

To the Graduate Council:

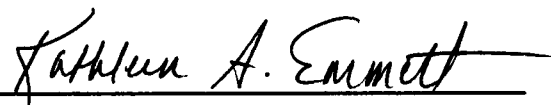
I am submitting herewith a dissertation written by Peter Bernhart Young entitled "An Investigation of the Psychological Significance of Human Movement and Color Responses in the Rorschach Inkblot Test." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.


Alvin G. Burstein, Major Professor

We have read this dissertation
and recommend its acceptance:


Robert G. Wahler


E. Warren Hamlin


Kathleen A. Emmett

Accepted for the Council:


Vice Provost
and Dean of The Graduate School

AN INVESTIGATION OF THE PSYCHOLOGICAL
SIGNIFICANCE OF HUMAN MOVEMENT AND COLOR
RESPONSES IN THE RORSCHACH INKBLOT TEST

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Peter Bernhart Young

August 1989

DEDICATION

This dissertation is dedicated to Bobbie, my wife.
She has born with me through these difficult times.
Hopefully now we again will be able to share our lives.

ACKNOWLEDGEMENTS

There are numerous people who have assisted me, all deserving recognition. First, naturally, is Al Burstein, who has chaired my committee, helped clarify my thinking, and kept this dissertation process from becoming too onerous. Next in importance is Warren Lambert, whose ready and humorous imparting of statistical insight and knowledge of computers has kept me from plunging into the conceptual abyss more than once. Kathy Emmett has provided a keen sense of the proper use of English, as well as a personal energy helpful throughout this graduate program. Bob Wahler has been, as in the Psychology Department, a stable and sensitive member of the committee.

David Winecoff pooled resources with me throughout much of the collection and processing of the data; without his supportive presence and strong energy, I doubt this research would be submitted. Don Broach of the Computing Center provided calming influence in the maze of data processing, cerebral Arkansas humor, and willing assistance, whenever snags occurred.

Eric Engum allowed me time to focus upon the dissertation and personal support in the process. Tom Ladd provided much needed clarity in one of the statistical mazes. Kent Van Cleave assisted also in bringing to focus

statistical issues.

And not the least, if in general form, I want to thank all the members of the Rorschach research lab. While the considerable demands of their own studies weighed upon them, they, nonetheless, scored and reconciled protocols needed for this study.

ABSTRACT

This study used factor analyses and canonical correlation to investigate the psychological significance of Human Movement (HM) and Color (C) responses on the Rorschach Inkblot Test. Rorschach's Test: Scoring and Interpretation (Burstein & Loucks, in press) provided psychoanalytically imbued Rorschach scorings. Included in the analyses were scores for Justifications and Imaginal Aspects, categories replacing the usual category, Determinants, and scores for psycho-sexual drives. The scales: Control, Harmavoidance, and Absorption, of the Developmental Personality Questionnaire (DPQ) (Tellegen, 1982) provided a check on Rorschach validity.

Subjects were College Scholars and Honors students at the University of Tennessee in Knoxville (N = 97; females = 43; males = 54). Data, collected over three years, were analysed for the total group, for females, and for males.

DPQ scales and Rorschach variables showed little relationship. Thus, substantiation of HM and C did not occur. Rorschach variables did form robust factors, with psycho-sexual scorings providing insight into psychological issues. Canonical correlations showed HM and C to be least related of the variables, thus suggesting that 'EB' may be a good shorthand for different psychological processes.

TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION	2
II. LITERATURE REVIEW.	5
I. THE RORSCHACH INKBLOT TEST.	5
A. HISTORY OF THE RORSCHACH INKBLOT TEST.	5
B. HUMAN MOVEMENT AND COLOR RESPONSES	10
C. OTHER INFORMATION RELEVANT TO HM AND C	24
II. THE DIFFERENTIAL PERSONALITY QUESTIONNAIRE (DPQ)	45
A. HISTORY OF THE DPQ	45
B. NATURE OF DPQ SCALES	46
C. RESEARCH AND THE DPQ	50
III. SUMMARY AND STATEMENT OF THE PROBLEM.	53
III. METHOD	57
I. SUBJECTS	57
II. INSTRUMENTS	59
III. PROCEDURES	60
IV. DATA ANALYSIS	62
IV. RESULTS	66
V. DISCUSSION	100
I. CONCLUSIONS.	100
II. INTERPRETATION OF CORRELATION MATRICES.	104
III. INTERPRETATION OF FACTOR ANALYSES.	110
IV. INTERPRETATION OF CANONICAL CORRELATIONS	124

TABLE OF CONTENTS (Continued)

BIBLIOGRAPHY	127
APPENDICES	133
VITA	173

LIST OF TABLES

TABLE	PAGE
1. DESCRIPTIVE STATISTICS	.67
2. CORRELATIONS OF HM AND C WITH RORSCHACH DATA EXPRESSED AS PERCENTAGE SCORES	.68
3. CORRELATIONS OF HM AND C WITH RORSCHACH DATA EXPRESSED AS SUMMATION SCORES.	.70
4. MEAN VARIABLE SCORES WITH RORSCHACH DATA EXPRESSED AS SUMMATION SCORES.	.72
5. MEAN VARIABLE SCORES WITH RORSCHACH DATA EXPRESSED AS PERCENTAGE SCORES	.74
6. VARIABLES WITH INSUFFICIENT AIC DIAGONAL VALUES. .	.76
7. CRITERIA FOR INCLUSION IN FACTOR ANALYSES.	.77
8. FULL ANALYSIS (SUMMATION SCORES): FACTOR 1	.81
9. FULL ANALYSIS (SUMMATION SCORES): FACTOR 2	.82
10. FULL ANALYSIS (SUMMATION SCORES): FACTOR 3	.83
11. FULL ANALYSIS (PERCENTAGE SCORES): FACTOR 1.	.84
12. FULL ANALYSIS (PERCENTAGE SCORES): FACTOR 2.	.85
13. FULL ANALYSIS (PERCENTAGE SCORES): FACTOR 3.	.86
14. FACTOR CORRELATION MATRICES.	.87
15. FEMALE ANALYSIS (PERCENTAGE SCORES): FACTOR 1.	.88
16. FEMALE ANALYSIS (PERCENTAGE SCORES): FACTOR 2.	.89
17. FEMALE ANALYSIS (PERCENTAGE SCORES): FACTOR 3.	.90
18. MALE ANALYSIS (PERCENTAGE SCORES): FACTOR 1.	.92
19. MALE ANALYSIS (PERCENTAGE SCORES): FACTOR 2.	.93
20. MALE ANALYSIS (PERCENTAGE SCORES): FACTOR 3.	.94

LIST OF TABLES (Continued)

21.	COMPARISON OF MEAN FACTOR SCORES FOR MALES AND FEMALES (PERCENTAGE SCORES).	.95
22.	POST-HOC FACTOR ANALYSIS: FACTOR 1 (PERCENTAGE SCORES).	.96
23.	POST-HOC FACTOR ANALYSIS: FACTOR 2 (PERCENTAGE SCORES).	.97
24.	CANONICAL CORRELATION: HM WITH 7 VARIABLES	.98
25.	CANONICAL CORRELATION: C WITH 7 VARIABLES.	.99
1A.	CORRELATIONS WITH PERCENTAGE RORSCHACH DATA.	134
2A.	CORRELATIONS WITH SUMMATION RORSCHACH DATA	149
1B.	COMPARISON OF SPLIT-N MATRICES....FACTOR 1	164
2B.	COMPARISON OF SPLIT-N MATRICES....FACTOR 2	165
3B.	COMPARISON OF SPLIT-N MATRICES....FACTOR 3	166
1C.	COMPARISON OF SPLIT-N MATRICES TO FULL ANALYSIS MATRICES....FACTOR 1	167
2C.	COMPARISON OF SPLIT-N MATRICES TO FULL ANALYSIS MATRICES....FACTOR 2	168
3C.	COMPARISON OF SPLIT-N MATRICES TO FULL ANALYSIS MATRICES....FACTOR 3	169
1D.	COMPARISON OF SPLIT-N MATRICES TO FULL ANALYSIS MATRICES....FACTOR 1	170
2D.	COMPARISON OF SPLIT-N MATRICES TO FULL ANALYSIS MATRICES....FACTOR 2	171
3D.	COMPARISON OF SPLIT-N MATRICES TO FULL ANALYSIS MATRICES....FACTOR 3	172

LIST OF SYMBOLS

HM The present study employs the convention of designating human movement responses as 'HM,' consistent with the Burstein & Loucks System (1980). In most other systems, 'M' is the usual designation. The designation, 'C,' represents color responses for all scoring systems.

