Loyola University Chicago
Loyola eCommons

Dissertations | Theses and Dissertations

1983

The Relationship of Perceptual-Cognitive, Affective and Bio-Social Factors to Artistic Success

Michael D. Kovar
Loyola University Chicago

Follow this and additional works at: https://ecommons.luc.edu/luc_diss

 Part of the Education Commons

Recommended Citation

Kovar, Michael D., "The Relationship of Perceptual-Cognitive, Affective and Bio-Social Factors to Artistic Success" (1983). *Dissertations*. 2272.
https://ecommons.luc.edu/luc_diss/2272

This Dissertation is brought to you for free and open access by the Theses and Dissertations at Loyola eCommons. It has been accepted for inclusion in Dissertations by an authorized administrator of Loyola eCommons. For more information, please contact ecommons@luc.edu.

This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 License.
Copyright © 1983 Michael D. Kovar

THE RELATIONSHIP OF PERCEPTUAL-COGNITIVE, AFFECTIVE, AND BIO-SOCIAL FACTORS TO ARTISTIC SUCCESS

by

Michael D. Kovar

A Dissertation Submitted to the Faculty of the Graduate School of Loyola University of Chicago in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

June

1982

To the memory of a former doctoral graduate

of Loyola University, Chicago,

my grandfather,

Isadore M. Rosslyn, M.D., D.D.S.,

(1883-1964)

who conveyed a love of learning,

this dissertation is dedicated.

ACKNOWLEDGMENTS

I wish to express appreciation to the members of my dissertation committee, Dr. Joy Rogers, Dr. Ronald Morgan, Dr. Jack Kavanagh, and Fr. William Ellos for their suggestions and criticisms which contributed to the completion of this work. A special debt of gratitude is owed to my director and graduate advisor, Dr. Joy Rogers, whose patience and encouragement have helped me progress in my graduate career.

Several close friends who have availed themselves over the years deserve grateful acknowledgment and my heartfelt appreciation. They are: Dr. Carl Kramer, Dr. Richard Karrel, and Mr. Robert Alan Mills. Special thanks to Drs. Kramer and Karrel for their helpful encouragement and moral wisdom; and to Mr. Mills for his generosity, not the least of which was in providing an office in which to type the first draft. Thanks also, to Mr. Dennis Duginske for the enlightening discussions on achievement and ego development.

Finally, I am grateful to Susan, a special friend, who has given much moral support during the writing of this dissertation, and who has been a source of inspiration.

VITA

The author, Michael D. Kovar, is the son of David Kovar and June (Rosslyn) Kovar (deceased). He was born April 12, 1950, in Los Angeles, California.

His elementary education was obtained in the public schools of Los Angeles, and his secondary education in the San Fernando Valley, where he graduated from Ulysses S. Grant High School in 1967.

In August 1971 he received the Bachelor of Arts in psychology from the University of California, Berkeley. He received the Master of Arts in educational psychology from the University of Chicago in December 1973, and continued in the Ph.D. program there until June 1975.

While at the University of Chicago, the author worked at the Sonia Shankman Orthogenic School and completed a clinical psychology clerkship at the Psychiatric and Psychosomatic Institute for Research and Training at Michael Reese Hospital. Additional training was obtained at Billings Hospital and in private psychodiagnostic supervision for two years with Dr. and Mrs. Samuel Beck. He studied educational and clinical psychology at the University of Chicago under the supervision of Dr. Joseph Wepman, and was nominated by the Department of Education for the Danforth Foundation's Kent Fellowship in 1973.

After leaving the University of Chicago the author returned to California, where he taught in a graduate training program in special education at California Lutheran College. He returned to Chicago

in January 1978 and in September 1978 began his studies at Loyola University.

Since then he has taught psychology at Northwestern University and at Roosevelt University. He is presently employed in a research capacity in the clinical psychology department at the Northwestern University Medical School.

TABLE OF CONTENTS

TABLE OF CONTENTS.--Continued

LIST OF TABLES

LIST OF TABLES.--Continued

LIST OF FIGURES

CHAPTER I

INTRODUCTION

The capacity to create and the experience of having one's creations deemed worthy by critical acclaim are generally regarded as separate aspects of any creative endeavor. It is a well-established fact that only a portion of gifted persons are able to conquer these two estates during the time of their life. A great many never live to see their works achieve recognition. Instead, as often happens, posterity bestows success upon their accomplishments and upon them; whereas the society in which they lived may have virtually failed to acknowledge their existence. It may also transpire that many--perhaps even most of those who do not achieve recognition in their own lifetime--will be forgotten forever.

On the other hand, there are creative individuals who are able to see their work gain recognition during their own lifetime. Personality differences between these two groups of creative individuals (i.e., those who achieve recognition in their own time and those who do not) have not been studied extensively. It has not been determined for example, whether successful creative individuals manifest a different cognitive style and problem solving orientation, than other gifted, but unsuccessful, persons who are in the same field of endeavor. It has also not been established whether successful creative men and women differ from each other along these dimensions. The paucity of

research in this area gives rise to the problem as to whether viable comparisons of cognitive process variables and other personality dimensions can be made. That is to say, does the achievement of having one's creative work recognized in one's lifetime make a difference in terms of the personality characteristics of the achiever? By the same token, do the personality characteristics of the creative person determine whether that individual will be successful (acclaimed) or unsuccessful (unacclaimed) in his or her chosen field?

It could be stated at the outset that becoming acclaimed for what one produces is for the most part, if not entirely, a matter of chance. As an example, the argument could be made that, the fact that Melville's Whale was virtually unacclaimed in the nineteenth century and in the twentieth century became known as the "Great American Novel," was in no way a function of the personality makeup of Herman Melville, but rather was a result of luck, or factors (e.g., social, political, etc.) that conspired to detain the recognition of true genius. Though a persuasive argument could be made along these lines, it still does not suppress the importance for social scientists to inquire into the relationship between personality and success in order to discover if there are more than chance factors at work.

The need for this type of research was elaborated upon by Stein (1962) in a monograph written nearly twenty years ago, in which he called for a cooperative effort in studying recognized creative individuals by means of administration of a core battery of tests, including measures of cognitive style, personality, and environment:

> Unless some such program is undertaken it is likely, judging from the history of other assessment areas, that the research of the future will continue to produce a proliferation of technique-oriented studies on diverse groups without any necessary increments in our understanding of the creative individual or in our ability to predict who those individuals will be who will make future creative contributions. (1962, p. 87)

Despite the numerous studies on learning in gifted children, and the theoretical formulations that have evolved concerning the nature of cognitive development, we have not yet arrived at a level of understanding twenty years hence, "to predict who those individuals will be who will make future contributions." It is toward this goal that the present study has been directed.

Thus, there is an existing need to find valid constructs to serve as predictors of creative achievement. In working towards this goal the attempt was made to determine whether a group relatively successful and unsuccessful male and female artists, were similar and/or different in terms of the following personality dimensions: (1) cognitive style (field dependence-independence); (2) problem finding; (3) problem solving; (4) self-concept; (5) gender; and (6) socio-economic status.

Cognitive style, in terms of field dependence-independence refers to the opposite poles of the global-articulated dimension of cognitive functioning (Witkin, et al., 1977). Field dependence is associated with global functioning, which is characterized by the tendency to passively adhere to the structure of the prevailing stimulus field. Field independence is associated with articulated functioning where the tendency exists to analyze the stimulus field and to structure experience. The present study attempts to investigate whether this

variable endures as a valid construct among differentiated groups of creative individuals.

Problem finding refers to the ability to find and formulate problems, and to raise questions from ill-defined problems. Problem finding is considered by Getzels and Csikszentmihalyi (1976) to be the essence of "the creative vision." In the present study it served as an exploratory variable for purposes of comparison of successful and unsuccessful artists in relation to cognitive style, problem solving, and self-concept. Problem solving, in terms of adaptive flexibility, is the ability to restructure and redefine (Guilford, 1980). In terms of the structure-of-intellect (SI) model it is recognized as the "divergent production of figural transformations (1980, p. 1)." Problem solving ability was compared in both successful and unsuccessful artists.

Self-concept, as defined in terms of self-esteem, refers to the feeling that one is "capable , significant, successful, and worthy (Hoffmeister, 1976, p. 1)." It is also defined in terms of self-other satisfaction, which denotes the level of satisfaction a person has with respect to his/her self-esteem. In the present study, differences in self-concept were examined in successful and unsuccessful artists and in relation to cognitive style.

Gender refers to the biological sex of an individual. In the present study, gender differences were viewed in terms of the field dependence-independence dimension in both successful and unsuccessful artists.

Socioeconomic status was assessed for each subject and utilized as the sole basis of determining whether significant social class differences exist between successful and unsuccessful artists.

Artistic success/unsuccess was operationalized in terms of critical recognition. The criteria upon which this definition is based is outlined in Chapter III.

The decision to study artists is based upon the tradition of viewing painters, sculptors, and the like, as the main arbiters of creative endeavor. This idea is expressed by Getzels and Csikszentmihalyi (1976) in their longitudinal study on problem finding and art:

> The artist has been for centuries the archetype of creativity, at least in Western culture. The artist's ability to shape inert matter into lifelike forms that, once created, take on a life of their own, has become a symbol for the human power to change, order, and improve the environment. (1976, p. v)

The artists in the present study were comprised of Chicago-based painters and printmakers. They were all actively engaged in their work in terms of producing art, in receiving attention in art shows and exhibitions, and in trying to market what they produced. Some of the "successful" artists had attained national reputations, and many were eminent within "the Chicago art scene."

Although it has for a long time been acclaimed for its art institutions and leading architectual innovations, Chicago has become recognized within the past ten years as an art world. It has become notable in this respect because of its creative artists, and it has hosted several international art expositions. Although New York is

generally considered to dominate the art world, Chicago has uniquely attracting features of its own. To quote Franz Schulze,[1] "There is a Chicago take on things, a Chicago attitude about things. This quality attracts art critics and buyers from esteemed art centers including New York, to give serious consideration to Chicago art (1981, p. 1.)" Chicago thus provides a viable environment in which to study artists. Inasmuch as the issues regarding personality determinants of artistic success will be reflected by the sociocultural context of the Chicago art world, it is hoped that investigation into these issues will further illuminate the realities of this dynamic environment.

Finally, the attempt was made to integrate the major findings of the present study with the philosophy of aesthetics based upon symbolic logic operatives. In this effort, it was hoped that insight obtained from the vantage point of philosophy would illuminate the relationship between the personality of the creative artist and the making of that individual's artwork.

Statistical Hypotheses

In order to gain insight into the relationship between field dependence-independence, problem solving, problem finding, self-concept, sex differences, and socioeconomic status in successful and unsuccessful artists, the following statistical hypotheses were advanced.

Statistical Hypotheses

H^I Successful artists are significantly more field independent than unsuccessful artists.

---

[1] Art Critic, Chicago Sun-Times (see P. Krainak, 1981, in Bibliography).

H_o^I Successful artists do not differ from unsuccessful artists in field independence.

H_1^I Successful artists are significantly more field independent.

H^{II} Successful artists are not significantly higher in problem solving ability (adaptive flexibility) than unsuccessful artists.

H_o^{II} Successful artists do not differ from unsuccessful artists in adaptive flexibility.

H^{III} There is a significant positive relationship between problem solving (adaptive flexibility) and problem finding in successful but not in unsuccessful artists.

H_o^{III} Successful artists do not differ from unsuccessful artists in adaptive flexibility and problem finding.

H_1^{III} There is a stronger positive relationship between adaptive flexibility and problem finding in successful artists.

H^{IV} There is a significant positive relationship between field independence and problem finding in successful artists.

H_o^{IV} Successful artists do not differ from unsuccessful artists in field independence and problem finding.

H_1^{IV} Successful artists are significantly more field independent and have a higher problem finding index.

H^{V} There is a significant inverse relationship between cognitive style (field dependence-independence) and high self-concept.

H_o^V There is no relationship between cognitive style and self-concept

H_1^V Field independence and self-concept are inversely related.

H^{VI} There is a significant positive relationship between artistic success, self-concept, anf field independence.

H_o^{VI} There is no relationship between artistic success, self-concept, and field independence.

H_1^{VI} Artistic success, self-concept, and field independence are positively related.

H^{VII} Successful female artists are more field independent than field independent successful male artists.

H_o^{VII} There is no difference between successful male and female artists in terms of field independence.

H_1^{VII} Successful female artists are significantly more field independent.

H^{VIII} Successful artists have a significantly higher socioeconomic index than unsuccessful artists.

H_o^{VIII} Successful artists do not differ from unsuccessful artists in terms of socioeconomic index.

H_1^{VIII} Successful artists have a significantly higher socioeconomic index.

CHAPTER II

REVIEW OF THE LITERATURE

The Study of Creative Personality

The attempt to understand what motivates the creative individual to create, and to discover how that person differs from others has led to investigation in virtually every area of personality functioning and human development. This includes study of the creative individual's genetic background, childhood, and adult personality characteristics, perceptual processes, problem solving and problem finding behavior.

Some investigators (Cattell, 1906; Lehman, 1953; Wertheimer, 1959; Getzels and Csikszentmihalyi, 1976) have argued that creativity resides in individuals whose creative products have achieved recognition. While others (Guilford, 1959; Wallach and Kogan, 1965; Dellas and Gaier, 1970) assume that traits of creativity are related to creative production and are found in normal populations. Greeno (1980) makes the point that those who achieve recognition for creative production have usually been working for years on the problems which result in their contribution.

Nevertheless, there remains a cluster of personality attributes and cognitive dimensions which appear to be aligned with certain features of human behavior designated as the "creative personality." It has been generally agreed upon that the manifestations of this

personality type vary according to the field of creative endeavor. Most investigators distinguish between the processes involved in artistic and scientific creativity. Specifically, MacKinnon (1962) points out that in scientific creativity the creator invests little of himself as a person in the creative product. Whereas in artistic creativity quite the opposite is true: the artist essentially projects him/herself into the public arena.

Empirical validation of differences between artistic and scientific creativity in terms of personality traits was in part the subject of a study by Csikszentmihalyi and Getzels (1973). The authors found that the traits specific to artists as opposed to scientists were low ego strength, low conformity to norms, high subjectivity and imagination, and low self-sentiment (1973, p. 102). They advanced the hypothesis that high sensitivity and self-sufficiency were demand characteristics for all individuals involved in creative production. Whereas low superego and high subjectivity and imagination were viewed as contextual requirements for artists only.

MacKinnon (1962) has targeted the personality of the architect as being a conglomerate of the artist and scientist. Yet, while the architect shares traits of both types of creative personalities, there is a marked tendency to score higher in aesthetic rather than theoretical value orientation on the Allport-Vernon-Lindzey scale. MacKinnon notes that this is the reverse of the value profile for scientists.

The comparisons in personality functioning between artist and scientist provide the most comprehensive attempts to differentiate

between groups of creative individuals. Such differentiation is necessary in order to arrive at a clearer understanding of the personality variables underlying creative achievement. Of special importance in this regard is Barron's research on creative writers and Roe's work on the creative scientist and artist. Barron (1968, pp. 240-47) found that his group of writers scored high on the Barron-Welsch Art Scale and preferred figures that were free-flowing and asymmetrical. They tended to be of high intelligence with high ratings of flexibility, originality, and independence. There were also indications of these subjects being more introverted than extroverted and of having an intense fantasy life.

Roe's (1960, pp. 66-67) study of scientific creativity revealed that eminent scientists are characterized by independence, curiosity, high energy and intelligence. Scientists, also found to tend to remain socially aloof. She notes that most of them were shy as children and adolescents, and generally lacking in social interests. Roe concluded that there exist no marked differential characteristics between scientists and non-scientists, or between those in differing fields of science. And in her study of artists (1946) Roe determined that no criteria could be established that would indicate the ability to be a successful painter. These conclusions are particularly relevant to the present study. Roe is one of the few investigators to carry out empirical research on the relationship of creative personality variables to career success, and her conclusions seem to beg further investigation.

The need for continuation of research in his area seems par-

ticularly evident in light of more recent developments in the study of artistic creativity and achievement. Csikszentmihalyi and Getzels (1973) for example, have found that successful art students differ in terms of sex and field of specialization (e.g. in regard to perceptual, cognitive and value attributes) (p. 97). And they are of the opinion that the fine arts major is most representative of those students who embody the personality characteristics associated with the artistic temperament.

Other areas of development are represented by innovative approaches to art education such as Harvard's Project Zero (Reveron, 1982) where the emphasis has been upon investigating the "development of artistic knowledge" (p. 38) according to subjective experience. The role of personality in determining success in the art field would seem an important area for art educators whose responsibility in guiding their students toward vocational commitment requires sensivitity to the differential factors affecting achievement.

The Relationship of Cognitive Style to Artistic Success

The work of Witkin (1950; 1962; 1954; 1977; 1971) on the dimension of perceptual field dependence-independence has stimulated considerable research over the years in a wide variety of areas related to personality and cognitive functioning. Such research has been aimed at demonstrating that there exists a broad dimension of self-consistency in terms of cognitive functioning--the global articulated dimension--which taps the spectrum of the well known areas

of personality, i.e., social behavior, body concept, controls, and defenses.

It is the aim of this section to explain the basic concepts of cognitive style, i.e., perceptual field dependence-independence, its relationship to creativity, and more specifically, to artistic creativity and artistic success.

According to Witkin (1977) cognitive styles refer to "individual differences in how we perceive, think, solve problems, learn, relate to others, etc." (p. 15). Thus, cognitive style is defined in process terms, the emphasis being on form rather than content.

Cognitive styles are also considered to be pervasive dimensions, meaning that, they cut across the diverse psychological areas traditionally used to compartmentalize the psychic system. The premise of cognitive-style theory that broad dimensions of personality functioning may be "tapped" by cognitive activities, had led to research on the adaptive functions served by cognitive processes in the psychic economy of the individual (Witkin, Oltman, et al., 1971; Goodenough and Karp, 1961).

The research on the field dependent and field independent cognitive styles had its origins in the laboratory, specifically, with regard to perceptual-motor experiments concerned with orientation toward the upright in space (Witkin, 1950; 1954). Witkin and his colleagues performed a number of experiments in which the visual and postural frames were posed against one another, in order to determine which of the two was dominant in subject's perception of verticality. One of the chief means of studying subject's reactions to perceptual

alterations was the tilting-room-tilting chair apparatus, otherwise known as the Body Adjustment Test (BAT). A small room about seven feet in each direction was constructed so as to be rotatable on a horizontal axis. While sitting in his/her chair and facing the wall the subject could be tilted to the lateral right or left. In this regard posture was manipulated. When the room itself was tilted the subject's visual field was manipulated. Thus, either frame of reference--visual or postural--could be tilted while the other was held constant; or, combinations of tilt could be produced, in equal or unequal amounts, in the same or opposite direction. The subject's task was to adjust the chair to a position where he/she experienced it as upright.

Witkin and his colleagues (1971) designed a test structurally similar to the BAT, known as the Rod and Frame Test (RFT), in which the subject, seated in a totally darkened room, was given the task of adjusting to the upright a tilted luminous rod centered within a tilted luminous frame. This same test was made portable and can be administered in a fully lighted room (Oltman, 1968).

According to Witkin (1977) individual differences in performance on these tests are similar. In the case of the Body Adjustment Test, some individuals perceive their own bodies as upright when they are fully aligned with the room, even when they are tilted as much as 35 degrees.

These represent the extreme of field dependent individuals. At the other extreme are subjects who are able to correct their position to the true vertical regardless of their position or the position

of the surrounding room. These latter represent the extreme of field independent individuals.

With regard to the Rod and Frame Tests, field dependent individuals are those who adjust the rod in line with the surrounding frame even when the frame is radically tilted. Field independent individuals by contrast are able to adjust the rod to the true vertical regardless of the position of the surrounding frame.

According to Witkin (1977) the performance of most individuals falls somewhere in between these two extremes. Sex differences have reportedly been found in the field dependence dimension. Boys and men tend to be more field independent than girls and women.

In the aforementioned tests the subject's performance in finding the true vertical depends upon the ability to disembed his/her body (in the case of the Body Adjustment Test) or the luminous rod (as with the Rod and Frame Test) from the surrounding context. A third test of structural similarity also requiring the ability to disembed a given entity from a surrounding context, is the Embedded Figures Test (EFT).

The subject's task is to locate a simple figure within a complex pattern. Subjects able to locate the simple figure within a relatively short period of time are considered field independent, compared with subjects who take a longer time to accomplish the task. The latter are considered relatively field dependent. As Witkin (1971) states, "the EFT quickly reveals that what is assesses most of all is ability to break up an organized visual field in order to keep a

part of it separate from that field" (p. 4).

Witkin contends that these three tests have high convergent validity in the measurement of field dependence-independence (Witkin, et al., 1954, 1971). Some investigators, however, have taken issue over the validity of these claims.

