The variable Consistency, a measure on the EPPS that indicates the number of identical choices which a subject makes to two sets of the same fifteen items, appears to be negatively related to aesthetic production under a non-structured stimulus. Some students who are inconsistent in their answers on the EPPS, which is a structured objective test, tend to produce a qualitatively better art product than those students who are consistent. Possibly, the unidentified element in some art students' personalities that might cause them to take objective tests without a concern for being consistent may also cause them to produce an aesthetically superior product when working under a non-structured stimulus.

Recommendations

The conclusions of this study originated the following recommendations:

1. Further studies should continue the investigation of the relationship of the college art student's personality to his art product. This should include research with the EPPS and other personality tests.

2. Further research should be conducted with investigation of the effects of motivational stimuli, other than those used in this study, on art students' products (duration, magnitude, and intensity of the stimulus could be varied). And the effects of these stimuli should be considered in relation to the students' personalities.

3. Dominance (and Aggression, Abasement, and Order), as measured by the EPPS, should be investigated further in relationship to aesthetic products and motivational stimuli.

4. Consistency, or thoughtful application in taking an objective test (such as the EPPS seems to be measuring by its Consistency variable), should be investigated in relationship to the production of aesthetic objects of college art students.

5. Experimentation with measurements other than personality investories should be conducted to find relationships between the artist's personality and his art product.

APPENDIX A

EDWARDS PERSONAL PREFERENCE SCHEDULE

1. ach Achievement: To do one's best, to be successful, to accomplish tasks requiring skill and effort, to be a recognized authority, to accomplish something of great significance, to do a difficult job well, to solve difficult problems and puzzles, to be able to do things better than others, to write a great novel or play.

2. def Deference: To get suggestions from others, to find out what others think, to follow instructions and do what is expected, to praise others, to tell others that they have done a good job, to accept the leadership of others, to read about great men, to conform to custom and avoid the unconventional, to let others make decisions.

3. ord Order: To have written work neat and organized, to make plans before starting on a difficult task, to have things organized, to keep things neat and orderly, to make advance plans when taking a trip, to organize details of work, to keep letters and files according to some system, to have meals organized and a definite time for eating, to have things arranged so that they run smoothly without change.

4. exh Exhibition: To say witty and clever things, to tell amusing jokes and stories, to talk about personal adventures and experiences, to have others notice and comment upon one's appearance, to say things just to see what affect it will have upon others, to talk about personal achievements, to be the center of attention, to use words that others do not know the meaning of, to ask questions others cannot answer.

5. aut Autonomy: To be able to come and go as desired, to say what one thinks about things, to be independent of others in making decisions, to feel free to do what one wants, to do things that are unconventional, to avoid situations where one is expected to conform, to do things without regard to what others may think, to criticize those in a position of authority, to avoid responsibilities and obligations.

6. aff Affiliation: To be loyal to friends, to participate in friendly groups, to do things for friends, to form new friendships, to make as many friends as possible, to share things with friends, to do things with friends rather than alone, to form strong attachments, to write letters to friends.

7. int Intraception: To analyze one's motives and feelings, to observe others, to understand how others feel about problems, to put one's self in another's place, to judge people by why they do things rather than what they do, to analyze the behavior of others, to analyze the motives of others, to predict how others, to analyze the motives of others, to predict how others will act.

8. suc Succorance: To have others provide help when in trouble, to seek encouragement from others, to have others be kindly, to have others be sympathetic and understanding about personal problems, to receive a great deal of affection from others, to have others do favors cheerfully, to be helped by others when depressed, to have others feel sorry when one is sick, to have a fuss made over one when hurt.

9. dom Dominance: To argue for one's point of view to be a leader in groups to which one belongs, to be regarded by others as a leader, to be elected or appointed chairman of committees, to make group decisions, to settle arguments and disputes between others, to persuade and influence others to do what one wants, to supervise and direct the actions of others, to tell others how to do their jobs.