Cw Cw is not a conventional symbol of any Rorschach scoring system. Cw provides efficient distinction between the sum of weighted C's (Cw), the sum of unweighted C's (sum C), and single c responses (C).

CHAPTER I

INTRODUCTION

The Rorschach Inkblot Test has become a widely used psychodiagnostic instrument since its creation by Hermann Rorschach in 1922. In America the Rorschach has seen no less than six major scoring and interpretation systems. Also, there have been numerous unpublished scoring systems. These various systems have experienced one or more problems: poor or absent empirical basis for scoring categories, lack of inter-system comparability, and/or lack of theoretical underpinnings.

The Rorschach's Test: Scoring And Interpretation (Burstein & Loucks, in press) offers corrections for many of these lacks. It is theoretically anchored to a psychoanalytic perspective, it incorporates many of the best features of other systems, and it is the central instrument in ongoing Rorschach research at the University of Tennessee.

The present research investigates a Rorschach concept having largely anecdotal verity. Rorschach (1932), Schachtel (1950, 1959, 1966), Piotrowski (1957, 1960), and others have posited an important position to the relationship between Human Movement (HM) responses and Color (C) responses. The ratio of these two types of

responses has been labelled the 'Experience Balance' or 'EB' for short. In most systems this EB ratio is a central element in interpretation of the Rorschach data. Despite the weight given such scorings and ratios in interpretative systems, little research has investigated their validity.

Most Rorschach thinkers hold that Color responses are indicative of emotional lability and responsivity, while Human Movement responses reflect a more cognitive, thoughtful approach, with capacities to empathize with others and to project ideational schemas outward onto external phenomena. Color responses theoretically reflect earlier developmental sequences, while Human Movement responses relate to later developmental tasks.

Thus, Color responses reflect affective, less mature, less delayed, and less projective ways of relating, while Human Movement responses reflect ideational, more delayed, and projective ways of relating.

Statistical investigation of this relationship occurs in the present research through factor analytic procedures and canonical correlations with Color and Human Movement responses and other Imaginal Aspect scorings (Burstein & Loucks, in press), other Justification scorings (Ibid), psycho-sexual Rorschach scorings (Ibid), and three factors: Harmavoidance, Control, and Absorption, from the

Differential Personality Questionnaire (DPQ) (Tellegen, 1982).

It has been hypothesized that the three DPQ scales should each correlate positively with Human Movement responses and negatively with Color responses, thus helping to form distinct factors and canonical correlates, which would provide more empirical insight into the psychological meaning of Human Movement and Color.

It has been hoped that inclusion of psycho-sexual scorings would clarify the developmental import of Human Movement and Color. It has been assumed that more phallic responses occur with Human Movement responses, while more oral and anal responses occur with Color responses. This assumption follows from the notion that Color responses are developmentally less mature than Human Movement responses, most eloquently expressed by Schachtel (1959, 1966). Human Movement responses entail perception of form and projection of movement into the perceptual process. As Schachtel (Ibid) has pointed out phenomenologically, such intellectual processes occur developmentally later than those processes wherein percepts are discriminated upon the basis of color alone.

Thus, the present research has explored basic theoretical assumptions of the Rorschach Inkblot Test. This exploration occurs from an explicitly psychoanalytic perspective. Previously these assumptions, for the most

part, have seen merely anecdotal verification. Thus, the present research has explored new, yet old ground. It has been hoped that through such an exploration the meaning and value of Color and Human Movement responses and of the EB ratio may be more fully understood. Such understanding should allow for a more valid use of the Rorschach Inkblot Test in research and clinical settings.

CHAPTER II

LITERATURE REVIEW

I. THE RORSCHACH INKBLOT TEST

A. HISTORY OF THE RORSCHACH INKBLOT TEST

Hermann Rorschach, a Swiss psychiatrist, devised the Rorschach Inkblot Test between 1911 and his untimely death in 1922. Rorschach's original intent was to assess imagination through visual-perceptual processes. As his research with inkblots progressed, he realized that the technique provided information about individuals' personalities, of which imagination was only one aspect. Dr. Morgenthaller, a former colleague, edited and published Rorschach's research monograph, Psychodiagnostik (1921), in English in 1932 (Wolman, 1973). While incomplete in Rorschach's own eyes, this monograph has become the basis for all subsequent efforts to use the Rorschach Inkblot Test as a measure of personality functioning.

Rorschach envisioned the inkblot technique as a measure of perception; it might provide information about how individuals see the world. Rorschach came to think that such information might afford a reasonable basis for diagnosis of schizophrenia, since schizophrenic patients

reported perceiving the environment in radically different ways than most people reported. In keeping with such assumptions, he devised his scoring system to weigh only the perceptual aspects of an individual's responses, without any consideration of content (Exner, 1986).

At first, few psychiatrists and other researchers in personality showed much interest in the test (Rickers-Ovsiankina, 1960). A few Europeans incorporated additional content scorings for diagnosing schizophrenia (Exner, 1986).

In 1926 David Levey introduced the inkblot technique to America with the publication of a translation of a paper by Dr. E. Oberholzer, one of Hermann Rorschach's former colleagues. In 1929, another American, Samuel Beck borrowed a copy of the inkblots and of Rorschach's original monograph from Levey, using them for his dissertation-- a standardization study of the test. Beck was to be most influential in ongoing development of the Rorschach in America (Exner, 1986).

Shortly thereafter Marguerite Hertz began her dissertation research (Exner, 1986), a similar standardization study of the test. Both Hertz and Beck completed their dissertations in 1932. Neither Beck nor Hertz altered Rorschach's original scorings in their research efforts (Exner, 1986).

Bruno Klopfer, however, was not as conservatively inclined. While working for the Anthropology Department at Columbia University in 1934, he led several Rorschach training seminars. He and his students began altering Rorschach's original scorings and adding entirely new scorings. His seminars grew. In 1936, Klopfer began the publication of the Rorschach Research Exchange (later to become the Journal of Personality Assessment) (1936) to disseminate the growing body of information on the test (Exner, 1986).

Beck did not approve of Klopfer's efforts to develop new scorings based upon logical grounds. Beck thought that modifications to the test should occur only through empirical methodology. For several years Hertz attempted to mediate the growing dispute between these two leading figures of American Rorschach research. Reportedly her efforts were for naught (Exner, 1986). This schism of thought and research seems to have set the tone for subsequent Rorschach development. Those that came later were proteges of Beck, Hertz, and Klopfer, with attendant biases. Further, since Rorschach's original scorings were no longer the norm, new systems formulators readily offered yet more scoring revisions. The result was no less than five major, published scoring systems, with unpublished systems available, as well. This situation

prompted Exner to research and write The Rorschach Systems (1969).

Exner (1969) demonstrated that the various systems were incompatible. Scorings and interpretive significances were different. Each system approached the inkblots and response scoring from a slightly different perspective. Hence, the different systems did not offer comparable results. No synthesis or integration was possible. At the same time it was clear that different system formulators were engaged in an essentially equivalent endeavor: devising a Rorschach scoring system which provided an accurate representation of individual psychological functioning.

Exner tried to correct this state of confused multiplicity. In the early 1970's he began to analyze empirically the different systems' scorings and interpretive significances. This led into an ongoing endeavor to incorporate those scorings, capable of manifesting empirical verifiability, into the Comprehensive System (1974; 1986).