For example, according to Loo (1979) the measures of field dependence-independence can be clustered into two groups: embedded figures tests (EFT) and adjustment tests (BAT and RFT). Summarizing a number of studies which espouse the two-clusters position, Loo reports that performance on embedded figures tests is highly related to performance on both performance and verbal intelligence tests; whereas performance on the adjustment tests is only slightly related to performance on intelligence tests.

Regardless of whatever differences may exist between the components underlying performance on embedded figures tests and the adjustment tests, the designations "field dependent" and "field independent" find considerable support as viable constructs relating to the perceptual-cognitive approach a person brings with him/her to an arrangement of situations of a given structure.

Characteristic differences in these approaches have been found (Witkin, 1954; 1977). The field independent approach is characterized by the propensity toward imposing structure when it is lacking, and in attending to the relevant details of the stimulus field or environment. By contrast, the field dependent approach involves the tendency to be overcome by the stimulus field and is characterized by the inability to attend to the relevant details of the environment. Field independent

judgment is thus analytical compared with field dependent judgment, which is more global in nature. The distinction between global and analytical accounts for the global-articulated dimension of cognitive functioning. As Witkin (1977) states:

> The person who experiences in an articulated fashion tends to perceive items as discrete from background, when the field is organized, and to impose structure on a field . . . when the field has relatively little inherent structure. In contrast, it may be said that experience is more global when it accords with the overall character of the prevailing field. . . . (p. 10)

As already mentioned, the global articulated dimension has been conceptualized as cutting across broad areas of personality. In a survey of the literature on field dependence-independence, Witkin (1977) summons considerable evidence from previous studies to show that differences in social behavior, learning and memory, vocational choice, and a host of other domains of functioning in psychology and education have been attributed to differences in cognitive style, i.e., global (field dependent) versus articulated (field independent) functioning.

Along these same lines the cognitive constructs of creativity and global articulated functioning (field dependence-independence) have in a number of studies been shown to bear a positive relationship to one another (Hoppe, 1978; McCarthy, 1977; Ross, 1977; Del Gaudio, 1976). Creative problem-solving is believed to be facilitated by the ability to attend to the relevant details of the environment and to act, if necessary, independently of it. Morris and Bergum (1978) explain, however, that while not all subjects scoring high on field independence are necessarily creative, most subjects who score high on tests of creativity tend to be field independent. Most studies

attempting to demonstrate the relationship between creativity and field dependence-independence have operationalized creativity solely in terms of performance on problem solving measures with normal populations. Research on global articulated functioning and creativity conducted with recognized creative and/or gifted subjects is scarce.

There is some evidence that the clues as to which component(s) underlie the relationship between creativity and field dependence-independence rest in analysis of group differences between creative and non-creative individuals. In a study by Myden (1959) in which 20 top ranking artists from diverse fields are compared with an equal number of non-creative subjects, there was noted to be a significantly stronger sense of psychological role-in-life characteristic of the creative group. Myden described these subjects as "inner-directed and not easily swayed by outside reactions and opinions" (p. 156). The analogy to field independence seems apt here, particularly in view of the early experimental work of Witkin, et al. (1950; 1954) where individuals were delineated in terms of their ability to be inner-directed in holding to the true vertical (versus those who were easily influenced by the surrounding framework).

The results of certain studies on creativity and field dependence-independence are ambiguous regarding the relationship of these two constructs. As an example, Wilson (1976) found in undergraduate art majors a significantly positive relationship between creativity as measured by the Remote Associates and Original Uses tests, and field independence measured by the Embedded Figures and Rod and Frame tests. However, low correlations were found in this same

sample between field independence and creativity, the latter as measured by professor's ratings and Productivity Uses for Things Test. These results indicate that the relationship between creativity and cognitive style is not always clearly defined. Similar conclusions were reached by Brennan (1976) in a study in which creative ability in dance was found not to correlate with performance on Embedded Figures and Rod and Frame tests.

Clarification of ambiguous results such as these is offered in an intriguing paper by Kirton (1978), who argues for the existence of a stable characteristic differentiating people in their ability to absorb novelty. He differentiates these individuals according to their tendency to either retain or destroy and replace existing paradigms. The former he labels "adaptors," the latter "innovators." Kirton supports Witkin's (Witkin et al., 1954; 1971) contention that individual differences at the perceptual level also pervade the higher cognitive levels. Kirton's study involving measured differences between responses on the Embedded Figures Test and the Kirton Adoptation Inventory, demonstrates that innovators tend toward field independence.

Another conceptual link between creativity and field dependence-independence is provided by Del Gaudio (1976) in a study relating the two constructs in terms of psychological differentiation. The concept of psychological differentiation, originally put forth by Witkin, et al. (1962) refers to the specific characteristics which correlate across psychological domains, and which appear to reflect tendencies toward more differentiated (articulated) or less differ-

entiated (global) psychological functioning. Del Gaudio succeeded in demonstrating that there exists the tendency for more differentiated individuals to perform consistently high on the Remote Associates Test, thus suggesting that the analytical approach is essential to creativity.

The foregoing studies appear to argue mostly in favor of the relationship between creativity and the perceptual-cognitive style, field dependence-independence (global-articulated functioning).

Regarding the present investigation, this area of inquiry can be extended into an examination of the relationship between cognitive style and artistic creativity. Along these lines, Getzels and Csikszentmihalyi (1976) have remarked that, "an area where one might look for characteristics that distinguish the artist is the perceptual domain" (p. 31). Among the first to utilize a perceptual test in analyzing the process of creative imagination in artists and other creators was Hermann Rorschach (1951). The perception of human movement on the Rorschach test, scored by the symbol M, stood for creative imagination or fantasy. As Zudek (1968) points out, a number of studies have demonstrated a positive relationship between Rorschach M and artistic creativity. In support of these findings, Zudek notes that,

> The only important negative study using the Rorschach with artists has been that of Anne Roe, but it can be severely criticized on methodological grounds. Her group of 20 painters were all chronic alcoholics with a mean age of 51. A high M would not be expected for chronic alcoholics or for men in this age group. She made no effort to see if the painters could produce high numbers of M if asked to do so. Nor did she check on whether they actually still were productive as painters. (p. 538)

In his own study comparing the Rorschach records of successful, i.e., "good" or original artists with unsuccessful, i.e., "bad" or imitative artists, Zudek found that neither group could be distinguished solely on the basis of Rorschach M. It was noted, however, that in the Rorschach record the presence of primary process thinking, which is akin to Guilford's factors of fluency and flexibility, could be used to identify creative talent and its productive use (Zudek, 1968).

In terms of perceptual ability, Getzels and Csikszentmihalyi (1976) in their longitudinal study of artistic creativity, found that artists generally perform better than non-artists on tasks requiring perceptual skills. They noted, however, that artistic expertise in visiospatial perception should not be equated with artistic creativity. Rather, the former is merely a requirement of artistic expression and is independent of the cognitive ability to create. In this sense, the perceptual superiority of artists to non-artists appears relevant to the area of perceptual-cognitive styles and creativity. As an example, Clar (1971) found that field independence is associated with artistic interest. This result accords with Witkin's contention that persons who are more psychologically differentiated (field independent) are likely to favor and be suited for different vocations than less differentiated (field dependent) persons (Witkin, et al., 1977; 1971).

The success of artists in their chosen vocation appears to be a direct function of perceptual ability when sex is taken into account.

To quote Getzels and Csikszentmihalyi once again, "Success for women seems almost exclusively a matter of perceptual abilities, which play no part in the achievement of men" (1976, p. 65).

Thus, while the literature suggests that field independence tends to correlate with artistic interest; and that, artistic success is more a function of perceptual ability in women than in men, the question is still open as to whether highly successful artists have differing cognitive styles.

This issue is addressed in a developmental study by Rosslyn Gaines (1975), who compared the perceptual skills and cognitive styles of 30 "master" artists to those of non-artist groups of different ages, beginning with kindergarten children, and including adolescent and adult comparison groups. Gaines found that the artists were significantly more field independent, as measured by the Portable Rod and Frame Test, than all other groups. Interestingly, high school sophomores were less field dependent than non-artist adults.

In her study, Gaines dealt with the methdological problem as to what criteria constitute successful, or in her terminology, "master" artists. The criteria Gaines chose to define "master" artists were: (1) non-commercial productions; (2) economic dependence on their productions; (3) recognition by professional art critics, and (4) peer approval. The artist's ages in Gaines' study ranged from 28 to 60 years.

In attempting to understand why the master artist group had superior scores on the Rod-and-Frame Test, Gaines put forth several explanations. Firstly, she concluded that the art profession requires

the ability to draft a true vertical. This accords with Getzels and Csikszentmihalyi's (1976) somewhat self-evident finding that artists are superior to non-artists in perceptual ability. Secondly, master artists choose a life style counter to the generally accepted cultural demands for achievement and success. Gaines notes, "It is possible that their superior scores on the Rod-and-frame test could be a reflection of their independence from cultural pressures" (1975, p. 994). Here again, the relationship of field independence to artistic success is suggested by the remarks of Getzels and Csikszentmihalyi (1976) concerning the personality traits of the creative artist. To quote, "It takes a person who is cut off from others . . . who does not depend on outside direction and support, to break away from the premises on which the majority bases its thinking" (p. 40). Similarly, Gaines (1975) is explicit in stating that although the cognitive qualities necessary for competence in the art field could require artists to "turn their backs on many cultural modes and mores," she acknowledges that superiority in field independent judgment measured on the Rod-and-frame test may represent a self-selected minority position in society, insofar as many of these artists had career options at one time or another which were highly compatable with cultural mores.

In summary, it has been stated that the field dependence-independence dimension involves both the ability to find the upright in space, and to disembed a particular element from the surrounding context. This ability appears to bear a strong relationship to artistic creativity and artistic success. Studies investigating

these relationships tend to emphasize that perceptual skills requisite for artistic excellence may only partially account for superior performance on field independent tasks. At a more complex level of personality functioning, field independence can be viewed as an inherent characteristic of the creative artist's self-chosen alienation in society.

The Relationship of Problem Finding and Problem Solving to Artistic Success

The area of problem finding has in recent years become a field of investigation in the areas of thinking and creativity. Traditionally, these areas were associated with research in problem solving. Problem finding however, is becoming a field of research in its own right. This is in contrast with the large body of literature dealing with problem solving as approached from the viewpoint of classical associationism, gestalt psychology, Piagetian cognitive psychology, and more recently the area of information processing.

Problem finding generally refers to the asking of questions, the finding and formulating of problems, which from time immemorial has been regarded by philosophers, scientists, and artists, to reflect the substance of higher achievement. Immanuel Kant (1965), addressing this subject said,

> To know what questions may reasonably be asked is . . . a great and necessary proof of sagacity and insight. For if a question is absurd in itself and calls for an answer where none is required, it not only brings shame on the propounder of the question, but may betray an incautious listener into absurd answers, thus presenting, as the ancients said, the ludicrous spectacle of one man milking a he-goat and the other holding a sieve underneath. (p. 97)

Kant assures us that we can deduce a great deal about an individual's intellectual ability by examining the kinds of questions he asks.

Philosophers and scientists in the twentieth century have expressed similar opinions regarding the importance of asking questions. Einstein, in particular, has noted that the creation of knowledge is for the most part an outcome of question-asking and problem-finding far more than it is the result of question-answering and problem-solving (Einstein and Infeld, 1938). Einstein is of the opinion that the searching question is what leads to discovery, whereas finding the answer or solution to a problem is often a matter of sheer technique. Einstein's own revolutionary theories about the universe have been considered in themselves to be the outcome of problem finding activity. A. P. French (1979), in commenting on this subject has stated:

> In the general theory of relativity we see one of the most marvellous products of speculative but disciplined thinking about the physical world. It can be said to have begun with a question so simple yet so profound that most people would not think to ask it, or would be content with a superficial explanation: "why do all objects whatever their nature, fall under gravity with the same acceleration?" Einstein, by concentrating on this question, created for the first time a genuine theory of gravitation. (p. 111)

Much of the recent literature in problem finding is not related to issues concerning higher-level cognition and creativity. Rather, attempts have been made to foster rational decision-making within diverse social contexts, e.g., community organizations, business and industrial firms, etc. Studies of this sort are entirely different from empirical research in creativity which investigates the nature of mental processes.

As an example of the former area, Guthrie (1976) attempted to

identify classroom problems affecting teachers within the potential teacher education population of a midwestern university. He found that, although some teachers were able to name crucial problems using self-report techniques most were not. In a similar vein Hoyt (1977) looked to problem finding as a means of effecting centralization of career counseling and placement functions within educational settings. This was attempted by organizing a series of questions for students to answer about their career goals. It was believed this method would provide a valuable and efficient mode of helping students make career choices. And in a study by Yinger (1978) the classroom teacher's daily dilemmas were once again utilized to generate hypotheses regarding the use of problem finding strategies. Problem finding was in this study described essentially as a process of becoming aware of what specific problems needed to be solved within a general, non-specified problem situation.

Although similarities do exist between these descriptions of problem finding, and problem finding investigated in the context of artistic or scientific creativity, the differences between them are sufficient to allow us to distinguish between pragmatically-oriented problem finding research, and problem finding research aimed at investigating the creative process.

The literature dealing with creativity as problem finding has to a large extent evolved from the work of Getzels and Csikszentmihalyi (1964, 1969, 1973, 1975, 1976) with creative artists. Their longitudinal study of problem finding in art (1976) represents the

first major attempt to formulate a comprehensive model of the creative process from the standpoint of problem finding.

In order to understand the activities of the art students they studied, Getzels and Csikszentmihalyi (1976) devised a conceptual framework in which the creative process can be viewed as a response to a problematic situation. Within this scheme there are situations in which problems are presented and ones where they are discovered. Both types of situations represent extremes between which lie variations wherein corresponding mental processes can be inferred. Three "type-cases" are presented, each containing the basic elements of a paradigmatic problem situation. Type-cases 1 and 2 represent problem-solving paradigms, whereas type-case 3 corresponds to problem finding. In type-case 1 the basic cognitive process (i.e., dominant mode of thought) is retrieval, whereby the individual in order to solve a presented problem, plugs given data into a known formula to reach the solution. An example, would be to find the area of a square when side a is 4.

Type-case 2 involves utilizing reasoning and logical thought as the main cognitive process. In this case the individual reflects upon the presented problem until reaching a solution that is known to others, such as, "How would you go about finding the area of a square?"

The type-case 1, 2, and 3 paradigms illustrate the problem finding/problem solving distinctions. In the experimental situation in which the investigators explored creativity in art students, problem finding was sought after by having the experimenter pose a general

dilemma to the subjects. For example, some objects, e.g., fruit, automotive parts, statuettes, were laid out on a table and the subject was asked to arrange and draw or paint the objects on canvas in any way desired (1976, p. 141). Problem finding was evaluated according to the degree of personal involvement with the task at hand, in addition to scores on level of problem finding, and judges' ratings of the finished product. Since the general task was generated within an artificial (experimental) situation, it is not known whether these same students would have produced paintings of markedly different quality outside the experimental situation. It was found, however, that subjects who received high scores of problem finding ability also tended to reveal similarities in personality characteristics and in artistic creativity.

According to Getzels and Csikszentmihalyi (1976) problem finding originates in the feeling that there is a problem to be formulated. The authors contend that this holds true both in and out of the experiemntal situation. They view that problem finding is the essense of "the creative vision," and thus assume that problem-formulation is the cognitive process which first brings forth that vision.

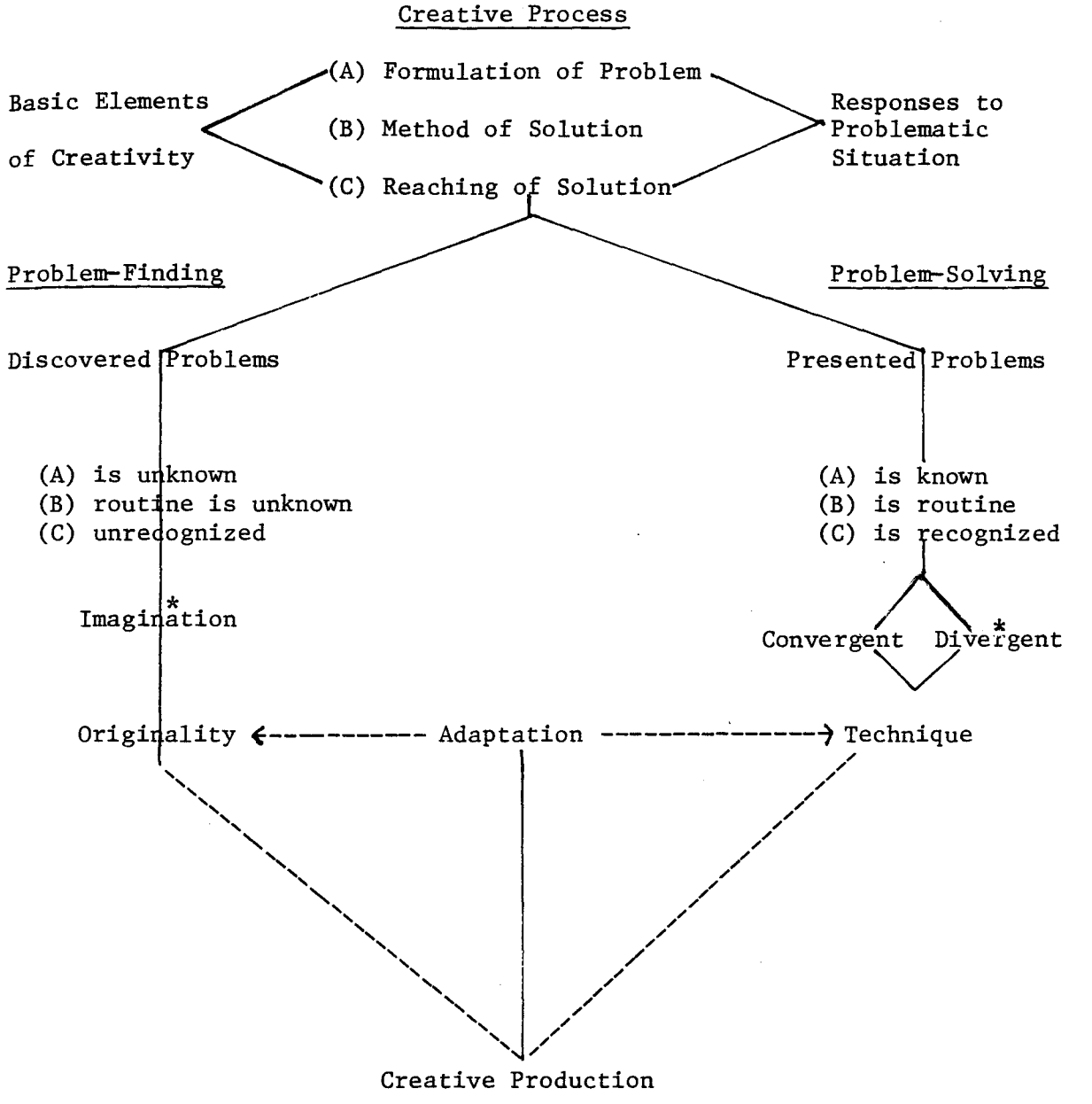
Problem-formulation is operationalized as "selection and arrangement of objects" (1976, p. 88), in terms of the study of artistic creativity. Notable differences with regard to the objects at this stage were <u>number</u> (of manipulated objects), <u>interaction</u> (of artists with objects), and <u>uniqueness</u> (of selected objects).

According to the authors, the next stage in the creative process

is problem-solution. It is one of the unique fetures of this model that the problem solving stage is characterized by problem finding. This is seemingly a contradiction in terms, for how can one ask questions at the same time one is answering them? The authors contend that this is not a contradiction when viewed in terms of the need for problem formulation to persist in the stages of problem solution. That is, in solving a problem one needs to redefine what the problem is before the work is completed. Problem finding and problem solving activities can thus be thought of as coalescing during the creative process. This makes sense when one considers that it is possible to ask questions about the questions one is trying to answer. Problem solving can of course occur along the lines of convergent or divergent activities, as postulated by Guilford (1973).

These factors taken together form the basis for the model of the creative process as formulated by Getzels and Csikszentmihalyi (1976). This model is schematically represented in Figure 1.

The model shows that creative production is a blend of many elements which form the creative process. The basic elements of creativity--problem formulation, method of solution, and the actual reaching of the solution--are seen as responses to problematic situations, which, depending upon the case in which they are known or unknown, recognized or unrecognized, serve to delineate discovered and presented problem situations. In addition to these basic features problem finding and problem solving are distinguished according to the dominant modes of thought that characterize each. Although Guilford's concept of divergent problem solving has been predominantly associated



*Refers to dominant mode(s) of thought

Figure 1. Schematic Representation of the Problem Finding and Problem Solving Model of the Creative Process

with creativity, or creative thinking, Getzels and Csikszentmihalyi assume that the finding of problems requires more imagination than the solving of them.