10. aba Abasement: To feel guilty when one does something wrong, to accept blame when things do not go right, to feel that personal paid and misery suffered does more good than harm, to feel the need for punishment for wrong doing, to feel better when giving in and avoiding a fight than when having one's own way, to feel the need for confession of errors, to feel depressed by inability to handle situations, to feel timid in the presence of superiors, to feel inferior to others in most respects.

11. nur Nurturance: To help friends when they are in trouble, to assist others less fortunate, to treat others with kindness and sympathy, to forgive others, to be generous with others, to sympathize with others who are hurt or sick, to show a great deal of affection towards others, to have others confide in one about personal problems.

12. chg Change: To do new and different things, to travel, to meet new people, to experience novelty and change in daily routine, to experiment and try new things, to eat in new and different places, to try new and different jobs, to move about the country and live in different places, to participate in new fads and fashions.

13. end Endurance: To keep at a job until it is finished, to complete any job undertaken, to work hard at a task, to keep at a puzzle or problem until it is solved, to work at a single job before taking on others, to stay up late working in order to get a job done, to put in long hours of work

without distraction, to stick at the problem even though it may seem as if no progress is being made, to avoid being interrupted while at work.

14. het Heterosexuality: To go out with members of the opposite sex, to engage in social activities with the opposite sex, to be in love with someone of the opposite sex, to kiss those of the opposite sex, to be regarded as physically attractive by those of the opposite sex, to participate in discussions about sex, to read books and plays involving sex, to listen to or tell jokes involving sex, to become sexually excited.

15. agg Aggression: To attack contrary points of view, to tell others what one thinks about them, to get revenge for insults, to criticize others publically, to make fun of others, to tell others off when disagreeing with them, to become angry, to blame others when things go wrong, to read newspaper accounts of violence.

APPENDIX B

AESTHETIC PRODUCTION RATING SCALE

DIRECTIONS: In rating each collage, keep in mind that the ratings should be based on this specific set of collages and not in relation to other collages and their standards. Theoretically, your initial judgment will place each product into three stacks, then you should sort each of these into three stacks. You should attempt to keep an equal number in each stack*. Your final judgment should have all products distributed on a nine point rating scale that has progressive downward direction from the following criteria for the superior collages:

1. Coherent application of art principles and elements relevant to collage.

2. Inventiveness and skill in technical manipulation.

Where there is difficulty in making a decision, rate the collage on the amount of effort and industriousness that is revealed.

*When finished, you should have nine stacks with eighteen collages in each stack.

APPENDIX C

STRUCTURED STIMULUS

DIRECTIONS: You are to be involved in an experiment that will relate the art product which you make today to other factors; do not relate this experiment to students outside this class for at least two weeks.

Please use only the materials available and develop a collage by gluing magazine clippings on the sheet provided.

Use the exhibited reproduction as motivational stimulus for your product.

Please do not sign your name. Print the last four digits of your social security number in the top right hand corner on the back of your collage.

You may leave when you are sure that you are finished; you have a maximum of seventy-five minutes.

Please do not ask any questions unless absolutely necessary.

APPENDIX D

NON-STRUCTURED STIMULUS

DIRECTIONS: You are to be involved in an experiment that will relate the art product which you make today to other factors; do not relate this experiment to students outside this class for at least two weeks.

Please use only the materials available and develop a collage by gluing magazine clippings on the sheet provided.

Use your own ideas and self-developed approaches as motivational stimulus for your product.

Please do not sign your name. Print the last four digits of your social security number in the top right hand corner on the back of your collage.

You may leave when you are sure that you are finished; you have a maximum of seventy-five minutes.

Please do not ask any questions unless absolutely necessary.

APPENDIX E

FURTHER ANALYSIS OF CORRELATION DATA

In order to investigate the influence of the Consistency score on the EPPS, the tests that were considered slightly invalid because of subjects inconsistency in responding were eliminated; this elimination included tests with Consistency scores of ten or less. The test manual states that ". . . if the consistency score for a subject is 11 or higher, we may regard this as evidence that the subject is not making his choices on the basis of chance alone."