Mostly Exner's efforts have met with positive acceptance. Indeed, he has clarified a confusing array of disparate systems. However, he has not offered a system integrated around a comprehensive theory of personality. Exner's comprehensiveness is of the empirically verifiable aspects of the various other systems, not of human

personality. Each system has contributed statistically significant relationships between scores and personality characteristics. However, he has not made an effort to tie these various disparate significances into a coherent notion of human functioning, either in keeping with an established theory of human personality or through a statistically derived integration of his system's significances. Without theoretical coherency, his system offers only a correlational image of personality: to the extent that an individual has more resources with which to cope than stimuli impinging, that individual is psychologically healthy (Exner, 1986).

Others are dissatisfied with these developments. A.G. Burstein and S. Loucks have spent several years gaining normative data on and developing a theoretically coherent scoring system. They use an essentially psychoanalytic theory of personality. Scorings for manifestations of psycho-sexual drive and for defense effectiveness provide theoretical structure to interpretation of the Rorschach wholly missing in Exner's system.

In Exner's system 'determinants' is the scoring category for all aspects of perceptual processes. In the Burstein & Loucks system (1980) two categories, 'justifications' and 'imaginal aspects,' replace 'determinants.' An example of a justification is scoring

for color in a response, "it's blood, because it's red." Imaginal aspects occur when the response refers to non-blot aspects. For example, scoring human movement occurs in the response, "it's two people lifting a pot."

Further, the Burstein-Loucks System scores the quality of human movement responses. Human movement responses have scorings for the extent of articulation, as well as scorings for the extent and quality of the motivation expressed in the movement.

Thus, the Burstein & Loucks system (1980) offers several improvements over Exner's comprehensive system. The present study employs the Burstein-Loucks system (1980).

B. HUMAN MOVEMENT AND COLOR RESPONSES

Hermann Rorschach thinks that whatever an individual perceives in the blots is a reflection of inner psychological functioning; that the inkblots, not representing anything specific and realistic, provide a screen on which the individual projects outwards aspects of inner psychological functioning. Many response variations are possible. Two types of responses offer particular power to discern an individual's style of engaging the environment: human movement responses (HM) and color responses (C).

The individual produces HM responses by attributing movement to human percepts in the inkblots. Since the blots do not move, HM responses are inherently imaginal. Most scoring systems agree that perception of human movement necessarily implies perception of form. Rorschach theorizes that an individual offering HM responses uses thought to manage the environment and his/her reactions to the environment. Such an individual projects his/her notions onto the environment, handles stimulation through thought and personal, creative resolutions. Rorschach's research provides numerous characteristics of such individuals: individualized intelligence, greater than average creative ability, stable affective ability, less adaptable than average to reality, measured stable motility, physical awkwardness and clumsiness, and less apt than average to engage in bodily motoric activities (Rorschach, 1942, p 78).

Rorschach relates HM responses to actual motoric behaviors. He holds that development of HM responses is a maturational process. As the individual matures, there is an increasing ability to carry out internal action rather than external motoric action. Thus, he hypothesizes a reciprocal and inhibitory relation between HM and motoric behavior. The individual with many HM responses would not be motorically active.

All action tendencies which do not find vent without turn inwards; as a result of repression,

they become internalized and change into creative ideas. (Piotrowski, 1957, p. 130)

An individual produces C responses using color to determine Rorschach percepts. In the Burstein-Loucks System, C responses are justifications, since colors are an actual, non-imaginal part of the blot. For example, "A fire, because of the red here." is a strong C response. The individual offering C responses is likely to be affectively labile, handling stimulation through emotional reactivity. Again, Rorschach finds numerous characteristics of people providing C responses: stereotyped intelligence, more than average reproductive ability, more than average 'outward' life, labile affective reactions, more adaptable than average to reality, restless, labile motility, physical skill, and adroitness (Rorschach, 1942, p. 78).

To take into account the varying influence of form and color in responses, Rorschach devises an admittedly "arbitrary" (Rorschach, 1932) and unsubstantiated weighting of possible relationships of color and form in responses. A FC response has a weight of 0.5 and occurs when a response is predominantly determined by the form of the blot and only secondarily elaborated with color. A CF response has a weight of 1.0 and occurs when color is the primary determinant and form is secondary. A C response has a weight of 1.5 and occurs when color alone determines the response, without mention of form. Most subsequent

systems have incorporated this weighting system, with no reported efforts to clarify the weights' value or accuracy.

After extensive data collection, Rorschach has realized that Rorschach protocols infrequently appear which are devoid either of HM or of Weighted C (C_w) responses. Most individuals produce protocols with varying numbers of HM and/or C_w responses. Consequently, he has developed a notion of a continuum. On one end is the individual with many HM and no C_w , on the other, no HM and many C_w . Moving along the continuum, the influence of HM's and C_w 's varies, with an optimal balance found near the continuum middle, but not the very middle. If an individual provides equal numbers of HM's and C_w 's, he/she often would be neurotic or manic. An ideal occurs when the ratio is a balance unequal by one or two points.

This balance of HM and C_w is the 'EB' or experience balance, Rorschach's central ratio for using the inkblot technique as a diagnostic personality instrument. He offers insights of the significance of various ratios of HM: C_w . A 'coartated' record, with no HM or C_w , suggests severe depression. On the other extreme, a 'dilated' record, with numerous HM and C_w , suggests capacities both to respond affectively to the external and to proceed through internal, planful efforts.

Rorschach's original notions about the significance of HM & C have influenced all subsequent systems. Following are several different systematizers' and theorists' conceptions about HM & C.

Beck (1944) sees the content of HM as "identical with the material of Freud's unconscious and of the psychoanalyst's dreamwork (p. 92)." To Beck HM responses are singularly important in the individual's perceptual processes and for interpreting a Rorschach protocol as reflecting individual psychological functioning.

He sees C responses representing the blot's affectivity. When the individual offers color responses, emotionality plays a part in incorporation of the stimuli. The various scorings and weightings, which Beck adopts from Rorschach, reflect the degree to which this emotionality is dominant. A pure C response (=1.5 points) represents the most influence of color on perceptual processes, a CF (=1.0 points) somewhat more influence from the blot's form, and FC (=0.5 points) the least influence of color, with form dominating perceptual processes.

Klopfer and Kelley (1942) view HM responses as the individual's imagination projected onto the blot, as spontaneity of promptings from within. C responses are reactions to stimuli from without. Thus, Klopfer and Kelley (1942) view HM responses as essentially opposite to

C responses: HM deriving from internal resources and C deriving from response to external stimulation.

Piotrowski (1957) sees HM responses differently than most theoreticians. The presence of HM responses does not indicate a lack of motoric behaviors. An individual with many HM responses may be motorically active, inactive, or in-between. For Piotrowski (1957) the extent of motoric behavior is not a simple inverse of an individual's number of HM responses.

Piotrowski does hold HM responses centrally important. He sees HM responses reflecting an individual's

prototypical roles in life, i.e., definite tendencies, deeply embedded in the subject and not easily modified, to assume repeatedly the same attitude or attitudes in dealing with others when matters felt to be important and personal are involved. (p. 141)

Thus, the relationship between HM and external, psychologically determined physical behaviors is positive.

Piotrowski (1957) enumerates other traits correlated with HM responses. The number of HM responses is indicative of an individual's interest in people. An individual with many HM responses is aware of the future, for which he intellectually plans. He desires to maintain individuality and independence, no matter what the circumstances. Internalized standards impart sense of pride and a code of conduct. Spontaneity and creativity are more apt to appear in thinking than action.

Piotrowski's (1957) views C responses somewhat differently than other theoreticians. He uses Rorschach's original weightings of C responses. As in the interpretation of HM's, Piotrowski emphasizes interpersonal aspects of the response. Thus, C responses indicate

the degree of emotional responsiveness to the environment or the amount of emotional interest in the outside world. The larger the sum of C_w , the stronger are the desires to associate with and/or dissociate from others. (p. 224-225)

The content of C responses illuminates whether the individual wants to attain or avoid involvement with others: positive C responses signifying desire for contact, and negative responses, desire for separation.

Beck (1944), Klopfer (1946), and Piotrowski (1957), all use Rorschach's original weightings of C responses and the EB ratio in assessment of personality. Not one of these three American leaders in the use of the Rorschach Inkblot Test questions either the theoretical utility of C response weightings or the weights' accuracy. While their use of different descriptors demonstrates differences about the significance of HM and C, their perspectives' commonalities outweigh divergences. The biggest differences appear in specific wordings of the criteria for scoring HM or C responses, not in overall composite images.