Nevertheless, Guildord's factor analytic approach to the study of creativity (Guilford, 1959; Guilford, 1973; Guilford and Guilford, 1980) has produced one of the most conceptually comprehensive views on that subject. The structure-of-intellect (SI) model includes five categories of informational content--visual, auditory, symbolic, semantic, and behavioral--each of which occurs in six different products--units, classes, relations, systems, transformations, and implications. The combination of these SI categories yields 30 items of information upon which five kinds of operations--cognition, memory, divergent production, convergent production, and evaluation are performed. In total, there are 120 different traits that comprise the entire structure.

The trait cluster of fluency, flexibility, and originality is what Guilford (1973) believes is responsible for creativity. Divergent thinking requires ideational fluency, but is most consistently associated with the trait of adaptive flexibility which Guilford defines as "an ability to restructure or redefine . . ." (1980, p. 1). This factor has also been conceptualized in terms of the "divergent production of figural transformations," and is parallel to originality.

Although Guilford has not established a sequential hierarchy for the development of problem solving ability, other theoretical conceptions have been advanced in this regard. Specifically, Piaget has postulated that the problem solving state, i.e., formal opera-

tional thinking, represents the "final equilibrium" of cognitive development (Inhelder and Piaget, 1958). This position has been challenged by Arlin (1975, 1977) on the basis that consistent, progressive changes in thought structures may extend beyond the level of formal operations. Arlin argues for the existence of a more advanced stage, one which is characterized by problem finding processes. Problem finding is based upon Getzel's conceptualization of the variable, and is defined as the ability to raise ". . . general questions from ill-defined problems" (1975, p. 603). The "problem finding stage" is based upon the criteria for stage model: sequencing, progressive integration, and qualitative advances in development. The model further implies that satisfaction of the requirements of the earlier stages is a necessary but not sufficient condition for reaching the new stage.

In Arlin's study (1975) problem finding, which formed the dependent variable, and formal operations as the independent variable were both measured in each subject according to task performance. Arlin reports two critical aspects of her data that a significant proportion of high problem finders were found at the level of formal operations; and that there were no high problem finders at the non-formal level. Arlin takes this to mean that formal operations is a necessary but not sufficient condition for high problem finding. However, inspection of Arlin's data (1975, p. 604, Table 1) reveals that there are a substantial number of <u>medium</u> problem finders at the non-formal level. Furthermore, this group along with the lower-level

problem finders seems to demonstrate a pattern of hierarchical ordering in the quality of their questions. The questions asked by subjects rated as high problem solvers but not high problem finders are categorized as belonging to the relations and systems categories of the Guilford SI model. The implication is that these categories are "logically prior" to the implications and transformations categories which characterize high problem finding type questions. Clearer distinctions between high and medium problem finding are not yet available, and statistical inference appears to be the primary instrument for gauging fine differences in this area.

Though the results obtained in Arlin's study do not appear to demonstrate the existence of cognitive structures beyond formal operations, her study does present intriguing possibilities in terms of viewing problem finding from a developmental perspective. Her hypothesis regarding the formation of new structures related to creative thought has provoked somewhat of a controversy. Fakouri (1976) takes issue with Arlin's conclusions, arguing that problem finding can be interpreted as improvement in content rather than structure, and as such, this improvement he views as quantitative rather than qualitative. Fakouri attributes problem finding abilities to selective manifestations of the problem solving stage.

On the same side of this argument is Cropper, et al. (1977), who have attempted to replicate Arlin's experiment. Interpretation of their data supports the traditional view of problem finding as improvement in content and form rather than structure. Their data shows 14 percent non problem solvers to be high problem finders.

LEWIS TOWERS
LOYOLA

Cropper speculates that problem finding behavior might not be indicative of a new level of thought development as much as a "predisposition to creative responses."

One of the potent differences between problem finding and problem solving activities appears to be the way in which they are reflected in vocational commitment, particularly in the arts. According to Getzels and Csikszentmihalyi (1976) fine artists are devoted to problem finding endeavor, whereas commercial artists tend to be more involved in problem solving tasks. The authors note that success in the fine arts is not purely a matter of artistic skill; in fact, the commercial artists in their study were somewhat more adept at problem solving technique than those in the fine arts group. The vocational choice of fine arts they suggest, by definition reflects the preference for working in discovered rather than presented problem situations. The authors are careful to note, however, that problem finding ability alone did not ensure success in the art field in their subjects. Other factors, such as the need to earn a living, to maintain self-respect, and to gain critical recognition are crucial variables related to artistic success. Nevertheless, the authors conclude that,

> Despite personal and social forces that prevent more than a few students from attaining recognition, the longitudinal results show that those who endure in art are suited to their calling. They are not merely luckier or more persistent; they also possess the problem-finding orientation that seems necessary for creative work. (1976, p. 183)

What is unclear from these conclusions is whether problem finding itself contributes to the artist's ability to surmount the obstacles in the way of success. Apart from it being a vital component of the

cognitive ability to create, there is as yet no evidence that the problem finding orientation enables the artist to adapt to the legitimizing process which is essential for achieving recognition in the art world.

In summary, problem finding and problem solving are cognitive process variables which are interrelated in creative activity. Prolem finding can be viewed as the more far reaching of the two in terms of higher-level cognition. The finding and formulating of a problem is what many believe leads to discovery; solving the problem is often a technical matter.

Problem finding and solving activities are seen to coalesce during the creative process. Creative problem solving has been studied extensively in terms of Guilford's divergent thinking factor and is associated with the triad of creative traits known as fluency, flexibility, and originality.

Problem finding and problem solving can also be viewed as developmental concepts. Problem solving represents the Piagetian stage of formal operations. Problem finding is conceptualized developmentally as the cognitive stage beyond formal operations. Empirical valididty regarding the so-called fifth stage of problem finding is uncertain.

Both problem finding and problem solving abilities appear crucial to artistic success in the fine arts field. Success in the commercial arts appears to be more a function of the problem solving orientation in which the artist works in presented problem situations.

Success in the fine arts involved commitment to working in discovered problem situations. It is unclear, however, as to whether problem finding ability facilitates adaptation to the personal and social obstacles that confront the fine artist in pursuing his/her career.

The Relationship of Self-Concept to Artistic Success

One of the fundamental issues in educational and social-psychological theory revolves around the controversy as to whether positive self-concept is necessary for individual achievement, or whether rewards based upon achievement merely enhance self-concept. The belief in the power of self-concept as a source of attaining individual aspiration has historical antecedents in our society. As Scheirer and Kraut (1979) point out, "The proposition that a person's self-concept influences his behavior has long been a part of American individualistic social philosophy" (p. 131). The stereotype of the artist, in terms of temperament and life style, highlights this historical trend, insofar as the artistic identity is for the most part at variance with American society.

Regarding the aspect of self-concept itself, the question may be posed as to what this conceptual entity is and whether it is a useful explanatory construct. A number of behavioral investigators including James, Cooley, Mead, Sullivan, Rogers, and Hilgard have arrived at different formulations of self-concept, and they have virtually all identified it as a core construct of personality.

William James (1910) was perhaps the first recognized psychologist who emphasized that a person's beliefs about himself will

influence his decisions and behavior. James identified two aspects of the self, one in which the self is regarded as a knower, and the other in which the self is an object of that which is known. This latter aspect James regarded as including the social self which encompassed the views and perceptions others hold of the person,

C. H. Cooley (1902) and George Herbert Mead (1934) conceived of the self as an entity which develops out of social interaction, and which is formed by appraisals mirrored by other persons. Cooley emphasized that language contributes significantly to definition of self. In particular, he noted that what an individual labels as self--designated by pronouns such as "I," "me," "mine"--will tend to produce stronger emotional reactions than what is labeled as nonself. According to Cooley, it is the interaction of symbols with feeling that allows for identification of self. Cooley also put forth the concept of the "looking-glass self," which refers to an individual perceiving of himself as others perceive him.

G. H. Mead expanded upon Cooley's concept of the "looking-glass self." Mead postulated the self as a composite of social roles. According to Mead, internal self-regulation is guided by the individual's responses to incorporated estimates of "the generalized other," i.e., society at large.

Sullivan (1953) also believed that the self arises out of social interaction. However, rather than focusing on interactions with "the generalized other," Sullivan emphasized the interactions of the child with significant others, particularly the maternal love object. Sullivan noted that the child strives to attain rewards on the basis

of what is valued by significant others and in so doing, internalizes those values. The self, or self-system is organized around the internalized values and around the tendency to fend off anxiety by means of "security operations."

Rogers (1951) views the self in terms of the relationship of "the I" and "the me." The "I" refers to those inner attitudes, perceptions, thoughts, and feelings which remain unshared in social interaction. The "me" refers to the social self, that part of the personality which is available for public consumption. In Roger's view, the human need to be accepted by others accounts for the need to maintain and enhance the self. Threat to the maintenance and organization of self-concept produces anxiety.

According to Epstein (1973), Hilgard apparently provides interesting and substantial evidence to postulate the existence of a self-concept but makes no attempt to identify it. The types of evidence he cites are "continuity of motivational patterns, genotypical patterning of motives and interpersonal nature of motives" (p. 406). Continuity of motivational patterns refers to individuals assessing themselves as they have in previous times, i.e., seeing that they are basically the same persons they were the previous year. And genotypical patterning refers to the human ability to satisfy a particular motive by more than one type of action.

Taking these theories into account, Sheirer and Kraut (1979) make reference to four different component processes which in their view underlie any basic definition of self-concept. The first com-

ponent is categorization, in which a person labels him/herself in terms of social roles and personality traits. The second component involves learning the socially-ranked desirability of a label, and this process they term evaluation. The third component is the comparative dimension, "for qualities which are potentially quantifiable, such as intelligence or athletic skill" (p. 141). The fourth component is affective. In terms of self-concept the affective component refers to self-esteem, i.e., the overall feeling of well-being and self-worth.

The self-esteem component in particular, can be seen as playing a vital role in the relationship of self-concept to success in general. That is, the social implications of success seem to imply that self-esteem is conditional upon "success." To quote Erich Fromm (1947),

> Since modern man experiences himself both as the seller and as the commodity to be sold on the market, self-esteem depends on the conditions beyond his control. If he is "successful," he is valuable; if he is not, he is worthless. (p. 79).

There is some empirical evidence to indicate that in highly developed persons self-esteem has less to do with factors beyond one's control, and is more a matter of individual control based upon creative potential. This was the conclusion reached by Workman and Stillion (1974) in a correlational study relating Loevinger's model of ego development to creativity, in which the authors concluded that the more autonomous levels of ego functioning (associated with increased self-esteem according to Loevinger's model) are positively

related to creativity, as measured by the Torrance Tests of Creative Thinking.

Self-esteem, according to Gilmore (1974) appears to be an essential element in the creative personality. He states:

> There is increasing evidence that all genuinely creative persons have a basic quality of self-confidence, or self-esteem. It is difficult to explain their possession of such traits as persistence, independence, tolerance for complexity and challenge, and sensitivity to the environment without the speculation that they have (or have had) someone close to them who has believed in them and in whom they have had complete trust and confidence. Without the assurance that someone, either in reality or fantasy, believes implicitly in their uniqueness as individuals, such persons would not be able to accomplish their objectives. (p. 31)

A number of studies on self-esteem in successful creative individuals tend to support the general assumption that creative individuals have a relatively high self-esteem. MacKinnon (1962) found the most creative group of architects to be more self-confident and self-assured than subjects in the other groups. Barron (1968) reported similar findings in a study comparing mature professional writers with student writers. Those in the mature professional group reported higher levels of aspiration and interests, while those in the student group were anxious and relatively insecure. Drevdahl (1974) studies faculty members from university psychology departments and classified his subjects as creative productive, noncreative productive, and noncreative non productive. Psychologists in the creative productive group were found to be more emotionally secure than those in the noncreative nonproductive group. Similarly, Bergum (1974) reported that faculty members with high publication rates perceived themselves

as more individualistic, independent, and creative than faculty members with low publication rates.

The results of these studies tend to support what certain other investigators have discovered concerning the relationship of self-esteem to artistic creativity and artistic success, namely, that successful artists maintain a generally more positive self-concept than unsuccessful artists. This difference is highlighted dramatically by Simpson (1981) who studied the SoHo art scene in New York. He states:

> Artists without obvious success feel that their creativity requires them to maintain at least a symbolic marginality, if not precariousness, in their lives. The easy references some of these artists make to suicide plans, to doubts of their own sanity, to the manic-depressive emotional cycle to which they say their creativity is tied, and the acute adolescent self-consciousness to which they refer in everyday conversation as incantations of marginality. Such self description seems to enhance the existential vertigo which they feel is necessary to hold their creative edge. The family and personal lives of the successful artists, by contrast, are stable retreats from the public world that verifies their identities as artists. Successful artists may acknowledge the tensions and strains of their occupation, but they do not parade an existential precariousness or instability as evidence of their creativity. (p. 66)

Success, according to Simpson, is defined by the young SoHo artist, as critical recognition and sufficient income. Thus, differences in self-esteem are not necessarily associated with differences in artistic ability among successful and unsuccessful SoHo artists, since attainment of critical recognition and income depend upon additional factors. As Getzels and Csikszentmihalyi (1976) note, "to be able to earn a livelihood and to develop a self-concept as a bona fide artist distinct from a 'sometime painter,' artistic behavior is not sufficient. One must be legitimized by the appropriate social institutions" (p. 185).

Simpson (1981) observed in this regard, that maintaining the artistic identity involves extreme delay of career gratification and tolerance for the vicissitudes of the art market. And Wheelis (1958) points out that art is one of the few vocations which is, "truly knowable only after long experience" (p. 207). Furthermore, Wheelis indicates that by the time such knowledge is acquired it is often too late for the person to easily explore other career options.

In the art world then, it is apparent that extreme pressure is exerted upon individual self-concept and self-esteem in successful as well as unsuccessful artists. Although self-esteem is not mentioned specifically, Getzels and Csikszentmihalyi (1976) note that, none of the artists interviewed in their longitudinal study felt secure with what their art could accomplish.

In summary, the aforementioned studies support the view that creatively successful individuals in art tend to have a more positive self-concept than less successful individuals in the same fields of endeavor. The studies do not lend any conclusive evidence, however, to the controversy as to whether these individuals are creative because of positive self-concept, or whether their achievements (or lack thereof) are what affects most of all, the self-concept which is believed to influence their behavior.

The Relationship of Sex Differences to Artistic Success

The comprehensive attempt to identify a consistent set of traits or characteristics in any group of individuals involves the

study of interrelated areas of personality. One such area of inquiry is the biological. The value in discovering individual differences which are biological in origin derives from understanding that such differences can be considered as specific in the gene pool of our species. In this regard, the examination of sex differences provides what Gray (1973) has termed, ". . . an unrivalled clue to the biological and physiological bases of human personality and social behavior" (p. 442).

In terms of the present study it would appear that sex-related differences in competition and achievement are of primary significance. Fundamentally, there is a tendency, as Gray has noted, for males to be the "epideictic" sex, that is, to be concerned with those behaviors which regulate population density control. He states, however, ". . . there are occasional reversals of sex role in competitive behavior, with the female becoming the epideictic sex . . ." (1973, p. 444).

In men and women the antecedents of competitive behavior are seen by Bronfenbrenner (1961) as essentially different. He notes that effective behavior is a function of optimal regulation of affection and control, which differs for both sexes and involves different risks in the developmental process.

Along the lines of these theoretical considerations, Foersterling (1980) investigated sex differences in risk taking behavior as related to probability of success. The study involved 60 makes and 60 females, all of whom selected tasks which supposedly differed in objective difficulty. In addition to completing the tasks subjects

were asked to rate their probability of success. Results indicated that females selected tasks which were objectively easier than the ones selected by males. These same tasks, however, were perceived by the female group as subjectively more difficult than those for males. The conclusions drawn from these results is that females are more conservative than males in targeting objective probabilities of success; but females are riskier when subjective probability of success is an indicator of goal attainment expectancy.

Sex-related differences in competition and success such as those described in the aforementioned study can be viewed as a function of the need for achievement. Reviewing the literature on sex differences in McClelland's nAch, Davies (1980) identified as the principal factor related to women's relative lack of success, the arousal of nAch by different cues for both sexes. Other factors, e.g., low level nAch and fear of success, were considered by Davies as invalid in explaining women's relative lack of success.

Arieti (1976) takes a wholehearted environmentalist position on the issue as to why there is a striking disparity between men and women in terms of creative accomplishment. He cites as inadequate and superficial the anatomic and physiologic studies purporting to demonstrate a biological inferiority in women. Arieti believes the relative lack of success in women is purely sociogenic, and he states, "It is fair to assume that, given equal status and opportunities, they would have contributed as much as men" (p. 318).

These theoretical and empirical viewpoints are relevant to the present investigation on artistic success in that, the art profession,

and for that matter the entire history of art, have been male-dominated. Addressing themselves to this issue, Getzels and Csikszentmihalyi (1976) indicate that success in art for women is a matter of perceptual abilities, whereas for men it is more a matter of being rewarded for having a certain type of personality. To quote:

> Art teachers seem to appraise a male student on the basis of long-range possibilities suggested by his personality, rather than on his perceptual aptitudes; they seem to appraise a female student on the basis of the perceptual skills she actually displays. This may reflect a tacit belief that a male student will develop his aptitudes with time, while a female student who does not have them to begin with will abandon her aspirations and settle for more traditional pursuits. (p. 65)

Taking this same basic arguemnt a step further, Wayne (1974) insists that women artists have been discriminated against throughout art history because of the romanticization of the male artist personality. That personality she terms, the demonic image. By this is meant the myth of the artist as one possessed of mysterious forces that uncontrollably express themselves in the creative act. According to this image the male artist is believed to have come into the world an artist, rather than having developed his creative powers through intelligence and discipline. As Wayne (1974) states, ". . . the demonic myth presents the artist as biologically determined--born with Promethean fires as it were" (p. 108).

According to Wayne, this cultural stereotype provides the camouflage for male artists to be accepted as quasi-females in female positions. Thus, for a woman to be successful she needs to present demonic traits in order to offset the stigma of the feminine mystique.

In summary, sex-related differences are seen as valuable clues in understanding the biological basis of personality and social behavior. The process of socialization involves regulation of affection and control and entails different risks for both sexes. Risk-taking behaviors in competition and achievement are somewhat different for males and females both in terms of objective probability and subjective perceptions of selected risks.

Need for achievement in terms of cue arousal, is a crucial variable in explaining women's relative lack of success. Sociogenic explanations are essential to understanding the differences in achievement between men and women.

Sex-related differences in success in the art profession are viewed mainly as the result of females having been rewarded on the basis of perceptual ability, and males for having been rewarded for having a stereotypic personality. This personality is seen as a cultural manifestation of the demonic myth, which allows the male artist to be accepted as a quasi-female. Whereas, it is believed that the female artist must counteract the feminine mystique by carrying demonic markings, in order to be successful at her profession.

The Relationship of Socioeconomic Status to Artistic Success

One of the most commonly disputed issues pertaining to the subject of artistic success is that concerning the social class background and economic level of the artist. The familiar image of the starving painter struggling to complete a canvas while subsisting on a meager income is associated with artists such as Van Gogh and

Munch, and with the Blue Period of Picasso. It is common knowledge that such artists lived in utter poverty and that some became wealthy and famous in their own lifetime, while others did not. Indeed, Picasso and Van Gogh are striking examples of artists with such radically different life histories. We may also speculate as to what turns the life of Leonardo da Vinci would have taken were it not for his having a benefactor, The Duke of Milan, Lodovico Sforza.

Such examples provoke inquiry regarding the role of socio-economic factors in artistic success, and in achievement in general. In order to evaluate the extent to which socioeconomic status enables one to succeed in our society some clarification is required as to the nature of social class structure itself.

According to Warner (1960) social class is the result of social complexity. The social status hierarchy is viewed by Warner as a structural imperative, necessary for group survival in the face of increased divisions of labor and diverse social units. The presence of class order is determined by the need for coordination and integration of these numerous and diverse functions. Warner believes that although technological advancement is a significant factor in the determination of class and status orders, it is the values and rules of the social system that determine the kind of technology and economic institutions that survive in any nation.