Table X depicts the new correlations for Hypothesis II. The research hypotheses were rejected for all correlation predictions in Hypothesis II for the structured stimulus group - except Order, Abasement, and Aggression (and the variables predicted as having no significant correlation). Order had a significant positive correlation with aesthetic production as predicted and Abasement and Aggression had a significant negative correlation as predicted. The removal of the "invalid" tests produced these three significant correlations that only approached the .05 level of significance in the original correlation. However, an interaction effect apparently dropped the previous negative significant correlation between Dominance and aesthetic production from -.24 to -.13 which may no longer be considered significant at the .05 level. Consistency had an almost significant negative correlation with aesthetic production on the original

TABLE X

CORRELATION DATA ON THE PERSONALITY VARIABLES RELATIONSHIP TO AESTHETIC PRODUCTION** OF THE STRUCTURED STIMULUS GROUP WITH ELIMINATION OF "INVALID" TESTS

Variable	Mean	Standard Deviation	Correlation Coefficient
Achievement	14.50	4.28	.13
Deference	9.89	3.48	.03
Order	9.13	3.73	.22*
Exhibition	14.59	3.50	.15
Autonomy	15.11	4.84	.00
Affiliation	15.44	3.95	.19
Intraception	17.15	4.30	.05
Succorance	11.43	4.54	.11
Dominance	12.17	4.51	-.13
Abasement	14.65	5.52	-.22*
Nurturance	15.37	4.79	.00
Change	18.59	4.68	-.08
Endurance	12.11	5.73	.07
Heterosexuality	16.59	5.04	-.11
Aggression	12.50	5.49	-.22*
Consistency	12.64	0.98	-.19

N=54

*Significant at the .05 level (.22 or higher in the predicted direction)

**Aesthetic production: mean now equals 19.17 and standard deviation equals 8.72

correlation; the removal of the tests that were low on Consistency had little effect on the correlation of Consistency with aesthetic production under a structured stimulus.

Table .1 depicts the new correlations for Hypothesis II. The research hypotheses were rejected for all correlation predictions (except those predicting no significant relationships which were accepted). This result is identical to the first correlation without the removal of the "invalid" tests. Apparently, subjects who have a low Consistency score on the EPPS are also subjects who produce the aesthetically superior art products under a non-structured stimulus; the previously significant correlation of -.25 (for 72 N) dropped to -.25 (for 72 N) dropped to -.04 (for 61 N) when the "invalid" tests were removed from the original correlation.

The second correlation procedure eliminated eighteen tests considered "invalid" from the structured stimulus group leaving fifty-four, and eliminated eleven from the non-structured stimulus group thus leaving sixty-one.

TABLE XI

CORRELATION DATA ON THE PERSONALITY VARIABLES' RELATIONSHIP TO AESTHETIC PRODUCTION** OF THE NON-STRUCTURED STIMULUS GROUP WITH ELIMINATION OF "INVALID" TESTS

Variable	Mean	Standard Deviation	Correlation Coefficient
Achievement	12.87	4.34	-.03
Deference	9.11	3.24	-.02
Order	7.36	3.53	.15
Exhibition	14.52	3.17	-.08
Autonomy	13.49	4.74	.06
Affiliation	16.97	4.10	-.16
Intraception	16.72	4.91	-.02
Succorance	12.66	4.84	.00
Dominance	12.30	4.41	.09
Abasement	15.98	4.71	-.12
Nurturance	16.51	4.92	-.04
Change	19.10	4.32	.11
Endurance	11.38	5.37	.06
Heterosexuality	17.39	5.53	.00
Aggression	12.95	4.43	-.01
Consistency	12.39	1.09	-.04

N=61

*Significant at the .05 level (.21 or higher in the predicted direction)

**Aesthetic production: mean now equals 19.10 and standard deviation equals 8.54

APPENDIX F

GUERNICA*

Figure 466. Pablo Picasso, *Guernica*, 1937. Oil on canvas, 11'5½" × 25'5¾". Collection of the artist, on extended loan to The Museum of Modern Art, New York.

...medium extended to his means as well

*Reproduced from page 388: Albert E. Elsen, Purposes of Art, New York, Holt, Rinehart and Winston, Inc., 1967.

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