Apparently Exner (1974) is correct in concluding, despite these differences in scorings and criteria for scorings, that the various systems involve a similar task. Given Exner's extensive knowledge and lengthy effort, it is unfortunate that he chooses a statistical and an atheoretical organization.

Schachtel (1943, 1950, 1959, 1966) does not offer another Rorschach scoring system. Rather, over the years, he writes most eloquently of phenomenological bases for Rorschach scoring and interpretation. Not surprisingly, much attention is on HM and C responses and experiential correlates which provide such rich information about an individual's psychological functioning.

"In perceiving color [and] movement, different types of relatedness between perceiver and object perceived typically prevail (Schachtel, 1966, p. 78)." Perceptual processes are separable into "two basic modes of perceptual relatedness." In "autocentric" mode, an individual is

subject-centered;...the emphasis is on how and what the person feels, [with]...a close relation, amounting to a fusion, between sensory quality and pleasure or unpleasure feelings, [with]...the perceiver reacting to something impinging upon him. (Schachtel, 1966, p. 79)

In "allocentric" mode,

there is objectification; the emphasis is on what the object is like; there is...no relation...or less direct relation between sensory quality and pleasure-unpleasure feelings. (Schachtel, 1966, p. 79)

Schachtel finds autocentric perception dominating in early developmental processes. Over time, the infant develops a greater allocentric perceptual capacity, so that eventually mature perceptions are allocentric. This allocentric dominance, however, does not preclude autocentric functioning. Affective stimuli are apt to elicit autocentric processes (Schachtel, 1959, 1966).

Thus, Schachtel construes essential differences between perception of form (allocentric processes) and perception of color (autocentric processes). While form is present in all HM responses, something more occurs in perception of HM's beyond allocentric processes. Schachtel (1950, 1966) presents phenomenological awarenesses of what else constitutes HM responses.

An individual's attributing of movement to an inkblot is an empathic process. The individual imagines himself involved in "a movement or posture which seems to take place at the same time outside himself in the ink blot (Schachtel, 1950, p. 72)." This kinesthetic projective identification with the blot, for Schachtel, becomes the phenomenological basis for the significance of HM responses.

In kinesthetic experience of his own body and its way of moving the person has the only direct, immediate, physical experience of himself from within. (Schachtel, 1950, p. 72)

Thus, projection of a sense of self onto an inkblot becomes a basic reflection of an individual's way of experiencing himself.

Schachtel (1950, 1966) is careful to clarify use of the term, projection. Freud, reportedly, uses projection to describe the process of ascribing attributes falsely to others. These attributes derive from the individual's internal conflicts. Thus, an individual might project his own anger or hostility onto another, who in fact is not hostile, so that the individual perceives wrongly that the other is hostile. Schachtel uses projection to cover not only such aberrant ascriptions to others, but also those perceptions of others which are not aberrant, but rather are empathic.

Thus, HM responses allow insight into how an individual perceives himself in relation to other persons. Also, positing of movement is inherently a reflection of an internal, ideational stance to the environment. Thusly construed, allocentric processes allow the individual to grasp stimuli, but projective aspects revealed in positing movement point to internal processing of such stimuli to make them 'fit' with an individual's characteristic mode of relatedness. For Schachtel, this additional effort corresponds to creativity, paranoia, obsessions, etcetera. The nature of an individual's particular projective tendencies often are revealed through careful

consideration of actual HM responses. The tentativeness, relatedness, energy, direction, and purpose of HM responses reveal much about an individual's sense of self and of others (Schachtel, 1950, 1966).

For Schachtel, C responses correspond to autocentric perceptual processes (Schachtel, 1959, 1966). He construes autocentric processes as analogous or equivalent to affective processes. The individual responds to the inkblots' color in an affect-laden manner; a blot's color pulls feelings and impressions from his store of memories of color/affect-laden past events. If this impact of color/affect is overwhelming, the response probably involve no form or form only secondarily.

Further, the individual may experience 'color shock.' This oft-mentioned phenomenon manifests when the individual alters his response pattern. The individual establishes a pattern over the series of minimally colored and achromatic cards I through card VII. Upon facing the brightly colored cards VIII through X, the individual usually will take more time to respond and/or will offer responses of distinctly different quality. If the impact of the color/affect is less overwhelming, then a predominance of form will modulate the response, with color for elaboration. This type of response shows how the individual incorporates affective aspects of the

environment into coherent percepts (Schachtel, 1943, 1959, 1966).

Schachtel's developmental insights (1943, 1950, 1959, 1966) offer theoretical organization to the conceptual disparities of Rorschach (1932), Beck (1946), Klopfer (1946), and Piotrowski (1957). Schachtel's notions of perceptual and cognitive developments providing the material for psychological processes are similar to Hermann Rorschach's seminal intuitions.

Review of other relevant literature will facilitate a theoretical synthesis; therefore, before drawing threads together, following are viewpoints of other researchers/theoreticians about HM and C responses.

Rapaport, Gill, and Schafer (1968) see HM responses indicating "the level of natural endowment (p. 358)." This endowment may manifest as creativity, obsessions, or even delusions, which depend upon individual psychological make-up. HM responses also reflect ability to delay responding, to engage in gestalt organizing activities. In pathological populations HM responses provide manifestations of thinking disturbances.

Rapaport, Gill, and Schafer (1968) offer a detailed account of the relationship between C and affect.

It appears that, dependent upon their organization of affects and impulses and their modes of control of these, people have associative processes that

allow for dealing with the color impressions in a specific manner characteristic of their affective life. (p. 376).....
 The color response and its variants [C, CF, FC, & Cn] are considered to be representatives of these affects and modes of controlling actions. That is, they represent (1) the degree to which repressive control of instinctual needs has impoverished the affective and feeling output of the subject; (2) the degree to which control of these impulses functions smoothly, allowing for delay and at the same time for vigor and free availability of the impulses; (3) the degree to which control is not achieved and the instinctual tensions manifest themselves in violent affective display; (4) the degree to which all attempt at control is abandoned, with consequent flouting of the usual channels of probing for and finding satisfaction, and abandonment of affects as indicators of conflict tensions-a state of affairs that obtains conspicuously in chronic and deteriorated schizophrenic conditions; (5) the extent and mode of control over actions, which runs grossly parallel to the forms of affective experience and display described here. (p. 378)

Lazarus (1949) argues that 'color shock' is bogus, that delays found in response to later colored cards reflect efforts to deal with inkblots more difficult to construe as representations of real objects than earlier blots. He uses achromatic blots, otherwise identical to chromatic blots, to test for color's influence. With random presentation ordering of color and achromatic blots, his inference seems viable. Siipola (1950) and Siipola, Kuhns, and Taylor (1950), however, offer opposite results, showing that individuals do respond with greater latency to colored blots. Lazarus uses high school seniors for subjects, while Siipola and her colleagues use female college students. Perhaps, these different subject

pools hold clues to the divergent results. At the least, such contradictory results from seemingly well-designed research demonstrate need for numerous replications of studies with different populations before forming generalizations.

In a multiple regression with 45 female college students, Cocking, Dana, and Dana (1969) find that fantasy, time estimation, and intelligence relate significantly to HM, while creativity, interpersonal relations, and motor inhibition do not. They suggest that either operational definitions of correlated tasks or validity of Rorschach determinants or both may be inadequate. Also, a sample of 45 college females may not represent normative personality characteristics. With such obscuring aspects, this study offers a single conclusion: there is need for clearer studies.

Singer and Herman (1954) provide experimental evidence about the nature of HM responses. With 60 hospitalized schizophrenics, they create two groups: high numbers of HM responses and low numbers. They find that those with many HM responses display significantly more delay in a writing task, fewer spontaneous bodily movements, and significantly more TAT responses reflecting ability to go beyond stimulus bounds of the cards.