In the United States, as Warner (1960) points out, the American Dream encourages everyone to achieve success regardless of social class position. Nevertheless, he indicates that certain contradictions exist in the basic tenets of that vision. Specifically, the

assumptions that we are all equal, and that everyone has a right to reach the top, are seen as mutually contradictory:

> . . . for if all men are equal there can be no top level to aim for, no bottom one to get away from . . . but only one common level into which all Americans are born and in which all of them spend their lives. We all know such perfect equality of position and opportunity does not exist. (p. 3)

Despite these inherent discrepancies, Warner recognizes the powerful influence of democratic faith, in terms of its operating to reconcile the dilemmas of the American Dream. Specifically, Americans have insisted upon equal rights as citizens, and also have become quite proud that a great many of their fellow citizens have reached the peaks of success who began at the bottom of the social hierarchy. Having sufficient proof that in certain cases, ". . . enough of the Dream is true to make all of it real" (1960, p. 4), makes it possible according to Warner for Americans to tolerate and adapt to the discrepant parts of the proposition.

Warner's schema of social stratification lists five specific classifications. In descending order, they are: (1) the Upper class, (2) the Upper Middle class, (3) the Lower Middle class, (4) the Upper Lower class, and (5) the Lower Lower class.

The Upper class is composed of old-family and new-family segments. Old-family wealth is inherited from three or more generations; new-family wealth is more recently acquired. Families of the Upper class are organized into cliques and exclusive clubs.

Below them are members of the Upper Middle class, whose incomes are derived primarily from business and professional enterprises. Members of the Upper Middle class generally aspire to the Upper class.

The Lower-Middle class is comprised of white-collar and some skilled blue collar workers. The Upper-Lower class consists of semi-skilled or unskilled workers. Primarily it is the Lower-Middle group that is associated with "the stable working class."

Finally, the Lower-Lower class consists of poverty-stricken people who are perceived by virtually all members of the social classes above them as "shiftless and lazy."

The life style and value system of the socioeconomic group within which the family is a functioning unit have been viewed by a number of investigators (i.e., Douvan and Adelson, 1966; McKinley, 1964), as significant influences upon the potential productivity of the family members. In this respect, Gilmore (1974) has remarked that, "the fundamental family relationships in the backgrounds of all productive persons share certain qualities which we might view as the source of academic achievement, creativity, and leadership" (p. 178).

According to McKinley (1964) socioeconomic distinctions are related to achievement motivation. Since socioeconomic classification is based primarily upon father's occupation and educational level, it is indirectly a reflection of his achievement mastery. This view is in line with that of Hollingshead and Redlich (1958) who are of the opinion that in the family the father transmits the cultural values and mores. Their findings clearly demonstrate that in the middle and upper class families where there is a considerably higher level of education and occupational status, parents are significantly more attuned to providing nurturance for achievement in their children than

are parents of lower class families. Fathers in the upper social strata provide better role models for their children. And mothers--particularly those in the upper middle-class--tend to maintain a superior balance between structure and permissive practices in helping their children develop than do lower-class mothers. However, with many women seeking careers of their own, complex issues are raised concerning the effects of maternal employment upon children's level of productivity and achievement.

Moore and Holtzman (1965) found no difference in the attitudes of adolescent boys and girls toward academic competence in families where the mother worked from families where the mother was unemployed. In contrast to these findings, a study by Langner and Michael (1963) revealed that the influence of a mother's employment varies according to socioeconomic position. In homes where the mother worked full-time children's mental health tended to be poorer than in those where the mother was not employed at all. These findings were valid at all socioeconomic levels. However, in the high and low socioeconomic levels children experienced better mental health in home environments where the mother was employed part-time. Similar findings were reported by Douvan and Adelson (1966), that low academic productivity in adolescents occurred in families of the lower socioeconomic level where the mother works full-time.

The findings of these studies suggest that the families of children from the lower socioeconomic levels tend to be less achievement-oriented than families of the upper social strata. And though the

studies are not in complete agreement on the issue of maternal employment, there is considerable evidence that children are not only less productive but less emotionally sound in families where the mother works full-time compared to families where she works part-time.

These findings partly accord with the data presented by Getzels and Csikszentmihalyi (1976) pertaining to artistic success and family background. In general, it was found that the successful artists, i.e., those who were still in the field 5 to 6 years after graduation, came from families of higher socioeconomic status than unsuccessful artists (those who had left the field entirely). Fifty percent of the fathers in the successful group were professionals and businessmen, and 50 percent had white collar jobs. In contrast, the respective proportions for the unsuccessful group were reported as 27 percent and 73 percent.

Socioeconomic differences between the successful and unsuccessful groups were also reported in terms of mothers' occupational status. Apparently, 62 percent of the mothers in the successful group compared to 20 percent in the unsuccessful group were employed. It was not reported whether employment outside the home was full or part-time. Thus, it is not clear whether these findings are at variance with those in the aforementioned studies concerning maternal employment and children's productivity. However, it was concluded that the working mother's education and occupation were more related to the son's artistic success than was the father's education and occupation (1976, p. 165).

Getzels and Csikszentmihalyi (1976) offer two explanations as to why it helps to come from a higher socioeconomic background in

achieving artistic success. The first is that having the time and money to pursue a career in art is a distinct advantage in terms of maintaining the commitment to what is a relatively non-lucrative vocation. A second explanation is that children born into a higher socioeconomic family environment will be exposed early in life to more sensory and intellectual stimulation. The authors conclude however, that not enough information is available at hand that would favor one explanation over the other, and they indicate that further research in in this area is needed.

The practical necessity of having to work to support an art career appears to be a crucial psychosocial factor related to artistic success. According to Simpson (1981) fine artists who take jobs in teaching or in commercial art in order to pay the rent usually acquire secondary identities which often consume the fine arts identity. Also, Simpson points out that the older artists who endure economic hardship have virtually all received critical recognition; but, because such recognition is usually momentary, it does not bring lasting financial rewards. Thus, the older artist, ". . . works for the day when the critical success of a show five or fifteen years ago may be repeated or surpassed" (Simpson, 1981, p. 59).

In formulating what he considers the desirable attributes of a "creativogenic" society, meaning a society which is devoted to facilitation of the creative process, Arieti (1976) considers that beneficial economic conditions are a minimal requirement. In addition, availablility of cultural and physical means is necessary, including provision of scientific equipment or material for artistic work.

In a related sense, large scale attempts to help artists support themselves are being made in Holland where the Dutch government has recently agreed to buy an artist's work if no one else wants it (Newman, 1982). Apparently, a rather extravagant system has been worked out whereby the government will buy from an artist rather than having that individual give up their career because of financial hardship. In turn, the artwork is used by the government for civic purposes. Thus, the artist functions in a sense as a civil servant, and is at the same time allowed to pursue his or her creative endeavor.

In summary, socioeconomic dilemmas are seen as crucial in the attainment of artistic success. Of importance in this regard is the role of social class in creative achievement. Social class itself is viewed as the result of social complexity. The status hierarchy in our society is validated by popularized success out of which contradictory tenets of the American Dream are tempered by democratic faith.

There is evidence that achievement motivation is partly the result of social stratification, those in the lower socioeconomic groups being lower in productivity, and members of the higher levels being higher in competition and productivity. Some studies indicate that in families where the mother works part-time children enjoy better mental health than in families where she works full-time.

Although the families of successful artists appear to come from the higher socioeconomic levels, it is not clear whether it is the material comforts which contribute to the success of the artist or the intellectual stimulation provided in the upper-level home environments.

Theoretical considerations as to the "creativogenic" society are seen as relevant to socioeconomic factors and artistic success. And large-scale attempts at helping artists maintain a decend standard of living have been recently developed.

CHAPTER III

METHOD

This study investigates the personality characteristics of successful and unsuccessful artists. Two groups of creative artists were studied. The first group, the successful artists, was comprised of male and female artists considered successful by virtue of having achieved critical recognition for their artwork. The second group, the unsuccessful artists, was also comprised of male and female artists, none of whom had achieved critical recognition for their artwork. The nature and degree of critical recognition was controlled on the basis of criteria to be outlined in this chapter.

All subjects in the study were Chicago-based painters and printmakers, all of whom were actively engaged in the process of creating handcrafted fine art. The study utilized correlational and descriptive methods and compared the two groups by means of vocational history data and various paper-and-pencil tests. It was hoped that both qualitative and quantitative data would reveal significant differences between the two groups, that would adequately identify the personality characteristics of the successful and unsuccessful artist.

Subjects

The subjects in this sample were eighty artists of both sexes. The subjects ranged in age from 29 to 48 years. The breakdown of ages for both groups of artists--successful and unsuc-

cessful--is presented in Table 1.

The data pertaining to the number of male and female subjects for both groups are reported in Table 2.

The subjects in the study ranged in socioeconomic status (SES) from the lower to the upper social classes. The distribution of SES for both the successful and unsuccessful groups in presented in Table 3.

All subjects included in the study had acquired between 7 to 12 years of experience in the art field beyond art school. The distribution of years of experience for both the successful and unsuccessful groups is presented in Table 4.

Though many of the subjects had, at one time or another, spent some part of their professional career outside the Chicago area, few had been to New York or any of the other prominent "art scenes" for more than a short time. All of the artists, with the exception of one, made Chicago their base of operations at the time of the study.

The question may be posed as to whether any of the subjects were successful in another field of endeavor. As it turned out, 19 (47.5%) of the successful group, and 31 (77.5%) of the unsuccessful group earned their living in a field outside of art. These data are reported in Table 5 along with the breakdown of vocational category for each group. It is not known whether the subjects were successful or unsuccessful in their respective outside vocations, since no attempt was made to assess level of achievement in this area.

The subjects in this study were individuals who came from

Table 1

Subject's Ages

Successful Artists				Unsuccessful Artists			
Mean	37.2	Minimum	29.0	Mean	34.1	Minimum	29.0
Mode	32.0	Maximum	48.0	Mode	30.0	Maximum	44.0
Median	37.0	Variance	21.9	Median	32.7	Variance	18.2
		Range	19.0			Range	15.0
n = 40				n = 40			

Table 2

Subject's Sex

	Successful Artists			Unsuccessful Artists	
	Absolute Freq.	Relative Freq. (%)		Absolute Freq.	Relative Freq. (%)
Male	16	40.0	Male	21	52.5
Female	24	60.0	Female	19	47.5
Total	40	100.0	Total	40	100.0

Table 3

Subjects Socioeconomic Status

Category Label	Absolute Freq.	Relative Freq. (%)
Successful Artists		
Upper	5	12.5
Upper middle	24	60.0
Lower middle (working class)	10	25.0
Lower	1	2.5
Total	40	100.0
Unsuccessful Artists		
Upper	8	20.0
Upper middle	7	17.5
Lower middle (working class)	12	30.0
Lower	13	32.5
Total	40	100.0

Table 4

Number of Years Experience in Art Field in the Sample of Successful and Unsuccessful Artists

Number of Years	Absolute Freq.	Relative Freq. (%)				
Successful Artists						
7	1	2.5	Mean	10.675	Std. error	0.216
8	2	5.0	Mode	12.000	Std. dev.	1.366
9	5	12.5	Median	10.944	Variance	1.866
10	8	20.0			Range	5.000
11	9	22.5				
12	15	37.5				
Total	40	100.0				
Unsuccessful Artists						
7	6	15.0	Mean	8.900	Std. error	0.229
8	13	32.5	Mode	8.000	Std. dev.	1.446
9	9	22.5	Median	8.611	Variance	2.092
10	6	15.0			Range	5.000
11	3	7.5				
12	3	7.5				
Total	40	100.0				

Table 5

Distribution of Subject's Vocation Outside of the Art Field

Vocational Category	Absolute Freq.	Relative Freq. (%)
Successful Artists		
Insurance	1	2.5
Sales	4	10.0
Modeling	1	2.5
Teaching (art)	8	20.0
Teaching (non-art)	0	0.0
Other	5	12.5
No other vocation	21	52.5
Total	40	100.0
$\underline{n}$ = 40		
Unsuccessful Artists		
Sales	6	15.0
Music	1	2.5
Nursing	1	2.5
Law	1	2.5
Computer science	1	2.5
Teaching (art)	12	30.0
Teaching (non-art)	3	7.5
Other	6	15.0
No other vocation	9	22.5
Total	40	100.0
$\underline{n}$ = 40		

virtually all walks of life and who had tried to make art their sole vocation. Only a few (17.5%) of the total sample were able to survive without turning to an outside vocation. For purposes of this study, material success (i.e., income derived from selling artwork,was not a criterion of subject selection). Nevertheless, it should be stated that, most of the subjects selected seemed serious in their artistic aims, so that for them art was more than an avocation.

Selection of subjects was not determined by age but instead by number of years of experience in the art field, as the latter criterion was thought to be a more valid indicator of artistic success. The distribution of years of experience for both groups is presented in Table 4.

The determination of length of time in the art field was based upon the contention that once an artist leaves art school there is an interlude during which he/she needs to demonstrate career commitment in terms of (a) building a portfolio of artwork, and (b) establishing a social network by means of which the artwork may gain exposure. For purposes of the present study this time period was limited to 7 to 12 years post art school. Thus, it was an implicit condition of subject selection that each subject had previously attended art school.

The rationale for limiting the "make it or break it" time period to 7 to 12 years is based in part upon Getzels' contention that, "The former student who a few years after graduation from school has not begun 'making it as an artist' is not likely to 'make it as an artist'" (Getzels & Csikszentmihalyi, 1976). Getzels further indicates that with regard to those artists who have failed to show their

work professionally, "It is still too early five years into their careers to write off this group entirely." It seemed reasonable therefore, to allow a margin of two years to the "five years" minimum, and to allow another five years as the maximum time limit. Thus the first major criterion of subject selection can be illustrated in terms of,

$$t_0 \longrightarrow t_{min} = 7 \text{ years}$$

and,

$$t_0 \longrightarrow t_{max} = 12 \text{ years}$$

where, t_0 represents graduation from art school, and $t_{min/max}$, the minimum and maximum nunber of years an artist was allowed to have engaged in painting and/or printmaking beyond art school in order to be included as a subject in the study.

The second major criterion of subject selection, and the one which was utilized to classify artists as "successful" or "unsuccessful," wat that of critical recognition. Operationally, critical recognition referred to an artist having had his/her show, exhibition, or general artwork reviewed in any one of the following respected art publications:[1] (1) ARTnews; (2) Art in America; (3) Art Forum; (4) Arts; (5) American Artist; (6) New Art Examiner; and (7) Chicago Tribune (Art Section).

---

[1]The list was compiled from suggestions submitted by two independent sources: (1) Head Librarian of the Art Institute of Chicago, and (2) Mr. Dennis T. Banning, Liason-at-Large (1981) to City of Chicago Council on Fine Arts; formerly Director of Creative Arts Services, State of Illinois.

Subjects were classified as "successful" if they had one or more published reviews of their work in any of the (7) respected art publications. Subjects were classified as "unsuccessful" if they had no published reviews of their work in any of the (7) respected art publications.

The essential characteristics of subject selection can be summarized as follows:

I. Successful artists were individuals who
   (a) had been producing handcrafted fine art (painting and printmaking) 7 to 12 years beyond art school, and who,
   (b) had received critical recognition for their artwork by,
      (i) having been reviewed once in any one of the (7) respected art publications.

II. Unsuccessful artists were individuals who
   (a) had been producing handcrafted fine art (painting and printmaking) 7 to 12 years beyond art school, but who,
   (b) had not received critical recognition for their work in any one of the (7) respected art publications.

The frequency with which a given publication was the source of a published review is presented in Table 6. It should be noted that, the New Art Examiner was the predominant source of published

Table 6

Frequency With Which a Respected Art Publication Was the Source of a Published Review in the Sample of Successful Artists

Publication Code		Absolute Freq.	Relative Freq. (%)
(1)	ART news	1	2.5
(2)	Art in America	1	2.5
(3)	ART FORUM	1	2.5
(4)	Arts	1	2.5
(5)	American Artist	2	5.0
(6)	New Art Examiner	27	67.5
(7)	Chicago Tribune (Art Section)	7	17.5
	Total	40	100.0

reviews. The second most frequently cited source was another Chicago newspaper, namely, The Chicago Tribune. These data are consistent with the methodological decision to select Chicago-based artists as the sample population in that these publications--the New Art Examiner in particular--reflect the significant trends in the current Chicago "art scene."

Design

This study attempted to test theoretical assumptions about the relationship of cognitive style to creativity and artistic success, and to demonstrate that field dependence-independence endures as a valid construct among differentiated groups of creative individuals.

The study examined artists actively engaged in painting and printmaking in the Chicago area. Two groups, categorized as successful and unsuccessful artists, were compared in terms of the following independent and dependent variables:

Independent Variables

(1) Cognitive Style (field dependence-independence);

(2) Sex; (3) Socioeconomic Status; and (4) Success in the art field.

Dependent Variables

(1) Problem Solving (Adaptive Flexibility); (2) Problem Finding; (3) Self-Concept (Self-Esteem).

All the independent and dependent variables except for sex were treated as continuous data. Cognitive style was expressed as reaction time, i.e., number of tenths of a second required for a subject to complete the field dependence-independence task. Subjects were not

compared strictly in terms of field dependent or field independent groupings but rather on the basis of scores on the Embedded Figures Test.

Between-group or within-group comparisons were made in terms of relatively high (field dependent) or low (field independent) performance scores.

Socioeconomic status (SES) was treated interchangeably as continuous and nominal data. That is, SES was assessed by reference to indices of categorical information pertaining to subject's family background. The indices then yielded scores which were easily converted into the well-known socioeconomic categories.

Sex was treated as a qualitative variable. Male and female subjects were compared in both groups.

All the dependent variables were treated as interval data. Problem solving, operationalized as the divergent production of figural transformations (adaptive flexibility) was assessed according to a range of scores.

Problem finding, operationalized as the finding and formulating of questions pertaining to a group of common objects, was rated according to levels of cognitive complexity, for which a quality index was computed. For purposes of attaining reliability in scoring, two separate ratings were conducted for each problem finding protocol.[1]

Self-concept, operationalized by responses to questions dealing

---

[1]One rating was conducted by the present investigator, and the other by someone well-versed in the Guilford structure-of-the intellect model.

with issues of self-esteem, was represented in terms of a collapsed score for the response pattern.

Thus, all the dependent variables were continuous in their makeup.

In order to acquire further insight into the personality characteristics of successful and unsuccessful artists the study sought to obtain vocational history data for each subject. It was also hoped that these data would help serve as internal validating indicators for the independent and dependent variables.

In essence, this study examined perceptual-cognitive and biosocial differences between painters and printmakers who had received critical recognition for their artwork, and painters and printmakers who had not received critical recognition for their artwork. Critical recognition was defined as an artist having had one published review of his/her artwork in one of the seven specific highly respected art publications.

Between-group differences were controlled for by insuring homogeneity of subject selection criteria with respect to number of years of vocational experience beyond art school. Subjects differed only in terms of critical recognition.

Age was controlled by substituting in its place years of experience as a more valid indicator of artistic success/unsuccess. I.Q. was controlled by selecting subjects with at least a moderately high academic background. Sex as a variable was incorporated into the study as an independent variable. Socioeconomic status was included as an independent variable.

Procedure

Materials

The subjects in this study were interviewed and tested at one of two locations, those being either the examiner's office, or the subject's own art studio. Though it was the original intention of this investigation to examine all subjects at the examiner's office, this arrangement turned out not to be feasible due to the inconvenience imposed upon those artists whose busy schedules did not permit them time to leave their studios. Thus, the decision was made early on in the study, to obtain an equal number from both groups, of those subjects tested at the investigator's office.[1] These data are presented in Table 7. The remaining number of subjects (76) were then examined at their respective art studios.

The investigator's office was shared by a counselor and was regularly used for interviewing purposes. It was a comfortable setting, with modern furniture consisting of a sofa, two padded swivel chairs in front of a wide desk behind which was another chair and a bookcase. The room was relatively free from auditory distractions and served as a benign environment in which to conduct the research.

The subject's art studios were also relatively free from auditory distractions. The subjects cooperated in insuring that the sessions remained undisturbed by external influences.

The research conducted at the Subject's art studios may have

---

[1]The decision was made after two artists from the unsuccessful group had been tested at the examiner's office, that location could be changed to the subject's studio only after two artists from the successful group had been tested in the same setting.

Table 7

Distribution of Subjects Interviewed and Tested in Different Locations

Location	Absolute Freq.	Relative Freq. (%)
Successful Artists		
Examiner's Office	2	5.0
Subject's Art Studio	38	95.0
Total	40	100.0
Unsuccessful Artists		
Examiner's Office	2	5.0
Subject's Art Studio	38	95.0
Total	40	100.0

provided for a more in-depth view of the individual artist, the reason being, that the studios themselves contained an atmosphere central to the creative work being done by each individual artist. The studios in general, contained works in progress, and oftentimes prints of the artist's well-known artwork. Some of the art studios were a complex of formal art gallery and work area. It was always possible to make use of a wide table for purposes of interviewing and testing.

Subjects were administered the following tasks:

Embedded Figures Test (EFT)

The EFT is Witkin's measure of the field dependence-independence construct. It consists of 24 complex colored figures, each containing one of eight simple figures. The subject's task is to trace with a stylus the simple figure embedded in the complex.

Each item is scored on the basis of time that is taken to find the embedded figure.

Reliability for the EFT is high, with test-retest coefficients of .89 (reported, for both men and women, with a three year testing interval between administrations) (Sixth Mental Measurements Yearbook, 1965).

Validity of the EFT as reported by Witkin (1954) is extremely high. Gough's review of the EFT in the Sixth Mental Measurements Yearbook states that, ". . . one of the most attractive features of this test is its firm anchoring in a systematic context of theory and empirical evidence" (1965, p. 210).

Match Problems

This is a test of adaptive flexibility, taken from the Kit of Reference Tests for Cognitive Factors and based on Guilford's work (French, et al., 1963). Adaptive flexibility, or originality in dealing with concrete visual material, is measured by a series of match-stick problems to be solved in a given amount of time. The Subject's score is calculated by summing up the number of correct solutions in terms of the Guilford model, a high score requires the divergent production of figural transformations.

Norms are available for adult populations. Adaptive flexibility, as measured by the Match Problems correlated significantly with traits associated with creativity in a group of young scientists (Garwood, 1961). Another study using the Match Problems to relate adaptive flexibility as a function of art experience in elementary education majors, concluded that the Guilford test effectively measures related kinds of flexibility (Armstrong, 1968). And Rainwater (1964) used the Match Problems in a study on the effects of set on problem-solving. She found that the Match Problems discriminated better than all other measures (Remote Associates, Alternate Uses, Consequences et al.) for females as to set utilization and creativity.

Problem Finding Task

The purpose of the Problem Finding Task is assessment of the cognitive ability to initiate generic questions and restructure stereotyped wholes. Assessment of problem finding performance is carried out by use of an array of 12 types of objects selected on the basis

of (1) stimulus value and potential use as components for "discovered problems" (Arlin, 1974); (2) previous use in problem finding research (Arlin, 1976, 1975, 1974; Getzels & Csikszentimihalyi, 1976); (3) previous use in problem-solving research (Dunker, 1945; Maier, 1970).

The object array consists of: 1 C clamp; 1 black wooden cube; 1 plain wooden cube; 1 scissors; 1 box top; 1 box bottom; 1 quarter; 3 candles; 3 wooden matches; 10 thumb tacks, two 6-foot (1.8m) cords and 1 small piece of red cardboard with a dime-size hole in the center.

The subject is given a time-limited period (10 minutes) in which to generate as many general questions as he/she can.

Success in problem finding is evaluated on the basis of the Guilford Information Processing categories 4-6. Scoring method is based upon the following categories:

Problem Finding		Intellectual Products (IP)
Low	1. Units	Basic units of information
	2. Classes	Classification, taking into account different sets of particulars.
Medium	3. Relations	Connections between units; part-whole, cause-effect.
	4. Systems	Inherent properties of things, e.g., rules, principles, which make things work in certain ways.

Problem-Finding		Intellectual Products (IP)
High	5. Transformations	Change of elements within or between objects (reversals, etc.)
	6. Implications	Connection between two units of information; similar to traditional notion of association.

There is a Quality Index, which describes overall performance of a subject's problem finding. The Index is computed using the following formulation

$$\text{Quality} = \frac{1(\text{cat1}) + 2(\text{cat2}) + 3(\text{cat3}) + 4(\text{cat4}) + 5(\text{cat5}) + 6(\text{cat6})}{\text{total number questions asked}}$$

Arlin (1974) found that problem finding performance correlated .21 (<.05) with elaborative thinking. There is also some indication from study with the problem finding task that successful performance correlates significantly with level of cognitive development, specifically, formal operational thinking (Arlin, 1975, 1976). Inter-rater scoring reliabilities have been found to be .84 and .80 (Arlin, 1974).

There is no standardized version of the Problem Finding Task. At this time its use would appear limited to gathering data for exploratory research purposes only.

Self-Esteem Questionnaire (SEQ-3)

The SEQ is an instrument designed to measure an individual's level of self-esteem and interpersonal self-acceptance. There are two subscales, self-esteem and self-other satisfaction. The test consists of 21 items. Twelve are the self-esteem items. On the other

nine items subjects rate the degree to which they are upset by their answer to previous self-esteem items. These latter comprise the self-other satisfaction subscale.

All items are answered on a scale of 1 to 5 points, ranging from "not at all" to "yes, very much." There are several items which tap satisfaction with self, e.g., "I feel sure of myself." Both scales are scored 1 to 5. Scores are reported as low, situational, or high.

According to Crandall (1978) self-esteem and self-other satisfaction factors correlate about .17 to .60. Test-re-test reliability is about .70 for both scales. The range of alpha coefficients for both scales is .80 to .96. Correlations with other self-esteem short forms is .61 and .40.

Index of Status Characteristics (ISC)

The ISC was constructed for use in evaluation of socioeconomic status (SES). It was developed in 1949 and remains in use to this day.

There are four rating scales for the ISC.

1. Occupation
2. Source of Income
3. House Type
4. Dwelling Area

For occupation there are 7 ratings ranging from professionals to unskilled workers.

For source of income there are 7 ratings ranging from Inherited Wealth to Public Relief.

For House Type there are 7 ratings ranging from Excellent to Very Poor. For Dwelling Area there are 7 ratings ranging from Very High, e.g., Gold Coast to Very Low, e.g., Slum.

The ISC is scored by multiplying the separate ratings for each subscale by an assigned weight, and then combining these into a single numerical index. The weighted totals are then converted into social-class form: (1) Upper, (2) Upper Middle, (3) Lower Middle, (4) Lower.

The complete index need not be used to derive SES. It has been shown that with reliable data two or three indices will suffice, as compared to other methods of determining SES (Warner, 1960).

Structured Interview

In order to have a viable means of facilitating rapport with subjects, a brief 10 question interview was constructed by the investigator. Eight of the questions were extracted, with slight modifications, from the published journal transcript of an interview with a highly acclaimed artist (Issacs, 1980). The others were constructed by the investigator. These latter are marked with an asterisk (*).

(1) How do you think of your artwork principally?

(2) When did you decide to make art your career?

*(3) Did anything in your childhood influence you to become an artist?

(4) What other events in your life were instrumental in shaping your career?

(5) Have any of your known forebears, or current relatives been in the art field?

(6) Which have been your most productive years, and why?

(7) What has been your most difficult obstacle?

(8) Have you been happy in your career choice?

*(9) Where do you get your ideas from?

(10) What are your favorite works or achievements?

Process

The subjects in this study were located through artist directories and slide registers. These sources of information were available for public use through state and city arts councils.[1] They contained relevant data about the artists, including formal education, shows and exhibitions, and critical recognition. In addition, the slide registers presented samples of the individual artist's work.

Another source of subject contact was the list of 7 respected art publications used in determining subject selection. A number of subjects were contacted because of their having appeared in relatively recent issues of those publications.

Still another viable source of subject contact was through the owner of a recently founded print center and gallery in Chicago.

Subjects were initially contacted by mail at their studios.[2] The written request specified that the present investigator was conducting his Ph.D. dissertation research on the subject of artistic

[1]For the Midwest region: Illinois Arts Council; and Chicago Council on Fine Arts.

[2]See Appendix for letter of initial contact.

creativity; that he was acquainted with the artist's works, and that he hoped the artist would consent to participate in the study.[1]

Following the written request, prospective subjects were contacted by telephone. The investigator identified himself and asked if the written request had been received. When the answer was affirmative and subjects agreed to participate, an appointment was arranged for one individual interview/testing session. When the response was non-affirmative or vague, the investigator thanked the individual and indicated that if things changed, he/she was welcome to contact the investigator by telephone. In the case of a non-affirmative answer no attempt was made to re-contact the individual.

Those who agreed to participate in the study were scheduled within one to two weeks of the telephone contact. Numerous re-schedulings were unavoidable.

The individual interview/testing session itself was divided into three phases:

(1) Structured Interview

(2) Administration of testing battery

(3) Debriefing

At the beginning of the session subjects were seated and asked to sign the consent form. Next, the structured interview began. Subjects were asked by the investigator for permission to tape record the

---

[1]A prerequisite for having contacted any artist was that the investigator had gained some familiarity with that artist's work. This was made possible not only through shows and exhibitions, but from the public slide registers which have recorded on slides and/or microfilm the artist's principal works.

interview. When the subject refused, the investigator took notes on the interview instead.[1]

Immediately prior to beginning the interview each subject was told the following:

> There are some questions I'd like to ask before we begin with the tests. I believe I mentioned having seen your work. What I'd like to know is . . .
>
> (Examiner then asked Question No. 1)
> . . . How do you think of your artwork principally?

Each subject was allowed approximately one minute per question. However, since the purpose of the interview was to facilitate rapport as well as serve as an instrument for gathering qualitative data, no rigid time limit was imposed upon this first phase of the session. Most subjects took between 10 to 15 minutes to answer all ten questions.

During the second phase subjects were supplied with paper and pencil and administered the battery of tests in the following order:

	Approximate Time in Minutes
Embedded Figures test	18
Match Problems V	22
Problem Finding Task	10
Self-Esteem Questionnaire	15
Index of Status Characteristics	5
Total approximate time	70

[1]Only 9 subjects granted permission to have the interview tape recorded. The remaining 71 others did not want to be tape recorded, and so the interviews were taken by hand.

The second phase of the interview/testing session took one hour and ten minutes to complete, though the total time varied slightly from subject to subject.

The first paper-and-pencil task administered was the individual form of the Embedded Figures Test (EFT). The test took approximately 18 minutes and was administered according to the standardized directions (Witkin & Oltman, et al., 1971).

Each subject was then administered the Match Problems Test (MPV). This lasted approximately 22 minutes, and the test was administered according to standardized instructions on the test form (Merrifield & Guilford, 1969).

Next, subjects were administered the Problem Finding Task (PFT). While seated, the array of twelve objects as previously described, were displayed on the table where the subject was seated. The subject was then read the following instructions:

> You have before you several common objects. You may arrange them any way that you wish. In a ten minute time period, please raise as many questions as you can about any one object or any groupings of them. The questions may take any form you wish including the posing of problems using the objects. You can also make puzzle-like questions that are imaginative involving the objects. I will write down your questions. The only requirement is that you refer to one or more of the objects in her questions. Before beginning, do you have any questions?

Each subject was next administered the Self-Esteem Questionnaire (SEQ-3) for which he/she was supplied with a computerized answer sheet and a pencil. Directions for the questionnaire are the standardized ones given in the manual (Hoffmeister, 1976). The task took approximately 15 minutes to complete.

Next, each subject was evaluated for socioeconomic status (SES). This simple procedure required no more than five minutes per subject. Evaluation of SES was based upon father's occupation, father's source of income, and dwelling area.

Subjects were told:

> There are a couple of questions I'd like to ask, pertaining to your family.
>
> 1. What was your father's occupation?
> 2. What was his primary source of income?
> 3. Where did your family live?

The third and final phase of the interview/testing session consisted of subject debriefing. Subjects were told the following:

> That concludes the testing. Are there any questions you would like to ask?

Virtually every subject in the study was interested in the purpose of the investigation. Subjects were told that the study tried to get at the nature of artistic thought and artistic achievement. All other questions were handled in the most general manner possible.

Subjects were thanked for their cooperation and dismissed.

CHAPTER IV

RESULTS

The data which were obtained to test out the hypotheses presented in Chapter III consisted primarily of numerical test scores on measures of perceptual-cognitive functioning and self-esteem ranking. Numerically-indexed demographic data were also used in this study, in order to test out one hypothesis pertaining to socioeconomic differences and artistic success.

Qualitative data based on individual interviews were considered separate from the objective measures, and were in no way used to reject or not reject the statistical hypotheses.

Hypothesis I

The first hypothesis of this study states that successful artists are more field independent than unsuccessful artists, meaning that, successful artists would have a significantly lower reaction time to the Embedded Figures Test than unsuccessful artists.

Table 8 presents the mean reaction times for both the successful and unsuccessful groups. It can be seen that the means differ widely, from 447.2 tenths of a second for the unsuccessful group to 277.7 tenths of a second for the successful group.

The means and standard deviations for the Reaction Time variable in this table were tested for significance by means of the *t* test.

Table 8

t-Value of Two Independent and Three Dependent Variables for Both Groups of Subjects

Group 1 Unsuccessful
Group 2 Successful

Variable		Number of Cases	Mean	Standard Deviation	Standard Error	Separate Variance Estimate: *t*-Value	Degrees of Freedom	2-Tailed Probability
RTime			Field Dependence--Response in Tenths SE					
	Group 1	40	447.2199	183.975	29.089	5.23	56.94	0.000
	Group 2	40	277.6874	90.814	14.359			
Find 12								
	Group 1	40	612.9750	131.541	20.799	-5.40	76.60	0.000
	Group 2	40	761.9500	114.838	18.157			
Status			Socio-Economic Status					
	Group 1	40	2.7500	1.127	0.178	2.77	63.81	0.007
	Group 2	40	2.1750	0.675	0.107			
PSolve			Problem Solving Rating					
	Group 1	40	10.5000	4.006	0.633	-2.33	74.74	0.022
	Group 2	40	12.4000	3.241	0.512			
Esteem			Self Esteem Rank					
	Group 1	40	394.0500	47.946	7.581	-2.02	73.83	0.047
	Group 2	40	413.5250	37.624	5.949			

A t = 5.23 (t>3.416), degrees of freedom = 56.94, with a 2-tailed p = 0.000, indicated there is a highly significant difference between the mean reaction times of the successful and unsuccessful artists.

Since the mean reaction time for the successful group is much lower (indicating relative field independence) than that of the unsuccessful group, the null hypothesis is rejected.

Hypothesis II

The second hypothesis states that successful artists do not differ from unsuccessful artists in problem solving ability (adaptive flexibility) as measured by the number of correct responses to the Match Problems Test.

Table 8 presents the mean number of correct responses with corresponding t values, etc., for the problem solving task for both the successful and unsuccessful groups.

It can be seen that there is a difference between the two means of 1.90 correct responses, with the successful group being the higher of the two.

The means and standard deviations for the problem solving variable in this table were tested for significance by means of the t test.

A t = -2.33 (t>2.284), degrees of freedom = 74.74, with a 2-tailed p = 0.022, indicated there is a significant difference between the mean number of correct responses given on the problem solving task by the successful and unsuccessful artists.

Since it was stated that there would be no significant differences between the successful and unsuccessful artists on problem solving ability, the research hypothesis is rejected.

Hypothesis III

The third hypothesis states that there is a positive relationship between problem solving (adaptive flexibility) and problem finding in successful artists, but not in unsuccessful artists.

Table 9 presents the correlation coefficient between problem solving and problem finding for both groups of artists.[1]

It can be seen that the correlations in Table 9 are in the low range of .05 to .07 for the successful group, and in a negative direction and low range of -.16 to -.21 for the unsuccessful group.

Each correlation in this table was tested for significance using the Fisher *r* to *z* transformation (Snedecor & Cochran, 1967, pp. 185-86). The *z* scores and corresponding *p* values are also presented in Table 9.

The Fisher transformation from *r* to quantity *z* provides a means of testing the equality of two correlation coefficients, and thus of testing the null hypothesis, $\rho_1 = \rho_2$. It is assumed that when $\rho = 0$ the distribution of *r* becomes skewed. However, the Fisher transformation allows for an almost normal distribution of *r*, and is virtually independent of the value of the correlation in the population from which the sample was drawn.

---

[1]Two sets of correlations are given: one for problem finding as scored by the present investigator (PFind I), and another for problem finding as scored by the second rater (PFind II).

Table 9

Fisher Z Test for Equality of Correlation Coefficients

Hypothesis	Variables	r		z	p Value
H_{III}		Group 1 Successful (n=40)	Group 2 Unsuccessful (n=40)		
	Success/PFindI x PSolve	0.067	-0.156	0.978	0.33
	Success/PFind II x PSolve	0.052	-0.205	0.543	0.59
H_{IV}		Group 1 Successful (n=40)	Group 2 Unsuccessful (n=40)		
	Success/PFindI x Rxn Time	-0.138	-0.238	0.444	0.66
	Success/PFind II x Rxn Time	-0.127	-0.346	1.026	0.31
H_{VI}		Group 1 Successful (n=40)	Group 2 Unsuccessful (n=40)		
	Success/Esteem x Rxn Time	-0.284	-0.253	-0.142	0.89
H_{VII}		Group 1 Male (n=37)	Group 2 Female (n=43)		
	Sex/Success x Rxn Time	-0.226	-0.799	3.69	0.01

The relation of z to r is represented in terms of the following equation:

$$z_{1,2} = 1/2[\log_e(1 + r) - \log_e(1 - r)]$$

The Z score is computed as,

$$\frac{Z \text{ difference}}{\sigma \text{ sum}},$$

where, Z difference = A_1 minus Z_2,

and, σ sum = $\sqrt{\frac{1}{n_1-3} + \frac{1}{n_2-3}}$

In both cases (PFind I, p = .33; and PFind II, p = .59) the correlation was not significant at the .05 level.

All the correlations are low and in a negative direction, thus resulting in the failure to reject the null hypothesis.

Hypothesis IV

The fourth hypothesis states that there is a positive relationship between field independence (as measured by reaction time to the Embedded Figures Test), and problem finding (as measured by the quality index of the Problem Finding Task) in successful artists.

Table 9 presents the correlation coefficient between reaction time and problem finding (PFind I and PFind II) for both groups of artists.

It can be seen that the correlations in Table 9 are in a negative direction and range from -.13 to -.14 for the successful group; and from -.24 to -.35 for the unsuccessful group.

Each correlation in this table was tested for significance by using the Fisher r to z transformation.

In both cases (PFind I, p -.66; and PFind II, -.31) the correlation was not significant at the .05 level.

Since all the correlations are in a negative direction and are not significantly different from zero; and since no significant differences were found between the successful and unsuccessful groups, the fourth hypothesis failed to reject the null hypothesis.

Hypothesis V

The fifth hypothesis states that there is an inverse relationship between field dependence (as measured by reaction time to the Embedded Figures Test) and self-concept (as measured by self-esteem scores on the SEQ-3). Table 10 presents the correlation between reaction time and self-esteem for the total population (n = 80). It can be seen that this correlation is a negative value of 0.3395.

The correlation in Table 10 was tested for significance by reference to the p value derived for that coefficient (p = 0.00). The correlation shows that as reaction time increases and thus tends towards relative field dependence, self-esteem decreases, and vice versa. Therefore, in the fifth hypothesis the null hypothesis is rejected.

Hypothesis VI

The sixth hypothesis states that there is a positive relationship between artistic success, self-concept, and field independence.

Table 9 presents the correlation between self-concept and reaction time in both the successful and unsuccessful groups of artists. It can be seen that these correlations are negative and are of similar

value from -.28 for the successful group and -.25 for the unsuccessful group.

Each correlation was tested for significance by means of the Fisher r to z transformation. The z scores and corresponding p values are also presented in Table 9.

In each case the correlation was not significant at the .05 level ($p = .89$), and no significant differences between the comparison groups were found.

Since the direction of the correlations for both groups were negative and not significantly different from zero, the sixth hypothesis failed to reject the null hypothesis.

Hypothesis VII

The seventh hypothesis states that successful female artists are more field independent than successful field independent male artists. Table 9 presents the correlation between success and field independence for both male and female subjects. The entire set of Pearson coefficients and corresponding p values for both male and female subjects are presented in Tables 11 and 12 in the Appendix.

It can be seen that correlations for both males and female subjects are negative, and that from Tables 11 and 12 the correlation between success and reaction time is considerably higher for women ($r = -.80$; $p = 0.00$) than for men ($r = -.23$; $p = 0.09$).

The correlations in Table 9 were tested for significance by means of the Fisher r to z transformation. The z scores and corresponding p values are presented in the same table.

The p value of .01 indicates that there is a significant difference between the two correlations, the relationship between success and reaction time being considerably more inverse for women than men. Since a negative correlation implies a relatively slower (more field independent) reaction time; and since this is the case much more for the successful female artists compared to the male artists, the null hypothesis is rejected.

Hypothesis VIII

The eighth hypothesis states that successful artists have a higher socioeconomic index (as measured by the Index for Status Characertistics) than unsuccessful artists.

Table 8 presents the mean socioeconomic status (SES) and corresponding t values, etc., for both the successful and unsuccessful groups.

It can be seen that the means differ slightly, from 2.18 for the successful group to 2.75 for the unsuccessful group. The means and standard deviations for the SES variable were tested for significance by means of the t test.

A t = 2.77 ($t>2.638$), with 63.81 degrees of freedom, and a 2-tailed p = 0.007, indicated there is a significant difference between the mean socioeconomic rating of the successful and unsuccessful artists.