Thus, more theory than research has evolved on the significance of HM and C responses. Since most Rorschach

use occurs in clinical practice and since there is much competition between systems (Exner, 1986), this low emphasis may be understandable. From the various theories, however, coherent underpinning for the significance of HM and C responses seems plausible. Review of other relevant information will facilitate this synthetic process.

C. OTHER INFORMATION RELEVANT TO HM AND C

Several researchers have investigated the significance of color, without reference to the Rorschach test. Discussion of this research follows.

Pressey (1921) attempts to determine experimentally what influence colors have on individuals' motoric and mental behaviors. He finds that bright lights increase the response rate for various tasks, while different hues have no appreciable effect. Interestingly, one subject shows reversed tendencies in almost all measures, where other subjects show consensual results. Without a correlated personality measure to anchor these results, conclusions relevant to the Rorschach seem untenable.

Guilford (1934) uses complex mathematical manipulations to investigate the psychological import of different colors. He finds that the colors: blue, green, and red are most preferred, while violet, orange, and

yellow are least preferred. With a 9-point Leikert scale, he plots affective reactions to these colors on an X:Y grid. He reports that the resulting graph approximates a normal periodic function. He then attempts to manually derive harmonics to these curves with sine and cosine functions. He is convinced, himself, that the first and third derived harmonics provide basis for hypothesizing the presence of two distinct physiological systems of color vision. While intriguing, such abstract and conjectural results offer little information relevant to the Rorschach.

Norman and Scott (1952) present an overview of research and thought on the significance of color. They look at tests of color preference, conditioning of preferences, experimental studies relating color and emotional patterns, personality patterns and preferences, mental/emotional disorders and preference, studies of color in the Rorschach Test, use of color in other projective tests, and behavioral correlates of color. They allow some credence to Guilford's work. They maintain a behavioral perspective in their critique, and they seem fair, consistent, and reasonable in objecting to much reported research on color and its influences on humans. They object most strongly to reification of language, lack of operational definitions of terms, and over-generalizing of significances. After a close review,

they call for better research before positing a scientific relationship between color and human experience and behavior. Their careful assessment brings order to a confusing array of studies; their call for experimental rigor seems appropriate.

Schaie (1961a) agrees with Norman and Scott's (1952) objections to research on the relationship of color and human experience and behavior. using a Q-sort, he offers experimental evidence for lawful relations between color and associated moods. He finds that red and orange are associated with exciting and stimulating; blue with secure, comfortable, tender, and soothing; black with distressed, upset, disturbed, despondent, dejected, melancholy, and unhappy; purple with protective, defending, dignified, and stately; red, orange and yellow with cheerful, jovial, and joyful; red, black, and orange with defiant, contrary, and hostile; and red, black, and purple with powerful, strong, and masterful. He concludes that these results establish color as a good measure of personality. His experimental efforts, however, manifest troubling reification of language. Having no corroborating evidence with an established measure of personality or with physiological measures, Schaie (1961a) offers only fruit for more rigorous research efforts.

Wexner (1954), in a seemingly well-designed study, finds that colors do not relate one-to-one to mood-tones.

Instead, any color may relate to several different mood-tones, and any mood-tone may relate to several different colors. Reification of language is a problem here, so again results at best are suggestive of directions for better research.

Cerbus and Nichols (1963) review the research literature from 1952 to 1963 on color and personality. They pay particular attention to studies which have investigated the influence of color on Rorschach responding. The analysis of such studies seems perfunctory, leaving more questions than answers, but they do conclude that the only relationship experimentally established is between a reduction of color use and depression. They reason that this result does not necessarily have bearing on color, but rather that depressed individuals display reduced interest in all environmental cues, color being merely one aspect. Again, a behavioral critique of research suggests that little experimental validation has occurred relating color and human experience. Consequently, central assumptions about Rorschach scoring are questionable. Although in a strident theoretical tone, Cerbus and Nichols (1963) corroborate Norman and Scott's (1952) conclusions.

Schaie (1961b, 1963, 1966, 1968) has continued to pursue his belief in a relationship between color and personality. He (1961b) replicates his previous study

(1961a), finding corroborating results with a different experimental group. Again, he makes no effort to correlate his results to any established personality measure. He then finds an established instrument, The Color Pyramid Test (CPT), devised by Max Pfister (1950), a Swiss psychologist, which Schaie (1963) presents as a viable alternative to other personality measures.

The CPT consists of a piece of white paper with a line-drawing of a five level pyramid, with five blank squares on bottom and one on top. The individual places different colored square paper pieces in the blank squares of the pyramid. The squares are in 24 different colors.

Schaie points out that the CPT provides personality measurement without verbal response. After presenting essential procedures for administering the CPT and a quick overview of various normative data (exclusively carried out in Europe), he proceeds to interpretive significances of various color patterns.

From European studies, Schaie (1963) reports the following relationships: high incidence of red with impulsive affect; low red with reduced responsivity; high orange with ability to form good interpersonal relations; yellow with ability to form rationally controlled relationships; green with sensitivity and internalization of affect; blue with cognitive impulse regulation; high purple with anxiety and emotional disturbance; brown with

need determined negativism; black with depression; and white with schizophrenic blandness and reduction of inhibitions.

Further, the structure of the CPT pyramids purportedly provides personality insight; the structural pattern of colors allows inferences about structural aspects of personality. Multichromatic layers reportedly relate to incompletely differentiated personality structures. Schizophrenics produce color dominated pyramids, rather than structure dominated, while neurotics produce mantle patterns, with preference for red, black, and purple and avoidance of yellow.

Schaie (1966) presents results of ongoing CPT studies. He concludes that the Rorschach Test produces equivocal results because it treats color as an all-or-none variable, without considering various hues. Experiments reportedly reveal differences in color preferences between males and females, as well as lawful relationships between CPT patterns and broad diagnostic categories.

Schaie (1968) uses the CPT to investigate development of color-dominance and form-dominance. Accepting the theoretical development from color to form dominance, Schaie finds increasing reliance upon form and decreasing reliance upon color occurring progressively until boys are 13 and girls 14. He compares these normative findings

with results from delinquent adolescents, mentally defective adolescents, and psychiatric patients. Each group, as expected, displays less form dominance than normals.

Schaie (1961a, 1961b, 1963, 1966, 1968) makes a strong bid to establish color and specifically the CPT as diagnostically discriminative tools. History of testing in America shows that he has been unsuccessful. This lack of use of color diagnostically suggests at least three insights. First, while the CPT (or another color measure) correlates with various behavior and personality characteristics, color does not discriminate finely enough; many different people like or dislike any given color or combinations of colors. Second, even if schizophrenics only like white, such results tell us little about any individual schizophrenic. Third, other measures, using more stimuli than color, have been relatively successful in satisfying clinical needs for discriminating, diagnosing, and understanding individuals.

These results lead into discussion of other ongoing research: the development of use of color and form. Following are various relevant studies.

Brian and Goodenough (1929) present subjects with matching tasks wherein color and form are available criteria. They find that results with children under the

age of two are difficult to interpret, because the subjects persevere. Nonetheless, they claim that

there is a certain period of life during which color appears to be accorded greater relative significance than at any previous or succeeding age-level. This period begins at about the third birthday or slightly before and continues until about the age of six years. (p. 205)

Subsequent to this color dominance, individuals show increases in form dominance until the adult years, when a relatively stable relation between form and color dominance occurs. There are no significant differences for sex. Brian and Goodenough (1929) may be inferring too much claiming "greater relative significance than at any previous...age-level." They acknowledge problems of perseveration and difficulties in gaining test-taking compliance with pre-2 year olds, but still claim that reliance upon color begins around 3 years of age. Their apparent beginning actually may reflect only children having matured sufficiently to generate data statistically consistent enough to interpret. If true, it may be that pre-3 year old children do rely upon some environmental aspect synchronous with their perceptual capacities. The researcher needs to devise ways to discern the pre-verbal child's perceptual processes.

Honkavaara (1958) and Kagan and Lemkin (1961) investigate reliance upon color, form, or size for determining similitudes by children, ages three years, nine months to eleven years. They find that size is

rarely of value, that all children prefer form to color for discriminations, and that, as ages increase, girls rely more on form, while boys show greater likelihood to use color for discriminations. They conjecture that these results may be an artifact of girls acquiring language skills earlier than boys, thus providing girls with form dependent labels for objects, which might prejudice girls to use form for discriminating.