Since the mean socioeconomic rating is lower (indicating relative higher SES) than that of the unsuccessful group, the null hypothesis is rejected.

Subsidiary Analysis

Of all the hypothesized relationships examined thus far between cognitive style, problem finding, problem solving, self-concept, sex differences, and socioeconomic status in successful and unsuccessful artists, probably the most significant interactions appear to have occurred between the cognitive style and artistic success variables. Specifically, cognitive style, as measured by reaction time to the Embedded Figures Test, when compared for male and female subjects of both the successful and unsuccessful groups, yields significant interactions. These relationships can be examined more closely by reference to Table 10, which presents the mean reaction times for both groups. Reference should also be made to Table 11 which presents the tests of significance for these reactions times.

These data permit analysis of four significant interactions which can be schematized as follows:

(1) $M_1 \longleftrightarrow F_1$

(2) $M_1 \longleftrightarrow F_2$

(3) $M_2 \longleftrightarrow F_2$

(4) $M_2 \longleftrightarrow F_1$

where, M_1 represents successful male artists, F_1 successful female artists, M_2 unsuccessful male artists, and F_2 unsuccessful female artists.

In the first interaction, it can be seen that the degree of difference in reaction time is slight compared to that of the second

Table 10

Mean Reaction Times for Successful and Unsuccessful Male and Female Artists

		Sex		
		Male		Female
	$\bar{X}$	274.46	$\bar{X}$	279.84
Successful	S_x	53.48	S_x	110.03
		$n = 16$		$n = 24$
SUCCESS				
	$\bar{X}$	324.57	$\bar{X}$	582.78
Unsuccessful	S_x	137.86	S_x	123.57
		$n = 21$		$n = 19$

Table 11

Tests of Significance for Reaction Time Using Sequential Sums of Squares

Source of Variation	df	Mean Square	F	Sig. of F
Within cells	76	12,846.05		
Constant	1	10,509,813.02	818.14	0.0
Sex	1	244,163.56	19.01	.000
Success	1	683,322.21	53.19	0.0
Sex by success	1	312,713.54	24.34	0.0

interaction. That is to say, successful male artists are only slightly more field independent than successful female artists, but eminently more field independent than unsuccessful female artists. In fact, the highest degree of difference between mean reaction times of the four interactions, is that of the second interaction ($M_1 \longleftrightarrow F_2$ = 308.32 tenths of a second).

It is important to note that comparison of mean reaction times between successful male and female subjects yields different results from does comparison of correlation coefficients for both groups (see H_{VII} of previous section). The essential difference was that, while successful males were relatively more field independent than successful female subjects in terms of overall reaction time, the successful female subjects not as a whole, but individually, demonstrated the capacity for significantly greater field independent judgment. This finding is indicative of reaction times in an exceedingly lower range than that of the successful male subjects.

The next highest degree of difference in mean reaction times was between the unsuccessful male and unsuccessful female subjects ($M_2 - F_2$ = 258.21 tenths of a second). In this instance, the unsuccessful females can be seen as being relatively more field dependent than unsuccessful male subjects. The opposite is the case, however, when unsuccessful males were compared with successful females, as in the fourth interaction ($M_2 - F_1$ = 44.73 tenths of a second). Here it can be seen that unsuccessful males are field dependent relative to successful female subjects.

Thus far, the findings indicate that within each group the male subjects were more field independent than the female subjects; and that, when both groups were compared with one another the most field independent subjects turned out to be those who were successful (male or female).

Thus, it appears that in making within-group comparisons subjects can be said to be field independent on the basis of sex; whereas, between-group comparisons demonstrated that subjects were field independent on the basis of success.

In order to further determine how the degree of difference in a reaction time was different for male and female subjects, the data were analyzed in terms of the ratio of differences between the significant interactions of both groups.

It was determined that, the degree of difference between successful male and unsuccessful female subjects ($M_1 \longleftrightarrow F_2$) was approximately fifty-seven times that of the difference in mean reaction time between the successful male and successful female subjects ($M_1 \longleftrightarrow F_1$).

A finding of similar magnitude was that the difference in mean reaction time between unsuccessful male and unsuccessful female subjects ($M_2 \longleftrightarrow F_2$) was approximately forty-eight times that of the difference in mean reaction time between successful male and successful female subjects ($M_1 \longleftrightarrow F_1$). The implications of these findings in terms of the variables studied will be discussed in the next chapter. It should be noted that the differences reported thus far concerning

the reaction time differences for male and female subjects of both groups, are all highly significant, as given by the p values presented in Table 11.

Summary of Quantitative Results

The eight hypotheses presented in Chapter III were tested for statistical significance either by means of the t test (H_I, H_{II}, H_{VIII}), or in the case of(H_{III}, H_{IV}, H_{VII}) by means of the Fisher r to z transformation. Hypothesis V was tested for significance by deriving a confidence level for the Pearson correlation coefficient.

Four of the eight hypotheses were given substantial support. Hypothesis I revealed that the successful group of artists were significantly more field independent than the unsuccessful group of artists.

For Hypothesis V it was demonstrated that an inverse relationship exists between field dependence and self-esteem.

For Hypothesis VII significant group differences were found indicating that successful field independent female subjects were more field independent than successful field independent male subjects.

And Hypothesis VII revealed that successful artists have a significantly higher socioeconomic index than unsuccessful artists.

Negative results included the following:

Regarding Hypothesis II, it was found that successful artists were better problem solvers than unsuccessful artists, thus invalidating the hypothesis that there would be no significant differences between the two groups on the problem solving variable.

The third hypothesis failed to demonstrate any positive relationship between problem solving and problem finding that was significantly different in successful as compared to unsuccessful subjects.

The fourth hypothesis failed to support the contention that a positive relationship between field independence and problem finding existed for successful but not unsuccessful subjects.

And the sixth hypothesis failed to demonstrate a significant positive relationship between artistic success, self-concept, and field independence.

Subsidiary analysis of significant interactions was conducted for data pertaining to differences in mean reaction time between male and female subjects of both groups. The interactions revealed that within each group, male subjects were more field independent than female subjects, although this difference was slight for subjects in the successful group as compared to the unsuccessful group.

Furthermore, it was found that in comparing cognitive style (field dependence-independence) of male and female subjects, sex was the relevant variable for making within-group comparisons; whereas success was the relevant variable in making between-group comparisons of male and female subjects.

CHAPTER V

DISCUSSION

The eight hypotheses examined in this study were aimed at identifying the personality characteristics of a group of successful artists, and were also aimed at differentiating these characteristics from those of a group of unsuccessful artists. The results as presented and summarized in Chapter IV indicate that four of the eight hypotheses were supported. These were: Hypotheses I, V, VII, and VIII. The hypotheses which failed to be supported were Hypotheses II, III, IV, and VI. The theoretical and practical implications of the positive and negative results is discussed later in this chapter along with suggestions for further research.

For each hypothesis an attempt was made to predict the outcome for the relationship between at least two variables, each variable representing a particular domain of personality. In all but one hypothesis (H_V), artistic success was included to represent the behavioral domain, in that, achievement formed the basis for distinguishing between comparison groups. Hypothesis V involved prediction of the relationship between the variables cognitive style and self-concept for the total population, and thus did not entail comparison of successful and unsuccessful subjects.

For Hypotheses I, II, and III comparisons between the successfull and unsuccessful group of artists were made in terms of the cog-

nitive domain. Overlapping domains were also juxtaposed, as in Hypothesis VI (Cognitive/Affective/Behavioral) and Hypothesis VII (Biological/Social/Behavioral). The social sphere of personality was examined in relation to the comparison groups in Hypothesis VIII, which dealt with differences in socioeconomic status.

Discussion of Negative Results

What follows is a discussion of the negative results obtained for Hypotheses II, III, IV, and VI as presented.

The first hypothesis to be dealt with in terms of negative results is Hypothesis II, which predicted no difference between successful and unsuccessful artists in problem solving sbility (adaptive flexibility). As it turned out, the successful group was slightly higher in adaptive flexibility (difference in means = 1.90; $p = .022$). This unpredicted difference may have resulted from the conditions under which testing occurred. In general, the unsuccessful group of artists tended to be somewhat suspicious of the investigator's intentions regarding the testing compared to those in the successful group, who tended to be more "open-minded" towards the procedure. In fact, the highly successful artists, i.e., those with many recognized achievements in art, appeared to be the most open to accepting the testing procedures. This difference in attitude may have manifested itself on peformance of the Match Problem test. In addition, a troublesome feature of the Match Problems test which seemed to confuse virtually every subject in the study (successful and unsuccessful) was the test directions. Since these usually had to be repeated two or three times,

it could be interpreted that subjects in the successful group were better able to adapt themselves to the test directions because of a more open attitude to the testing procedure.

These explanations are tenable if serious consideration is given to the difference in scores between successful and unsuccessful subjects on the Match Problems test. However, it should be noted that the mean score for the Match Problems test as reported by Guilford and Guilford (1980, p. r., Table 2) is 11.0 with a standard deviation of 4.4. In the present study, the difference in mean scores between successful and unsuccessful subjects is not even one-half a standard deviation from the mean. Guilford also reports that reliability estimates for the Match Problems test (MPV) are not sufficiently high to warrant confidence in accuracy of individual scores (1980, p. 4). Thus, the slight difference in means between the two groups, when viewed in the context of the descriptive statistics for the MPV test, could be less significant than the level of statistical significance deems it to be.

Negative results were also obtained for Hypothesis III which predicted a stronger positive relationship between problem solving ability (adaptive flexibility) and problem finding in successful artists than in unsuccessful artists. Comparisons of the low correlations obtained for adaptive flexibility and problem finding for both the successful and unsuccessful subjects (see Table 9) indicated there was no statistically significant difference in the relationship between problem solving and problem finding in each of the two groups

at the .05 level of significance. As it turned out, however, problem solving and problem finding were positively correlated in the successful group, whereas they were negatively correlated in the unsuccessful group. Furthermore, these results were consistent when problem finding was scored by different raters (PFindI and PFindII). Thus, although the relationship between problem solving and problem finding was positive and stronger in successful artists than in unsuccessful artists as predicted by Hypothesis III, the difference between these two sets of correlations is not statistically significant (as determined by the Fisher Z transformation). Although these results could be inferred as a false negative, the apparent lack of statistical strength may be partly attributed to the relative weakness of the problem finding measure in terms of predictive validity. As previously explained in Chapter III, problem finding was incorporated in the study as an exploratory variable. This decision stemmed from the lack of standardization of the Problem Finding Task (PFT) and from the paucity of descriptive statistics on this measure. Since there were no methodological guidelines as to the usefulness of the PFT it is most likely as a result of this deficiency that Hypothesis III was not supported.

Similarly, with Hypothesis IV, which predicted a significantly stronger relationship between field independence (reaction time) and problem finding in successful artists than in unsuccessful artists, the aforementioned methodological weakness regarding the PFT can be cited as the primary potential cause of negative results. In this case, all the correlations were in the low range and in a negative direction

(see Table 9). Since field independence as measured by the Embedded Figures Test had already been found in Hypothesis I to differentiate successful from unsuccessful artists, it is possible that the inability of the combined variables field independence and problem finding, to produce a significant amount of variance could be attributed to the problem finding variable.

Finally, in Hypothesis VI, which predicted that artistic success, self-concept (self-esteem) and field independence (reaction time) would be positively related in successful subjects but not in unsuccessful subjects, negative results were obtained. As it turned out the correlations between self esteem and field independence for both groups were in a negative direction and were in a moderately low range (see Table 9). Thus, while the correlations for each group are not exceedingly low the difference between the two correlations as determined by the Fisher r to z transformation is far from being statistically significant ($p = .89$). However, self-esteem, as measured by the Self Esteem Questionnaire (SEQ-3) and cognitive style (field dependence-independence) as measured by reaction time on the Embedded Figures Test (EFT) were inversely related, as evidenced by the predicted outcome for these two variables in Hypothesis V. The correlations produced are significant for the population as a whole.

Of significance is the fact that for self-esteem and reaction time group differences were not statistically significant. The findings thus appear to suggest that, for the total population high self-concept and field independence are positively related; and that low

self-concept and field dependence are positively related. Since this trend is consistent for both groups the question is raised as to why significant differences do not exist when the population is split into the "successful" and "unsuccessful" groupings.

Considering that we know the cognitive style variable differentiates the two groups, it can be surmised that self-esteem, as measured on the SEQ-3, does not vary significantly as a function of relative artistic success. In the present study, this could be due to ceiling effects of the SEQ-3 in an adult population. There is evidence to support such an interpretation, since Hoffmeister (1976) reports only one comparison of the SEQ-3 with a standardized test, that being the Coopersmith, where the population consisted of fifth graders.

Another possible explanation for the negative results obtained in Hypothesis VI, is that, the research design may not have sufficiently maximized the variance of artistic success as an independent variable. That is, the criteria utilized to define "successful" versus "unsuccessful" artists[1] might not have allowed for the selection of artists whose level of self-esteem would vary consistently with their having achieved or not achieved critical recognition.

The problem of choosing adequate criteria for subject selection can thus be viewed as a contributing factor to the negative results obtained for Hypothesis VI. These considerations and others pertaining to all eight hypotheses are dealt with in the following section.

---

[1]See Chapter III, Design.

Theoretical Implications of Results

The foregoing discussion has focused primarily on the analysis of negative results obtained for Hypotheses II, III, IV, and VI. The discussion at hand will attempt to place in a theoretical perspective these findings along with the positive results obtained for Hypothesis I, V, VII, and VIII. Hopefully, these results will have contributed to the identification and understanding of the personality characteristics of creative individuals who have received critical recognition for their work as compared to those who have not.

Cognitive Style:

The field dependence-independence dimension appears to be a highly viable dimension of personality for distinguishing between "successful" and "unsuccessful" artists. As noted in the Subsidiary Analysis section of Chapter IV, the most significant interactions were between cognitive style and artistic success.

What is the theoretical import of having differentiated between successful and unsuccessful artists on the basis of cognitive style? Firstly, the present investigation presents empirical evidence that cognitive style i.e., field dependence-independence holds up as a valid construct among differentiated groups of creative individuals. It will be remembered that a number of studies (Del Gaudio, 1976; Hoppe, 1978; Morris & Bergum, et al.) had demonstrated a positive relationship between field dependence-independence and creativity. And only one study (Gaines, 1975) had compared different groups of fine artists (i.e., painters) along the cognitive style dimension.

While the latter study had in fact found that the "master artist" group was eminently field independent compared to the non-artist groups, it remained an open question as to whether select groups of artists differed in terms of cognitive style.

The findings of this dissertation suggest that successful artists (i.e., those who receive critical recognition for their artwork) possess a stable characteristic differentiating them at the perceptual and cognitive levels from artists who do not receive critical recognition. The former type of creative individual is related to what Kirton (1978) has termed an "innovator," as compared to the latter type which can be conceptualized as an "adaptor." These conclusions would seem to suggest an intrinsic relationship between the cognitive capacity to produce original artwork and the ability to adapt to the legitimizing institutions of the art world. What this may mean, is that field independent artists are better able to produce artwork which will receive acclaim in their own lifetime. While there is obviously an enormous range of artwork which in the time of one's own life will be given critical acclaim, the field independent artists--at least those in the present study--have generally been able to distinguish and produce the kind of artwork which fits in with what art critics believe deserves aesthetic merit.

A number of the successful artists indicated that they actively "market" their artwork, by showing it where it is likely to be received and by establishing a network of admirers. As such, these artists appeared to be socially outgoing. Whereas by contrast, the unsuccessful artists were by and large more reluctant to engage in the social

process. They considered this type of activity "selling out." One unsuccessful female artist in particular, whose art has been exhibited in a number of prominent exhibitions but had not received any published reviews, stated that she felt the artists who become highly successful are attuned to what people want, but because of this get lost in the business aspect of art and in so doing, sacrifice their own creativity. Her insights may to a certain degree be accurate in terms of describing the art world. In terms of personality characteristics which reflect these disparate attitudes, it appears that the ability to produce the kind of art which will be readily accepted by the critics (and the art-loving public) is related to the ability to disembed a particular element from the surrounding context in which it resides.

Problem Solving:

Problem solving ability as examined in Hypothesis II seemed to be higher for successful than unsuccessful artists. The discussion of negative results for this hypothesis seems to suggest that problem solving ability (adaptive flexibility) is linked to the cognitive construct field independence. Adaptive flexibility, defined as "the ability to restructure and redefine" (Guilford & Guilford, 1980, p. 1) bears a conceptual resemblance in cognitive process terms to field independence, which is defined as the ability to impose structure on a given field (Witkin, 1971). Viewed alongside one another, these cognitive abilities comprise part of the personality profile of the successful artist. Because of the possible methodological defects

of the Match Problems test however, it is unclear as to the degree which problem solving ability distinguishes the successful from the unsuccessful artist.

Problem Solving and Problem Finding:

The failure to reject the null hypothesis of Hypothesis III and to find a statistically significant relationship between problem solving and problem finding in successful artists compared to unsuccessful artists, is interpreted primarily as a deficiency in the predictive validity of the Problem Finding Task. These results however, are significant in terms of the theoretical implications related to artistic achievement.

The findings of the present investigation suggest that problem finding is a valid construct pertaining to creativity. The correlations between problem solving and problem finding do not appear to distinguish between successful and unsuccessful artists, despite the fact that problem solving does differentiate the groups. The findings would appear to suggest that the combined ability to find and solve problems is not related significantly to the achievement of critical recognition (i.e., published reviews in art). Yet, because there is evidence from Table 8 that successful artists have a significantly higher mean problem finding index ($p < .001$) it can be concluded that, in general, successful artists are superior in problem finding ability than unsuccessful artists. The model of the creative process as put forth by Getzels and Csikszentmihalyi (1976) and which is schematically represented in Figure 1, appears to be valid for successful and unsuccessful artists, in that the problem finding and problem solving

components are active for both groups. It is not necessary, according to the model, that these components be equally weighted for creative artists. In fact, Getzels and Csikszentmihalyi have pointed out that the more creative artists tend to have superior problem finding ability, though not necessarily the same level of problem solving ability.

Nevertheless, given the previously mentioned difficulties with clarity of instructions, and overall lack of standardization, the aforementioned conclusions must be regarded as highly tentative.

Cognitive Style and Problem Finding:

As was mentioned in the discussion of negative results, Hypothesis IV presented the same methodological difficulties as Hypothesis III because of the Problem Finding Task. Thus, any discussion of the theoretical implications regarding problem finding must be placed in a highly tentative framework.

It could be inferred on the basis of the finding in the present study that problem finding does not contribute nor detract from the ability to disembed an element from its surrounding context. What this may mean in terms of artistic achievement is that there is still no evidence that problem finding enables the artist to adapt to the legitimizing process involved in achieving recognition in art. It seems likely that the activity of raising questions from ill-defined problems is not essential to the imposing of structure upon the stimulus field. However, until the Problem Finding Task is further refined for general testing purposes, it will remain an open question as to whether the

combination of the aforementioned cognitive activities are necessary for artistic success.

Cognitive Style and Self-Concept:

Examination of the results for Hypothesis V demonstrated a statistically significant inverse relationship between the variables cognitive style and self-esteem (see Table 12). That is, high self-esteem is associated with field indpendence, and low self-esteem with field dependence. These findings seem to contradict the results of a study of Felsen (1977) on the relationship between self-esteem, field independence, and response to stress. Felsen reports that her stressful feedback groups showed singificant differences in self evaluation regardless of field dependence--self-esteem classification.

Cognitive style, however, when viewed as a pervasive dimension of personaltiy, can be thought to affect self-concept, even in its primitive form. As Fisher (1970) points out, Witkin regards a clear sense of one's body, a definite concept that one's body is a separate entity, as a necessary condition for being able to differentiate an object from the context in which it is embedded" (p. 18). Though Fisher is referring to the body adjustment tests of field dependence-independence, the findings of the present study based on Embedded Figure Test scores, tend to support the assumption that body integrity is a correlate of field independence. The justification for making this assumption is based on Witkin's (1977) contention that the embedded figures tests and the adjustment tests are structurally similar and have high convergent validity. Theoretically then, a well-

integrated sense of one's body can be considered the essential personality characteristic relating cognitive style and self-concept.

Cognitive Style, Self-Concept, and Artistic Success:

The negative results obtained for Hypothesis VI relate to the theoretical controversy articulated by Scheirer and Kraut (1979)[1] as to whether positive self-concept is necessary for achievement, or whether achievement merely enhances self-esteem. The findings based upon empirical investigation in this dissertation indicate that the criteria of achievement need to be refined before accurate assessment can be made in this area of inquiry. The results of this study seem to make clear that the definition of achievement is the pivotal concept in the aforementioned controversy. In order to properly differentiate individuals in the same field of endeavor we need to attend to gradations in achievement for purposes of maximizing the experimental variance. In this way it may be possible to detect whether individuals who manifest an inherent sense of well-being are significantly more predisposed towards achievement than those who are without this sense.

The results of this dissertation suggest that artists--successful or unsuccessful--vary in terms of self-concept. But the relationship of self-concept to cognitive style does not seem to differentiate artists as successful or unsuccessful according to the criteria used in this study to define these groups.

---

[1]See Chapter II on "The Relationship Between Self-Concept and Artistic Success."

Sex Differences, Cognitive Style, and Artistic Success:

The positive results obtained for Hypothesis VII (see Table 9) indicate that successful female artists tend to be significantly more field independent than successful male artists in terms of individual reaction times. The Subsidiary Analysis presented in Table 10, however, indicates that this is not the case when the entire group of successful female subjects is compared to the entire group of successful male subjects. In this latter case, the successful males are slightly more field independent. And successful female subjects are eminently more field independent than unsuccessful males.

In general however, these differences appear to support the conclusions reached by other investigators (e.g., Hulfish, 1976; Tracey, 1973) that regardless of biological sex, those subjects whose role identification is masculine will tend to be field independent, and those whose role identification is feminine will tend to be field dependent. A similar opinion was arrived at by Tracey (1973), namely, that career women tend to be field independent, and in addition, tend to achieve the higher levels of ego development if they are high achievers in their chosen career.

Results of the present study confirm these conclusions and in a sense, lend support to Wayne's (1974) contention that, in order for a woman to be successful in the art profession she must counteract the feminine mystique by assuming the (romanticized) role of the male artist personality.

The latter point deserves special consideration in the his-

torical context of women in art. It should be noted that there have been prominent women artists throughout the history of art, but most tended to remain on the fringes of their profession. The more notable ones included Renaissance painters such as Lavinia Fontana, Artemesia Gentalesci; and prominent Seventeenth and Nineteenth Century painters including Raschelle Ruysch, Marie Angelica Kauffmann, and Elisabeth Vigele Brun, the court painter to Marie Antoinette. In addition to these are the names of Mary Cassatt, and Suzanne Valadon of the Impressionist Period (the latter became the first woman from the Working Class to achieve prominence as an artist). And in the Twentieth century there have been a number of famous women artists such as Paula Becker, Katte Kolwitz; and Georgia O'Keefe, who has become an American legend.

If it is possible, as Getzels and Csikszentmihalyi (1976, p. 40) conjecture, that the personality traits necessary for pursuing a career in the fine arts have prevailed in Western civilization since the Renaissance, then cognitive style would appear to be rooted in historical precedent. The validity of this conclusion would to a certain extent be sustained by virtue of the cognitive style dimension having been demonstrated in the present investigation to be one of the primary personality factors associated with certain women artists becoming successful in their field.

It can therefore be postulated that cognitive style is one of the personality variables which may predispose successful women artists toward assuming the stereotypic role of quasi-female, a role traditionally reserved for the male artist.

The findings in this dissertation support these theoretical contentions. As such they call into question Witkin's (1954, 1977) assumptions regarding sex differences and cognitive style, which are that males seem to be more field independent than women. It would appear that these assumptions do not hold up when vocational commitment is taken into account.

Socioeconomic Status and Artistic Success:

The findings reported for Hypothesis VIII demonstrate that subjects from the successful group of artists have a statistically significant lower socioeconomic index (mean ISC = 2.18) than subjects in the unsuccessful group (mean ISC = 2.75; $p < .01$). The lower indices are associated with higher socioeconomic status (SES), and vice versa.

Categorical data are presented in Table 3 in which the distribution of social class among subjects of both groups can be seen. These data reveal that of all the subjects in the successful group 29 (75.5%) are from the upper and upper middle socioeconomic levels. Whereas, in the unsuccessful group 15 (37.5%) are from the upper and upper middle levels. These findings substantiate to an even greater degree the findings obtained by Getzels and Csikszentmihalyi (1976, p. 164) for SES and artistic success, who report 50 percent of fathers in the successful group as coming from the upper classes, and 27 percent of the unsuccessful group as having the comparable background.

These findings lend support to the theoretical assumption that artists who have the time and money to devote to their career will be

more likely to succeed than those who are lacking in material resources. The conclusions reached on the basis of empirical evidence in the area of socioeconomic status and artistic success suggest that popular notions of wealth and status as not being significant influences in determining artistic success may to a large extent be invalid. The reasons for SES affecting artistic success are still not clear. It would seem obvious, however, that lack of financial resources would affect self-esteem; and that low self-esteem would in part determine artistic success. Along these lines, a study by Hare (1975) suggested that SES exercises a highly significant negative influence on self-concept and achievement. Although as previously discussed, results of the present study demonstrated an inverse relationship between cognitive style and self-concept, it did not clarify whether self-concept by itself differentiates successful from unsuccessful artists.

Nevertheless, some of the successful artists who came from the lower middle (working class) socioeconomic level indicated that financial difficulties were somewhat of an obstacle to success, but by no means the only ones. One successful male artist from the lower middle class stated that achieving the right mental attitude towards his work was a more difficult obstacle than pure material resources. For him this meant approaching art as he had been taught to approach sports by his athletic coach--"to give everything in trying to win and not lose because of being defeated by yourself."

Still another successful artist, a female from the same socioeconomic level, suggested that growing up in a large family in the

Working Class, where the extended family lived together in one apartment building, might have helped her develop artistic sensitivity putting her in tune with human nature.

A successful female artist from the upper middle class had another outlook on this matter. She stated that she "never accepted the idea of being a starving artist." Though she was financially independent, in that she did not receive assistance from her parents during or after art school, this artist indicated that her art work had in more recent years become less of a priority than maintaining a decent standard of living.

Philosophic Inquiry: The Relationship of the Personality of the Creative Artist to the Aesthetic Domain

The purpose of this section is to explore the relationship between the personality of the artist and creation of aesthetic form. In the context of the present study, it is possible to infer a relationship between the cognitive style dimension of personality (i.e., field dependence-independence) and symbolic logic derivatives which characterize a work of art. In regard to the latter variables, the distinction needs to be made between propositional logic, which obeys mathematical laws related to the elements within a given field, and set logic, which refers to the symbolic operatives of the entire field itself. Field independence, which has been defined as the ability to attend to the relevant details of the stimulus field, is analogous to propositional logic in that, the focus of attention is upon field elements. In contrast, field dependence, briefly defined as the

relative inability to attend to relevant details of the stimulus field, is akin to set logic in that, the quagmire of the entire field becomes the focus of attention.

Thus, field independent/propositional logic and field dependent/set logic operatives can each be thought of as parallel modes of describing processes which are subject-object related. That is to say, the artist can be characterized as imposing field independent or field dependent judgment; while the work of art can be construed in propositional versus set logic terms. In this sense we are provided with a conceptual link between the personality of the artist and the aesthetic domain. Examination of this relationship can be extended to reckoning with differences between the successful and unsuccessful artist, the subject of the present investigation.

Aschenbrenner (1979) has remarked that the value judgments of aesthetic appraisal characteristically involves discrediting statements which, because they are intended to wound, are not immediately accepted by the subject to whom they are applied. Aesthetic criticism is in essence, repudiated more often than not. Nevertheless, a number of highly successful artists in the present study indicated an openness to criticism, whereas the unsuccessful subjects tended to be more close-minded in this regard. We also know from the data presented in Table 10 that successful artists were significantly more field independent than unsuccessful artists. Hence, we can postulate on the basis of the aforementioned distinctions concerning set and propositional logic, that successful artists create according to

propositional type operatives, whereas form creation for unsuccessful artists obeys set operatives.

Openness to criticism can thus be hypothesized as a correlate of propositional logic. The acceptance or rejection of a value statement which is considered a reflection of what Aschenbrenner refers to as the meaningfulness of the appraisal, will be linked to the inherent symbolic qualities of the art work itself, and to the artist's cognitive style.

Conceptually, these hypothesized interrelationships have much in common with the theoretical formulations of Susanne Langer whose work is based upon symbolic logic. According to Langer (1953, p. 40), "Art is the creation of forms symbolic of human feeling." For Langer, the symbol not only emerges from the work of art but actually is the work of art. To quote:

> The artistic symbol, qua artistic, negotiates insight, not reference; it does not rest upon convention but motivates and dictates conventions. It is deeper than any semantic of accepted signs and their referents, more essential than any schema that may be heuristically read. (1953, p. 22)

In Langer's view, the creative process is not characterized by original invention, but rather by the production of any work symbolic of human feeling. Form creation can serve as an expression of feeling because of the resemblance of abstracted patterns of color and line to imaginal content. As Langer points out, ". . . what art expresses is not actual feeling, but ideas of feeling" (1953, p. 59). Thus, the modulation of feeling and form are what gives rise to artistic creativity.

Interestingly, it is the modulation of feeling and form which on the Rorschach test is considered the hallmark of psychological maturity and adjustment. Specifically, the form color (FC) and color form (CF) responses are characteristic, according to Beck (1950) of, ". . . the persons who do get on well in their world, they with the adjustive wisdom" (p. 98). Furthermore, Beck puts forth the thesis that feeling is a vital component of knowing. That is to say, in order to secure a true sense of meaning, one must understand not only with the intellect but with the organic sensations as well.

In the realm of aesthetics we can apply this maxim to critical appraisals, whose meaningfulness is contingent upon both emotional and intellectual experience, modulation of feeling and form. Feeling is, in terms of cognitive style and symbolic operatives, associated with field dependence and set logic; form with field independence and propositional logic. And the artistic moment (i.e., "the creation of forms symbolic of human feeling") would be the endproduct of those cognitive and emotional factors having combined in the form of intuitive knowledge.

Hence, for a critical appraisal to be meaningful it would seem that it should represent intuitive knowledge. And for a work of art to be worthy of critical appraisal, it should reveal both direct aesthetic quality[1] and the symbol of feeling.

The ego of the creative artist is thus confronted with the task of giving order to inner thoughts and feelings. And the quality

---

[1] Aesthetic quality is referred to by Langer (1953, p. 50) as, "The semblance of a thing . . . thrown into relief."

of the solution of that task is what the art critic gives recognition to. The critic's praise or disapproval will then be a reflection of the artist's ego activity, which will have been successful or unsuccessful in synthesizing disparate psychic elements. The nodal occurrence of this process--when quantitative leaps of imagination are transformed into aesthetic quality and symbolic expression--constitutes the artistic moment. And the success of the artist, if it is based upon critical acclaim, can be conceived of in part as the outcome of this moment, in which the critic's appraisal, if it is meaningful, will reflect the ability of the artist's intellect to console the emotions in allowing field independent judgment and propositional logic operatives to discover the essential forms that symbolically express emotional experience.

In conclusion, the artistic moment can be conceived of as a meld of subject-object related events which encompass the personality of the artist and the artwork that he/she creates. On the basis of the present study it can be said that successful artists tend to be relatively field independent compared to unsuccessful artists. Successful artists are therefore hypothetically more given in to propositional logic type thinking than unsuccessful artists and would therefore be oriented towards form-modulated creation. Whereas unsuccessful artists, who tend to be relatively field dependent, are given in to set logic type thinking and feeling-modulated creation.

Although the present study has dealt with fine artists only (i.e. painters and printmakers) it remains the task of future research to discover whether the foregoing characteristics can be related to

artists in different disciplines whose symbolic feeling expression varies according to the patterns inherent in their artistic modality.

It should be noted that a methodological limitation of this study is the logical inconsistency in using the criteria of the critic in determining the success of the artist. This inconsistency arises from the fact that the data support the artist's perspective and not that of the critic.

Practical Implications and Suggestions for Further Research

Having identified a set of personality characteristics which appear significantly related to specific criteria defining artistic success, the question arises as to whether there is any practical utility for the conclusions reached in this investigation.

In general, it would seem that we are in somewhat of a more favorable position to predict whether a given individual is likely to succeed in the field of fine arts, specifically painting and/or printmaking. Individuals who come from the upper socioeconomic levels, who are relatively field independent, with superior problem solving skills are more likely to achieve recognition than those from the lower socioeconomic levels, who are relatively field dependent with less than superior problem solving skills.

In addition, gender appears to be rather significant in the person entering the fine arts field. Females need to be more field independent than males in order to succeed. There is some evidence that a high self-esteem may contribute to success. And at least a

moderate level of problem finding ability appears essential for artistic success.

Equipped with this knowledge art educators would hopefully be more attuned to the personality characteristics of the art students for whom they are responsible for administering personal support and vocational guidance. Keeping in mind Wheelis' (1958) remarks pertaining to the vocation of art, as being, "truly knowable only after long experience" (p. 207), it is crucial that art educators have a psychologically enlightened view of the key features related to the arduous task of achievement in art.

Research in this area needs to begin with finding ways of translating the technical aspects of cognitive process variables into language which is readily comprehensible in terms of everyday experience. This is essential if educators and administrators are to become aware of psychological and educational research on the differential cognitive components underlying artistic success.

Future research which is practical in terms of advancing the assessment of creative personality involves refinement of certain methodological procedures utilized in this dissertation. Specifically, increased internal validity for future study requires revision of the directions for the Match Problems test. Along similar lines, is the much needed standardization of the Problem Finding Task (PFT). The PFT, which appears to be a potentially useful tool of research, needs to be administered to diverse populations of creative and non-creative individuals for purposes of obtaining normative data.

Similar studies need to be conducted with the Self-Esteem

Questionnaire (SEQ-3) in order to counteract ceiling effects with adult populations.

Finally, there is the problem of selecting criteria that accurately describe and define the exact nature of creative achievement in both artistic and scientific endeavor. From the results of this dissertation, it can be concluded that the pinpointing of gradations in achievement holds promise to the solution of the criterion problem. It would be helpful to conduct exploratory studies in which the number and kinds of achievement are attended to in terms of the specific features which are by consensus of those in the field, considered to constitute creative accomplishment.

BIBLIOGRAPHY

Arieti, S. Creativity: The magic synthesis. New York: Basic Books, Inc., 1976.

Arlin, P. K. Problem-finding: The relation between selected cognitive process variables and problem-finding performance. Unpublished Ph.D. dissertation, University of Chicago, 1974.

Arlin, P. K. Cognitive development in adulthood: A fifth stage? Developmental Psychology, 1975, 11 (5), 602-606.

Arlin, P. K. Piagetian operations in problem finding. Developmental Psychology, 1977, 13 (3), 297-298.

Armstrong, C. Changes evidenced in the art products of elementary education majors exhibiting the characteristic of flexibility. Unpublished Ed.D. dissertation, Indiana University, 1968.

Aschenbrenner, K. Aesthetic and other forms of value. British Journal of Aesthetics, Autumn, 1979, 19 (4), 291-301.

Barron, F. Creativity and personal freedom. Princeton, N.J.: Van Nostrand, 1968.

Beck, S. J. Emotional experience as a necessary constituent of knowing. In M. L. Reymert (Ed.), Feelings and emotions. New York: Mc-Graw-Hill, 1950, pp. 95-107.

Bergum, B. O. Self-perceptions of members of a graduate faculty whose publication rates are high or low. Psychological Reports, 1974, 35, 857-858.

Brenna, M. An investigation into the relationship between creative ability in dance, field independence-dependence, and creativity. Unpublished Ph.D. dissertation, University of Wisconson-Madison, 1976.

Bronfenbrenner, U. Some familiar antecedents of responsibility and leadership in adolescents. In L. Petrullo and B. M. Bass (Eds.), Leadership and interpersonal behavior. New York: Holt, 1961, pp. 239-271.

Cattell, J. McK. A statistical study of American men of science: The selection of a group of one thousand scientific men. Science, 1906, New Series, 24, 658-665.

Clar, P. N. The relationship of psychological differentiation to client behavior in vocational choice counseling. Unpublished Ph.D. dissertation, University of Michigan, 1971.

Cooley, C. H. Human nature and the social order. New York: Scribner's, 1902.

Crandall, R. Review of Self Esteem Questionnaire. In Oscar Buros (Ed.), Eighth mental measurements yearbook. Highland Park: Gryphon Press, 1978.

Cropper, D. A.; Meck, D.; & Ash, M. The relation between formal operations and a possible fifth stage of cognitive development. Developmental Psychology, September, 1977, 13 (5), 517-518.

Csikszentmihalyi, M. & Getzels, J. W. The personality of young artists: An empirical and theoretical exploration. British Journal of Psychology, 1973, 64 (1), 91-104.

Davies, E. T. The effect of sex, need for achievement, women's role orientation and normative information upon causal attribution of success. Unpublished Ph.D. dissertation, Loyola University of Chicago, 1980.

Del Gaudio, A. C. Psychological differentiation and mobility as related to creativity. Perceptual and Motor Skills, 1976, 43, 831-841.

Dellas, M., & Gaier, E. L. Identification of creativity: The individual. Psychological Bulletin, 1970, 73, 55-73.

Douvan, E., & Adelson, J. The adolescent experience. New York: Wiley, 1966.

Drevdahl, J. E. Some developmental and environmental factors in creativity. In C. W. Taylor (Ed.), Widening horizons in creativity. New York: Wiley, , pp. 170-186.

Dunker, K. On problem solving. Psychological Monograph, 1945, 58 (5), Whole No. 270.

Einstein, A., & Infeld, L. The evolution of physics. New York: Simon & Schuster, 1938.

Epstein, S. The self-concept revisited: Or a theory of a theory. American Psychologist, May, 1973, pp. 404-416.

Fakouri, M. E. Cognitive development in adulthood: A fifth stage? A critique. Developmental Psychology, September 1975, 12 (5), 472.

Felsen, J. E. Field dependence, self-esteem, and response to stress. Unpublished Ph.D. dissertation, Long Island University, The Brooklyn Center, 1977.

Fisher, S. Body experience in fantasy and behavior. New York: Appleton-Century Crofts, 1970.

Foersterling, F. Sex differences in risk taking: Effects of subjective and objective probability of success. Personality and Social Psychology Bulletin, March 1980, 6 (1), 149-152.

French, A. P. The story of general relativity. In Einstein: A centenary volume. Cambridge: Harvard University Press, 1979, pp. 91-112.

French, J. W.; Engstron, R. B.; & Price, L. A. Manual for kit of reference tests for cognitive factors. New Jersey: Educational Testing Service, 1963.

Fromm, E. Man for himself: An inquiry into the psychology of ethics. New York: Rinehart & Co., Inc., 1947.

Gaines, R. Developmental perception and cognitive styles: From young children to master artists. Perceptual and Motor Skills, 1975, 40, 983-998.

Garwood, D. S. Some personality factors related to creativity in young scientists. Unpublished Ph.D. dissertation, Claremont Graduate School, 1961.

Getzels, J. W. Creative thinking, problem solving, and instruction. NSSE Yearbook. Chicago: University of Chicago Press, 1964.

Getzels, J. W., & Csikszentmihalyi, M. Concern for discovery: An attitudinal component of creative production. Journal of Personality, 1970, 38 (1).

Getzels, J. W., & Csikszentmihalyi, M. Discovery-oriented behavior and the originality of creative products: A study with artists. Journal of Personality and Social Psychology, 1971, 19 (1), 47-52.

Getzels, J. W., & Csikszentmihalyi, M. The creative artist as an explorer. In J. McV. Hunt (Ed.), Human intelligence. New Jersey: New Brunswick, 1972.

Getzels, J. W., & Csikszentmihalyi, M. The creative vision: A longitudinal study of problem finding in art. New York: John Wiley & Sons, 1976.

Gilmore, J. V. The productive personality. San Francisco: Albion Publishing Co., 1974.

Goodenough, D., & Karp, S. A. Field dependence and intellectual functioning. Journal of Abnormal and Social Psychology, 1961, 63, 241-246.

Gough, H. G. Review of Embedded Figures Test. In Oscar Buros (Ed.), Sixth mental measurements yearbook. Highland Park: Gryphon Press, 1965.

Gray, J. A. Causal theories of personality and how to test them. In J. R. Royce (Ed.), Multivariate analysis and psychological theory. London: Academic Press, 1973, pp. 409-463.

Greeno, J. Trends in the theory of knowledge for problem solving. In D. Tuma, & Rief, F. (Eds.), Problem solving and education: Issues in teaching and research. Hillsdale, N.J.: Lawrence Erlbaum Associates,

Guilford, J. P. Traits of creativity. In H. H. Anderson (Ed.), Creativity and its cultivation. New York: Harper, 1959.

Guilford, J. P. The nature of human intelligence. New York: McGraw-Hill, 1967.

Guilford, J. P. Theoretical issues and operational-informational psychology. In J. R. Royce (Ed.), Multivariate analysis and psychological theory. London: Academic Press, 1973.

Guilford, J. P. Cognitive psychology's ambiguities: Some suggested remedies. Psychological Review, 1982, 89 (1), 48-59.