Corah (1964) employs 80 pre-school children to investigate inconsistencies between results of Brian and Goodenough (1929) and results of Honkavaara (1958) and Kagan and Lemkin (1961). He finds that color is a preferred discriminator, with no sex differences. He conjectures that Honkavaara (1958) and Kagan and Lemkin (1961) find contrary results because of their instructions, wherein they refer to forms as "cut-outs," thus prejudicing subjects to form attention. Further, he argues that Piaget's (1950) notions of centration and decentration provide parsimonious explanation of such results. Piaget (1950) suggests that a child's early perceptual processes are characterized by centration, wherein the child attends only to the most central or impressive in any stimuli field. Theoretically, over time, this perceptual tendency moves towards decentration, so that the child attends to secondary and non-central

stimuli. Thus construed, early color use manifests the child's centration.

Once again, research methodology problems seem to interfere with gaining answers to questions. Corah (1964) grasps a likely reason for the discrepancies between the results of Brian and Goodenough (1929) and those of Honkavaara (1958) and Kagan and Lemkin (1961). Overall, it appears that for discriminations children rely upon color before relying upon form. It is unclear whether a period prior to color reliance occurs when there is either no pattern to discriminations or the pattern is experimentally undiscernible.

Suchman (1966) presents interesting cross-cultural evidence on color and form dominance in Nigerian children. With 120 children between 3 and 15 years of age, she uses three different measures of matching preference (form versus color). She finds there is no trend from color reliance to form reliance. She conjectures that this results from educational differences. In Europe and America children must learn reading, wherein they must attend to fine form distinctions. In Nigeria reportedly children do not have to learn reading, hence they do not shift to form reliance. This suggests that the usual shift from color to form dominance is a cultural artifact rather than an inherent element of biological maturation.

This result appears to discredit much Rorschach lore, particularly Schachtel's (1943, 1950, 1959, 1966) phenomenological insights. Indeed, if no confounding elements account for Suchman's (1966) results, much purported Rorschach wisdom is bogus. This may be the case; however, it is unlikely. First, no other American studies corroborate Suchman's (1966) results. Meanwhile, ongoing research with literate and illiterate children in America and other countries consistently show this shift from color to form (Meili-Dworetzki, 1956). Given this anomalous quality, Suchman's (1966) results deserve replication efforts. And yet there are none.

Given this strange state of affairs, the only conclusion is that Suchman's (1966) results stand in sharp contrast to a large research body.

Suchman and Trabaso (1966a, 1966b) investigate stability of preferred discrimination modes (form vs. color) across stimuli changes and the degree to which a preferred mode enhances, and a non-preferred mode inhibits, learning. All subjects are pre-adolescents. Despite presentation of hue changes for color dominant individuals and introduction of asymmetrical and non-linear shapes for form dominant individuals, each group maintains the preferred mode of discriminating. Similarly, individuals perform significantly better on learning tasks when tasks incorporate their preferred mode

of discriminating. This suggests that Rorschach (1921) and others are correct in surmising stability of EB characteristics.

Olmsted and Sigel (1970) find with 84 Negro kindergarten children that color or form reliance is task specific. No generalizable tendencies derive. They conclude that, at least for this population, no clear individual preferences are apparent.

These results seem to corroborate Suchman's (1966) results and to throw doubt on the notion of stability of discrimination modes. On the other hand, Olmsted and Sigel (1970) use stimuli which obscure rather than clarify the issue. Children are first determined to be form or color dominant by whether they use color or form to sort differently colored geometric shapes. Then, children look at differently colored common objects, some similar in shape. Thus, for example a red pencil, an orange cigarette, and a brown sausage might be objects. The children do not sort objects by color or form. When presented enough objects, the children sort by categories of "meaningfulness," (food, school supplies, or things to put in the mouth). Such findings offer little disconfirmation of conventional thought on color and form dominance.

Miller (1977) uses color and form for young children's matching tasks. He is trying to determine, as

Piaget (1953) suggests, if children undergo reorganization of cognitive processes when facing novel stimuli. After children display clear preference of form or color for discriminating colored geometric shapes, they see ungeometric shapes or same-colored shapes, so that preferred discriminating modes are insufficient. They don't fall into random discriminations; rather they slow down and figure out the discrimination principles. For Miller, this correlational evidence supports Piaget's notion, showing that a responding is not merely a consequence of stimuli. Rather, he hypothesizes internal processes accounting for the results. This supports personality consistencies being real and perception of color and form accessing such consistencies.

Strauss and Lewin (1982) attempt to empirically validate the Weigl-Goldstein-Scheerer Color-Form Test for assessing young children's developmental progress. They use 163 children, aged 5, 7, 9, and 11 years. They find that children do prefer color initially, then shifting to form preference. They are unable to establish a reliable age for children's shift; individuals in this study have very different developmental shift points. This result corroborates conventional lore of a developmental shift and supports that some individuals persist in dominant color use, even beyond the expected cut-off of 11 years.

This is consistent with some individuals having a higher C_w than HM in the EB ratio.

Much research on color and on color and form has influenced writing on the Rorschach Test. Further, theorizing and research has occurred on color, form and movement confined to the Rorschach. Following are reviews of this literature.

Thetford (1952) compares Rorschach results administered to 50 schizophrenic children, ages six to seventeen years, with those administered to 179 normal children. He finds at all age levels, except adolescence, schizophrenic children have more HM responses than normal children. Particularly during prepubescence, schizophrenic children produce significantly more HM responses. This suggests that normal children find outlets other than excessive fantasy for their energies. Further, schizophrenic children consistently produce a preponderance of HM responses, whereas normal children progressively increase their response quality over developmental time. Also, while normal children's HM's move developmentally from passive, static HM's in the earliest ages towards active, energetic ones in adolescence, exactly the opposite trend occurs in schizophrenics. Thus, the schizophrenic appears as an early highly energized individual. With need to engage the external environment thwarted, by adolescence he

appears a passive, fantasy dominated, and disconnected individual.

Further, this study shows that careful use of HM responses can reveal an individual's orientation towards others. This is the significance which Piotrowski (1957) and Schachtel (1950, 1966) see in HM responses. The Burstein and Loucks System incorporates scoring for such subtleties.

Singer and Spohn (1954) investigate the EB in hospitalized schizophrenics. They find that intratensive ($HM > C_w$) types are less active motorically than extratensive ($C_w > HM$) types. Further, they find that those with active HM's are significantly less active motorically than those with many static HM's. Also, they find that using C_w in statistical efforts adds little predictive weight. Rather, just the presence and type of HM's provide clear predictions. Here is corroboration of Rorschach's initial suppositions of an inverse relationship between HM responses and actual motoric behavior, albeit in a distinctly skewed population. This result also casts doubt upon the value of C_w in the EB and even upon the EB itself. If C_w adds no predictive power, perhaps it is misconstrued or even unneeded.

Klopfer, Spiegelman, and Fox (1956) review the accepted wisdom about normal developmental sequences of children's Rorschach responding. The two to three year

old child pays little attention to the card's details, usually responding perseveratively or with intermittent card rejections, giving only easy responses.

By four years, normal children attend to one stimulus aspect in each card to meet the situation's demand characteristics. Such efforts often display confabulatory reasoning, making the whole agree with an identified part or a part agree with the identified whole, although such agreement has no apparent basis in the blot. By five years children usually offer combinations of confabulatory percepts. By age seven children begin to move towards the adult norms, providing more cognitive complexity and integrative form responses. Nonetheless, it is not unusual to earlier types of organizational activities up until children are prepubescence.

Meili-Dworetzki (1956) presents a genetic Rorschach interpretation. This perspective is particularly informative for HM and C. Differentiation, the process of increasing mental and psychological complexity, keynotes development. This increase in complexity manifests on the Rorschach in numerous ways. There are increases in number of responses, in number of HM's, in use of shading, in number of different determinants used, in quality of form, etcetera: all as age increases.