Guilford, J. P., & Guilford, J. S. Match problems: Manual of instructions and interpretations. Orange, Calif.: Sheridan Psychological Services, 1980.

Guthrie, F. Identification and analysis of classroom problems affecting teachers in Northwest Indiana. ERIC Documents, May 1976.

Hare, B. R. The relationship of social background to the dimensions of self-concept. Unpublished Ph.D. dissertation, The University of Chicago, 1975.

Hoffmeister, J. K. Some information regarding the characteristics of the two measures derived from the Self Esteem Questionnaire (SEQ)-3. Boulder, Colo.: Test Analysis and Development Corporation, 1976.

Hollingshead, A. B., & Redlich, F. C. Social class and mental illness. New York: Wiley, 1958.

Hoyt, K. Career education: Implications for counselors. Monographs on career education. Washington, D.C.: Government Ducument, Office of Career Education, 1977.

Hulfish, S. M. The relationship of role identification and self-esteem to sex differences in the Embedded Figures Test. Unpublished Ph.D. dissertation, The University of Florida, 1976.

Ibrahim, A. Sex differences, originality, and personality response styles. Psychological Reports, December 1976, 39 (3), 859-868.

Inhelder, B., & Piaget, J. Growth of logical thinking from childhood to adolescence. New York: Basic Books, 1958.

Issacs, A. F. Louise Nevelson acclaimed the most important living artist in America. The Creative Child and Adult Quarterly, 1980, 5 (2), 122-133.

James, W. Psychology: The briefer course. New York: Holt, 1910.

Kant, I. Critique of pure reason. Translated by Norman Kemp Smith, unabridged edition. New York: St. Martin's Press, 1965.

Kirton, M. Field dependence and adaptation-innovation theories. Perceptual and Motor Skills, 1978, 47, 1239-1245.

Krainak, P. Critics speak: Chicago. New Art Examiner (Midwest ed.), February 1981, 8 (5), 1-25.

Langer, S. K. Feeling and form: A theory of art. New York: Charles Scribner's Sons, 1953.

Langner, T. S., & Michael, S. T. Life stress and mental health. New York: Free Press, 1963.

Lehman, H. C. Age and achievement. Princeton: Princeton University Press, 1953.

Loo, R. Performance components of field-dependence measures and the application of multivariate procedures. Social Behavior and Personality, 1979, 7 (2), 179-184.

MacKinnon, D. The nature and nurture of creative talent. American Psychologist, 1962, 17, 484-495.

McCarthy, D. H. Differences in the performance of high-achieving and low-achieving gifted pupils in grades four, five, and six on measures of field dependence-field independence, creativity, and self concept. Unpublished Ed.D. dissertation, University of California, 1977.

McKinley, D. G. Social class and family life. New York: Free Press, 1964.

Maier, N. R. F. Problem solving and creativity. Belmont: Brooks/ Cole Publishing Co., 1970.

Mead, G. H. Mind, self, and society. Chicago: University of Chicago Press, 1934.

Moore, B. M., & Holtzman, W. H. Tomorrow's parents: A study of youth and their families. Austin: University of Texas Press, 1965.

Morris, T. L., & Bergum, B. O. A note on the relationship between field-independence and creativity. Perceptual and Motor Skills, 1978, 46, 1114.

Myden, W. Interpretation and evaluation of certain personality characteristics involved in creative production. Perceptual and Motor Skills, 1959, 9, 139-158.

Newman, B. Artists in Holland survive by selling to the government. The Wall Street Journal, 1982, 62 (59) (January 7), front section.

Nicholls, J. G. Creativity in the person who will never produce anything useful: The concept of creativity as a normally distributed trait. American Psychologist, August, 1972, pp. 717-727.

Noppe, L. D. A neo-Piagetian cognitive styles analysis of creative problem solving. Unpublished Ph.D. dissertation, Temple University, 1978.

Noy, P. Form creation in art: An ego-psychological approach to creativity. The Psychoanalytic Quarterly, 1979, 47 (2), 229-256.

Oltman, P. K. A portable rod-and-frame apparatus. Perceptual and Motor Skills, 1968, 26, 503-506.

Osborne, H. What is a work of art? British Journal of Aesthetics, Winter, 1981, 21 (1), 3-11.

Rainwater, J. M. Effects of set on problem solving in subjects of varying levels of assessed creativity. Unpublished Ph.D. dissertation, University of California, Berkeley, 1964.

Reveron, D. Project zero researcher gets MacArthur prize. APA Monitor, January, 1982, 13 (1), 3, 38.

Roe, A. The personality of artists. Educational and Psychological Measurement, 1946, 6, 401-408.

Roe, A. Crucial life experiences in the development of scientists. In E. P. Torrance (Ed.), Talent and education. Minneapolis: University of Minnesota Press, 1960.

Rogers, C. R. Client-centered therapy. New York: Houghton-Mifflin, 1951.

Rorschach, H. Psychodiagnostics: A diagnostic test based on perception. P. Lemkau and B. Kroneberg (eds.) (7th ed.). New York: Grune & Stratton, Inc., 1969.

Ross, B. L. Interrelationships of five cognitive constructs: Moral development, locus of control, creativity, field dependence-independence, and intelligence in a sample of 167 community college students. Unpublished Ph.D. dissertation, University of Southern California, 1977.

Scheirer, M. A., & Kraut, R. E. Increasing educational achievement via self concept change. Review of Educational Research, 1979, 49 (1), 131-150.

Simpson, C. R. SoHo: The artist in the city. Chicago: University of Chicago Press, 1981.

Stein, M. I. Survey of the psychological literature in the area of creativity with a view toward needed research. Cooperative Research Project No. E-3. Research Center for Human Relations, New York University, 1962.

Sullivan, H. S. The interpersonal theory of psychiatry. New York: Norton, 1953.

Tracey, T. M. Career motivation, ego development and self-actualization in adult women. Unpublished Ph.D. dissertation, The Catholic University of America, 1973.

Wallach, M. A., & Kogan, N. Modes of thinking in young children. New York: Holt, Rinehart & Winston, 1965.

Warner, L. W. Social class in America. New York: Harper & Row, 1960.

Wayne, J. The male artist as stereotypical female. Arts in Society, 1974, 11 (1), 107-113.

Wertheimer, M. Productive thinking. M. Wertheimer (Ed.), enlarged ed. New York: Harper & Brothers, 1959.

Wheelis, A. The quest for identity. New York: W. W. Norton & Co., 1958.

Wilson, A. M. Creativity and cognitive controls. Unpublished Ph.D. dissertation, Boston University, 1976.

Witkin, H. A. Perception of the upright when the direction of the force acting on the body is changed. Journal of Experimental Psychology, 1950, 40, 93-106.

Witkin, H. A.; Dyk, R. B., et al. Psychological differentiation: Studies of development. New York: John Wiley & Sons, Inc., 1962.

Witkin, H. a., Lewis, H. B., et al. Personality through perception. Westport: Greenwood Press Publishers, 1954.

Witkin, H. A., Moore, C. A., et al. Field dependent and field independent cognitive styles and their educational implications. Review of Educational Research, Winter 1977, 47 (1), 1-64.

Witkin, H. A., Oltman, P. K., Raskin, E., & Karp, S. A. Manual for the Embedded Figures Tests. Palo Alto: Consulting Psychologists Press, Inc., 1971.

Workman, E. A., & Stillion, J. M. The relationship between creativity and ego development. Journal of Psychology, 1974, 88, 191-195.

Yinger, R. J. A study of teacher planning: Description and a model of preactive decisionmaking. Paper presented at the Annual Meeting, AERA, Toronto, March, 1978.

Zudek, S. Z. Regression and creativity: A comparison of the Rorschach records of successful vs. unsuccessful painters and writers. Journal of Nervous and Mental Disease, 1968, 147 (6), 535-546.

APPENDIX A

TABLES OF PEARSON CORRELATION COEFFICIENTS

Table 12

Correlation Coefficients of the Personality Variables for Both Successful and Unsuccessful Groups

	Success	RTime	Status	PFind1	PFind2	Esteem	Others	PSolve
Success								
RTime	-0.5093 (80) p=0.000							
Status	-0.2992 (80) p=0.004	0.0376 (80) p=0.370						
PFind1	0.5258 (80) p=0.000	-0.3869 (80) p=0.000	-0.0823 (80) p=0.234					
PFind 2	0.4881 (80) p=0.000	-0.3890 (80) p=0.000	-0.0027 (80) p=0.490	0.8961 (80) p=0.000				
Esteem	0.2231 (80) p=0.023	-0.3395 (80) p=0.000	-0.0310 (80) p=0.392	0.1502 (80) p=0.092	0.1388 (80) p=0.110			
Others	0.0786 (80) p=0.244	0.0556 (80) p=0.312	0.0139 (80) p=0.451	0.0557 (80) p=0.312	-0.0011 (80) p=0.496	0.5329 (80) p=0.000		
PSolve	0.2553 (80) p=0.011	-0.2123 (80) p=0.029	-0.1596 (80) p=0.079	0.1124 (80) p=0.160	0.0776 (80) p=0.247	0.0091 (80) p=0.468	-0.0209 (80) p=0.427	

Table 13

Correlation Coefficients of the Personality Variables for the Successful Group

	Success	RTime	Status	PFind1	PFind2	Esteem	Others	PSolve
Success								
RTime	99.0000 (40) p=*****							
Status	99.0000 (40) p=*****	-0.1531 (40) p=0.173						
PFind1	99.0000 (40) p=*****	-0.1384 (40) p=0.197	0.0658 (40) p=0.343					
PFind2	99.0000 (40) p=*****	-0.1270 (40) p=0.217	0.1462 (40) p=0.184	0.8968 (40) p=0.000				
Esteem	99.0000 (40) p=*****	-0.2839 (40) p=0.038	0.0083 (40) p=0.480	-0.0886 (40) p=0.293	-0.0768 (40) p=0.319			
Others	99.0000 (40) p=*****	0.1072 (40) p=0.255	-0.0401 (40) p=0.403	-0.0314 (40) p=0.424	-0.0972 (40) p=0.275	0.5204 (40) p=0.000		
PSolve	99.0000 (40) p=*****	-0.0862 (40) p=0.299	-0.0966 (40) p=0.277	0.0666 (40) p=0.342	0.0523 (40) p=0.374	-0.0626 (40) p=0.351	-0.0759 (40) p=0.321	

Note. A value of 99.0000 is printed if a coefficient cannot be computed.

Table 14

Correlation Coefficients of the Personality Variables for the Unsuccessful Group

	Success	RTime	Status	PFind1	PFind2	Esteem	Others	PSolve
Success								
RTime	99.0000 (40) p=*****							
Status	99.0000 (40) p=*****	-0.0965 (40) p=0.277						
PFind1	99.0000 (40) p=*****	-0.2381 (40) p=0.070	0.1471 (40) p=0.183					
PFind2	99.0000 (40) p=*****	-0.3460 (40) p=0.014	0.2293 (40) p=0.077	0.8167 (40) p=0.000				
Esteem	99.0000 (40) p=*****	-0.2526 (40) p=0.058	0.1033 (40) p=0.263	0.2240 (40) p=0.082	0.1945 (40) p=0.115			
Others	99.0000 (40) p=*****	0.1274 (40) p=0.217	0.2875 (40) p=0.036	0.1204 (40) p=0.230	0.0587 (40) p=0.359	0.5818 (40) p=0.000		
PSolve	99.0000 (40) P=*****	-0.1393 (40) p=0.196	-0.0797 (40) p=0.312	-0.1563 (40) p=0.168	-0.2047 (40) p-0.103	-0.0323 (40) p=0.422	0.0325 (40) p=0.421	

Note. A value of 99.0000 is printed if a coefficient cannot be computed.

Table 15

Correlation Coefficients of the Personality Variables for Male Subjects of Both Groups

	Success	RTime	Status	PFind1	PFind2	Esteem	Others	PSolve
Success								
RTime	-0.2262 (37) p=0.089							
Status	-0.3367 (37) p=0.021	-0.1209 (37) p=0.238						
PFind1	0.5283 (37) p=0.000	-0.0683 (37) p=0.344	-0.1207 (37) p=0.238					
PFind2	0.4251 (37) p=0.004	0.0162 (37) p=0.462	0.0242 (37) p=0.444	0.8421 (37) p=0.000				
Esteem	0.2003 (37) p=0.117	-0.2906 (37) p=0.040	-0.1455 (37) p=0.195	-0.0426 (37) p=0.401	-0.0852 (37) p=0.308			
Others	0.2337 (37) p=0.082	-0.1534 (37) p=0.182	-0.1681 (37) p=0.160	0.0549 (37) p=0.373	-0.0167 (37) p=0.461	0.6513 (37) p=0.000		
PSolve	0.2856 (37) p=0.043	-0.2605 (37) p=0.060	-0.1551 (37) p=0.180	0.2151 (37) p=0.101	0.1920 (37) p=0.128	-0.0037 (37) p=0.491	0.1196 (37) p=0.240	

Table 16

Correlation Coefficients of the Personality Variables for Female Subjects of Both Groups

	Success	RTime	Status	PFind1	PFind2	Esteem	Others	PSolve
Success								
RTime	-0.7985 (43) p=0.000							
Status	-0.2292 (43) p=0.070	0.2674 (43) p=0.041						
PFind1	0.5395 (43) p=0.000	-0.5444 (43) p=0.000	-0.0663 (43) p=0.336					
PFind2	0.5432 (43) p=0.000	-0.5771 (43) p=0.000	-0.0209 (43) p=0.447	0.9235 (43) p=0.000				
Esteem	0.3087 (43) p=0.022	-0.3216 (43) p=0.018	-0.0321 (43) p=0.419	0.3015 (43) p=0.025	0.3105 (43) p=0.021			
Others	-0.1276 (43) p=0.207	0.2980 (43) p=0.026	0.2502 (43) p=0.053	0.0656 (43) p=0.338	0.0161 (43) p=0.459	0.3712 (43) p=0.007		
PSolve	0.2102 (43) p=0.083	-0.2792 (43) p0.035	-0.1229 (43) p=0.216	0.0466 (43) p=0.383	0.0046 (43) p=0.488	0.0648 (43) p=0.340	-0.2234 (43) p=0.075	

Table 17

Correlation Coefficients of the Personality Variables for Subjects of Both Groups in the Lower Class

	Success	RTime	Status	PFind1	PFind2	Esteem	Others	PSolve
Success								
RTime	-0.1732 (14) p=0.277							
Status	99.0000 (14) p=*****	99.0000 (14) p=*****						
PFind1	0.5370 (14) p=0.024	-0.4367 (14) p=0.059	99.0000 (14) p=*****					
PFind2	0.3736 (14) p=0.094	-0.4596 (14) p=0.049	99.0000 (14) p=*****	0.9270 (14) p=0.000				
Esteem	0.2068 (14) p=0.239	-0.1687 (14) p=0.282	99.0000 (14) p=*****	-0.0947 (14) p=0.374	-0.2050 (14) p=0.241			
Others	0.1288 (14) p=0.330	0.1061 (14) p=0.359	99.0000 (14) p=*****	0.0569 (14) p=0.423	0.0069 (14) p=0.491	0.6831 (14) p=0.004		
PSolve	0.3721 (14) p=0.095	-0.3718 (14) p=0.095	99.0000 (14) p=*****	0.4907 (14) p=0.037	0.4484 (14) p=0.054	0.1566 (14) p=0.296	0.2154 (14) p=0.230	

Note. A value of 99.0000 is printed if a coefficient cannot be computed.

Table 18

Correlation Coefficients of the Personality Variables for Subjects of Both Groups in the Lower Middle Class

	Success	RTime	Status	PFind1	PFind2	Esteem	Others	PSolve
Success								
RTime	-0.6785 (22) p=0.000							
Status	99.0000 (22) p=*****	99.0000 (22) p=*****						
PFind1	0.5435 (22) p=0.004	-0.3456 (22) p=0.058	99.0000 (22) p=*****					
PFind2	0.5695 (22) p=0.003	-0.4557 (22) p=0.017	99.0000 (22) p=*****	0.9094 (22) p=0.000				
Esteem	0.3342 (22) p=0.064	-0.5641 (22) p=0.003	99.0000 (22) P=*****	0.0690 (22) p=0.380	0.1141 (22) p=0.307			
Others	0.1116 (22) p=0.311	0.2645 (22) p=0.117	99.0000 (22) p=*****	-0.0539 (22) p=0.406	-0.1189 (22) p=0.299	0.1709 (22) p=0.223		
PSolve	0.1693 (22) p=0.226	-0.1685 (22) p=0.227	99.0000 (22) p=*****	-0.0812 (22) p=0.360	-0.0656 (22) p=0.386	-0.0188 (22) p=0.467	-0.1570 (22) p=0.243	

Note. A value of 99.0000 is printed if a coefficient cannot be computed.

Table 19

Correlation Coefficients of the Personality Variables for Subjects of Both Groups in the Upper Middle Class

	Success	RTime	Status	PFind1	PFind2	Esteem	Others	PSolve
Success								
RTime	-0.2529 (31) p=0.085							
Status	99.0000 (31) p=*****	99.0000 (31) p=*****						
PFind1	0.3584 (31) p=0.024	-0.2478 (31) p=0.089	99.0000 (31) P=*****					
Pfind2	0.3431 (31) p=0.029	-0.1352 (31) p=0.234	99.0000 (31) P=*****	0.8540 (31) p=0.000				
Esteem	0.3166 (31) p=0.041	-0.4358 (31) p=0.007	99.0000 (31) p=*****	0.3720 (31) p=0.020	0.2870 (31) p=0.059			
Others	0.2504 (31) p=0.087	-0.1977 (31) p=0.143	99.0000 (31) p=*****	0.1749 (31) p=0.173	0.0091 (31) p=0.481	0.6701 (31) p=0.000		
PSolve	0.1179 (31) p=0.264	-0.2057 (31) p=0.134	99.0000 (31) p=*****	-0.1087 (31) p=0.280	-0.0915 (31) p=0.312	-0.0263 (31) p=0.444	-0.0690 (31) p=0.356	

Note. A value of 99.0000 is printed if a coefficient cannot be computed.

Table 20

Correlation Coefficients of the Personality Variables for Subjects of Both Groups in the Upper Class

	Success	RTime	Status	PFind1	PFind2	Esteem	Others	PSolve
Success								
RTime	-0.8461 (13) p=0.000							
Status	99.0000 (13) p=****	99.0000 (13) p=****						
PFind1	0.4698 (13) p=0.053	-0.2664 (13) p=0.189	99.0000 (13) p=*****					
PFind2	0.4760 (13) p=0.050	-0.3993 (13) p=0.088	99.0000 (13) p=*****	0.9379 (13) p=0.000				
Esteem	0.1479 (13) p=0.315	-0.3013 (13) p=0.159	99.0000 (13) p=*****	0.2594 (13) p=0.196	0.3244 (13) p=0.140			
Others	-0.1270 (13) p=0.340	0.0972 (13) p=0.376	99.0000 (13) p=*****	0.1350 (13) p=0.330	0.0708 (13) p=0.409	0.3892 (13) p=0.094		
PSolve	0.3755 (13) p=0.103	-0.0984 (13) p=0.375	99.0000 (13) p=*****	0.2488 (13) p=0.206	0.2055 (13) p=0.250	-0.0848 (13) p=0.392	-0.3522 (13) p=0.119	

Note. A value of 99.0000 is printed if a coefficient cannot be computed.

APPENDIX B

LETTER OF INITIAL CONTACT

Dear_____

I am a graduate student at Loyola University of Chicago, presently working on my Ph.D. dissertation in educational psychology, and am in the process of trying to locate Chicago-based artists willing to participate in this study. My reason for contacting you, is that I am familiar with your artwork and would appreciate the opportunity to include you in the study.

The study is aimed at trying to identify the personality characteristics of successful artists. The study examines a number of personality attributes including perceptual-cognitive characteristics, sex differences, self-concept, and socioeconomic factors.

There are no ink-blot tests, or any similar clinical instruments used in the study. The format consists of brief paper and pencil tasks. The total time for administration is about 60 to 70 minutes.

I will be contacting you by telephone in the near future to find out whether you are interested in participating in the study.

Sincerely,

Michael D. Kovar

Ph.D. Candidate,
Loyola University of Chicago

APPROVAL SHEET

The dissertation submitted by Michael D. Kovar has been read and approved by the following committee:

Dr. Joy J. Rogers, Director
Associate Professor, Foundations of Education, Loyola

Dr. Ronald R. Morgan
Associate Professor, Foundations of Education, Loyola

Dr. Jack A. Kavanagh
Associate Professor, Foundations of Education, and
Associate Dean, School of Education, Loyola

Fr. William Ellos
Assistant Professor, Department of Philosophy, Loyola

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

July 20 1982
Date

Joy Rogers
Director's Signature