Various investigators report the presence of C responses before three years of age differently. Meili-

Dworetzki (1956) resolves these discrepancies by noting they are attributable to scoring differences. Those including color naming report pre-3 year olds as having many color responses, whereas those not including color naming report little color in pre-3 year old protocols. Thus, it is likely that pre-3 year olds do perceive and respond to color. By 3, they provide responses wherein color plays a determining role. By 5 years of age color naming drops out of normal children's records. From 5 years on, children start incorporating colors and form into acceptable percepts. This persists until approximately 8 years of age, when form begins having upper hand in most percepts, and frequently there are rejections of color card, apparently due to color irritation. At the same time shading and form play greater perceptual roles. An overriding developmental process is increasing plasticity of mental operations, manifested in many of these changes.

Meili-Dworetzki (1956) sees three criterial developmental changes being necessary for children to produce HM responses: this increase in mental plasticity, evolution of visual representations of humanness differentiated from earlier images of a discontinuous face and stick figure, and increases in internal processes of representation with decreases in external processes of representation (pantomime or gesture moving towards

imagination). The most innovative element here is changing capacities for visually representing humanness in children's development. This trend is apparent in differences amongst different aged children's drawings of humans and objects. At first, there is little that distinguishes one thing from another in children's drawings, but as children reach 7 or 8 years of age, quality of representations improves markedly. Meili-Dworetzki argues that only when children have reached this conceptual level does perception of human shapes occur in Rorschach responses.

This development of capacities in Rorschach responding offers confirmation of Schachtel's (1943, 1950, 1959, 1966) thesis that children move from an autocentric mode to a more allocentric mode of perceiving, parallel to and part of psychological growth. Again, such support suggests that perception of HM's is a developmental attainment and that such an attainment occurs with a concomitant lessening of reliance upon color for seeing the world.

Shapiro (1960) and Piotrowski (1960) corroborate these ideas about the development of HM and C responses. Shapiro documents the process of vision recovery blind persons experience following corrective surgery. Initially upon being able to perceive light, such individuals appreciate color, see different hues. They,

however, do not report perceiving form or contour. Through remedial efforts they eventually gain the ability to see form. The reported subjective experience uniformly represents initial color perception as overwhelming and imposing. Such experiences may be pleasurable or unpleasurable, but individuals do not feel control over such experience, even if prior to gaining sight, they had been competent in various employments and activities. Once they perceive form, again, uniformly, they report feeling able to control or manage the experiences of seeing. While not necessarily analogous to children's perceptual changes, these reports lend anecdotal support to the Schachtel's relationships between developmental aspects of color and form use in Rorschach responding and corresponding personality developments.

Together these findings provide the basis for synthesizing a coherent theoretical formulation of the significance of HM and C responses. Schachtel's perspective (1943, 1950, 1959, 1966) provides a biologically and psychologically theoretical framework, consistent with most findings and theories. Following is a brief hypothetical, developmental synthesis.

At birth, children can see only the crudest aspects. Largeness, nearness, general shape, and color seem most likely available aspects. Of these, only general shape and color offer discrimination of different objects. As

children learn there are different external objects, discrimination becomes important. This probably occurs very early, even when children first realize that mothers are not always present. Thus, shape and color quickly become central ways in which children grasp the environment.

At the same time, it is likely that children's cognitive abilities to discriminate different shapes develop later than abilities to discriminate colors. Therefore, initially color plays a more dominant role in perceptions. It may be merely coincidental that this corresponds with children having very poor ability to maintain object constancy, when children feel very passive, and they respond in apparently global, undifferentiated affective ways. In any case, children begin developing memory for hidden objects at the same time they begin offering more Rorschach form responses, thus initiating the development of allocentric processes.

This time also is when children are able to be emotionally more stable: to delay gratification, to tolerate frustrations, to imagine others and be mollified. This corresponds closely to the psychodynamic notion of internalization of object representations. Prior to this time, infants respond to others, but more with emotionally global patterns than with recognition of similitude between internal template and outer individual. This

ability to hold internal images constant seems parallel to increased reliance upon form in the Rorschach.

As allocentric development proceeds, children become capable of more relatedness with others. The autocentric/allocentric balance reflects the tension of self focus/other awareness, of emotional reactivity/intellectual consideration and distance, of passive reactivity/active projective efforts at control.

HM responses appear as children move through latency. Children now know that others are not there merely for personal benefit. Children begin to move towards more equal relatedness with others through the projection of personal feelings to others in recognizable contexts. Thus, for example, the child is able to offer mother comfort, if she burns her hand on the stove. The child understands from personal burns and feelings about them something about how mother feels. This ability to empathize grows and offers the possibility of interacting in a caring and balanced manner with others.

If, however, the child is not situated in a supportive environment, if others are harsh and injurious, then projective tendencies may not be empathic but rather may posit others to be doubted and feared. Such projective tendencies lead towards a paranoid or obsessive disposition towards others. Whether benign or malignant, though, the child's developing capacity to internalize and

then project relatedness with others establishes a style of relating which is difficult to change, for better or worse.

Thus, when an individual provides C's and HM's to the Rorschach Inkblots, he offers an image of his stance in the world: how he handles emotions, how he perceives others, how he imagines himself relating with others, and how he conceives of the world --benign, indifferent, or malignant. This image has implications for all aspects of an individual's living, since it reflects such elemental aspects of perceptual and psychological existence.

II. THE DIFFERENTIAL PERSONALITY QUESTIONNAIRE (DPQ)

A. HISTORY OF THE DPQ

Auke Tellegen of the University of Minnesota developed the DPQ over several years, eventuating in its publication in 1982. Tellegen perceives a disparity amongst the various trait measures of personality. No two measures correspond closely with each other. The wide range of personality factor names reflects this lack of agreement. He thinks that in such overlap but non-identity of factors must exist some clearer, more discrete factors, which have so far escaped identification by research efforts.

He has set upon a multi-year, multi-study process of factor analytically clarifying theorized traits and validating traits experimentally, arriving at a 300 item, self-report measure with 11 separate and essentially non-overlapping factors/scales, 3 second-order factors/scales, and 6 validity scales, with reportedly good reliability and validity.

All reported normative efforts have been with college students. Test-retest reliabilities for the 11 primary factors, after a month's interval, range from .82 to .92. Alpha coefficients for the 11 factors range from .76 to .89 (Tellegen, 1982).

B. NATURE OF DPQ SCALES

The 11 scales have been factor analytically derived; so that, each scale has descriptors associated with it through its statistical creation from other named factors. Following are the 11 scales and descriptors (Tellegen, 1982).

The first scale is "Wellbeing." High scorers are "happy, cheerful, feeling good about self, seeing a bright future, and engaged in a happy and exciting life." Low scorers are seldom happy, with few experiences of joy or excitement.

Next is "Social Potency." High scorers are "forceful, decisive, able and willing to take leadership roles, and enjoying the social spotlight," while low scorers "avoid leadership roles, influencing others, being in the spotlight, and prefer others to take charge."

"Achievement" is the third scale. High scorers "work hard, enjoy demanding tasks, are perfectionistic, and often put work above other concerns." Low scorers would rather not work very hard and are not very ambitious or perfectionistic.

Scale four is "Social Closeness." High scorers value other people, turn to others for help and comfort, and maintain warm and affectionate interpersonal relationships. Low scorers like to be alone, are often aloof, and prefer to work out problems alone.

Scale five is "Stress Reaction." Those scoring high are nervous, feel vulnerable and sensitive, often worry, feel miserable and guilty, and are easily upset. Those scoring low are able to put worries and fears out of mind, to get over upsetting situations quickly, and do not feel guilty.

"Alienation" is scale six. High scorers feel mistreated, persecuted, unlucky, and used. Low scorers feel fairly treated.

Scale seven, "Aggression," displays high scorers as able to hurt others, physically aggressive, vindictive,

and liking violent situations. Low scorers usually turn the other cheek, do not enjoy violence, and do not take advantage of others.

Scale eight is "Control." Those scoring high are reflective, cautious, plodding, rational, sensible, and planful. Those scoring low are impulsive, spontaneous, may be reckless and careless, and prefer 'playing things by ear.'

"Harmavoidance" is scale nine. High scorers do not enjoy adventurous excitement, but rather prefer safer, if tedious activities. Low scorers enjoy risky stunts and adventures over more mundane activities.

"Traditionalism" is scale ten. High scorers are conservative, endorsing high moral values, supporting institutional and religious values, disparaging permissiveness, and engaging in strict child rearing practices. Low scorers often question authority, long-held religious values, tend towards selfishness, and are not prudish.

"Absorption" is scale eleven. High scorers are able to become readily involved in internal (imaginary) or external stimuli (sensations), thereby suspending normal attention to the environment. Low scorers are not easily caught in sensory and imaginative experiences.

The three higher order factors/scales are composites of different loadings from the primary 11 scales. These

secondary scales are: "Positive Affectivity, Negative Affectivity, and Constraint." Each scale's label reflects the scale's character.

The six validity scales offer different images of how an individual might dissimulate. Associative Slips offers the individual obvious association choices, while presenting associatively attractive alternatives, so that the individual responding without careful consideration might offer several incorrect answers.

Unlikely Virtues is analogous to similar elements of the MMPI's Lie scale. Individuals respond to questions, which truthfully few people could endorse, but which those desiring to present a false, positive image might endorse.

Desirable Response Inconsistency, True Response Inconsistency, and Variable Response Inconsistency offer images of response styles which might suggest responding without due consideration. Balancing the question content reduces the confounding of such scales with primary factor scales. Thus, the response style is the primary concern, not the question's content.

Index of Invalid Responding is a composite of other validity scales, providing weighted summation of other

validity scales' contribution to an overall estimation of an individual's response truthfulness.

C. RESEARCH AND THE DPQ

Little research has occurred with the DPQ, since it is a new instrument. Discussion follows of the reported studies.

Tellegen and Atkinson (1974) review the hypnotizability literature and find that few instruments determining suggestibility offer reliable results. They statistically derive three scales: Absorption, Dissociation, and Relaxation, which provide robust assessment of an individual's susceptibility to hypnosis. Of these three, only Absorption correlates significantly with any individual's susceptibility. This scale, Absorption, has become a DPQ factor.

Tellegen (1981) enters an ongoing debate between trait theorists and behavioral thinkers. Trait theorists perceive individuals as acting out of internal psychological proclivities, while behavioral thinkers perceive behavior in stimuli/response paradigms. He argues that the Absorption scale clarifies this debate, offering validity to each side's argument, thus suggesting that these paradigms are not mutually exclusive. Specifically, Tellegen suggests that those subjects

gaining high Absorption scores are more experiential or respondent, while low scorers are more instrumentally disposed. Thus, high absorption scale scores indicate a greater environmental connectedness and lessened scores indicate greater reliance on internal mechanisms.

Tellegen fails to see that even more resolution is apparent by noting that in absorption the individual must maintain focus, a process not environmentally conditioned. Thus, the absorbed individual may focus inwardly, thereby offering trait theorists support, or outwardly, offering behavioral thinkers support. Only by maintaining focus does absorption occur. This absorption seems to be a function of internal factors but does not occur without external maintenance, such as gravity, oxygen, and food. Interaction appears essential for any cognitive process.

Zevon and Tellegen (1982) make similar efforts by addressing philosophical issues of the apparent incompatibility between idiographic and nomothetic approaches. They argue that each approach informs the other. While not compatible within an experimental design, theoretically alternate or corollary designs provide data which enrich subsequent research.

Goleman (1986) reports on ongoing research with twins raised apart. The DPQ measures similarities of twins' psychological functioning. Of the 11 DPQ scales, only Social Closeness, Control, Achievement, and Aggression

account for less than 50% of the variance between twins. While many confounding variables may affect the statistics, the high figures, especially of Social Potency ($r=.61$), Traditionalism ($r=.60$), and Stress Reaction ($r=.55$), suggest that genetics determine human behavior more than most personality theorists presently accept. Careful control for confounding variables, such as similarity of environments, SES, parenting, and schooling, plagues most separated twins research. This article suggests that the same problems exist in this research.

Tellegen, Lykken, Bouchard, Wilcox, Segal, and Rich (in press) provide a scholarly review of the same study which Golman (1986) discusses. They attempt to account for the differences in data from monozygotic twins and from dyzygotic twins, with four groups: those raised apart and those raised together. Tellegen, et al (in press) apply six different theoretical/statistical models to the data. By comparison of the different models' accounting for variances within and between groups, they conclude that "heritabilities estimated by the full model ranged from .39 to .58 (p. 2)." Further, the contribution of family and environment to personality traits appears to be negligible.

In sum, Tellegen has developed a well-designed, new generation personality measure. It incorporates much information from older instruments.

Little research has been done with the DPQ. This study adds to the body of normative and validity studies of the DPQ.

III. SUMMARY AND STATEMENT OF THE PROBLEM

The Rorschach Inkblot Test has a long history of implementation. This history includes no less than six published scoring systems. Throughout, HM and C responses have been central scoring components and pivotal in interpretive efforts.

At the same time, conceptual underpinning for HM and C responses' significance has been clinical or anecdotal, without much substantiating research. Most research has adopted Hermann Rorschach's original assumptions about HM and C responses. This is particularly clear in adoption of C response weightings, a procedure which Hermann Rorschach himself termed "arbitrary."

The DPQ is a new-generation personality measure. It has reportedly good reliability and relatively clean, separate scales.

The present study will investigate the nature of HM and C responses. There will be no C response weightings. Nonetheless, synthesis of implications and inferences from the various systems inform the following statistical manipulations.

A factor analytic approach seems most parsimonious to the questions at hand. If HM and C responses are distinct entities with central significance to the way that individuals engage the Rorschach process, and, by inference, the world in general, then a factor analysis should reveal HM and C to be in distinct factors, with other Rorschach variables and DPQ variables correlating with these factors. These other Rorschach and DPQ variables should inform and expand understanding of HM and C responses. Specific hypotheses about how these other variables will inform and expand understanding follow.

As the frequency of HM responses increases across individuals, the following DPQ tendencies should occur: increases in the frequency of scores for Control, for Harmavoidance, and for Absorption. As individuals increase the rate of intellectual assessment before responding, they are likely to perceive and attempt to avoid dangerous situations. Responding more intellectually than motorically, such individuals are prone to being clumsy, further decreasing the likelihood of impulsively engaging in risky behavior. Thus, such individuals should display high scores on measures of control, of avoidance of potential physical injury, and of intellectual preoccupation. Hence, Control, Harmavoidance, and Absorption should contribute positively to a distinct factor, in which HM is prominent.

One might argue that Absorption relates to involvement with the external, possibly even more than with the internal. This seems to be clear from Tellegen's descriptors. Such involvement, however, only occurs through individual concentration. Getting absorbed in the environment entails getting intellectually engrossed at some level. It is not equivalent to being passively impacted by the environment, as suggested by many of the descriptors correlated with C responses.

As the frequency of C responses increases across subjects, the following DPQ tendencies should occur: decreases in the frequency of scores for Control, for Harmavoidance, and for Absorption. As individuals rely more on color to manage the world, delays in responding should decrease. Theoretically this reflects greater reliance upon emotional resources than ideational resources. Such individuals should display lessened risk assessment, leading to a lessened score on measures of danger avoidance. Similarly, as they rely more upon emotional resources, such individuals should show greater distractibility and lessened ability to concentrate.

Thus, these three scales of the DPQ should display opposite relationships with the frequency of HM responses and the frequency of C responses. Hence, C should be central to a factor different from that in which HM is prominent, and therein Control, Harmavoidance, and

Absorption should contribute negatively.

Other variables in the factor analysis include Rorschach variables likely from a psychoanalytic perspective to inform an understanding of HM and C responses. Thus, psycho-sexual scorings may provide insight into psychological maturity. Also included are other Rorschach location scorings, Imaginal Aspects scorings, and Justifications scorings. These classes of scorings should provide a good field from which the factor analytic statistical procedure may discern interpretable and meaningful relationships.

Further, as a way of gaining yet another image of the relationships between the variables, the researcher will perform canonical correlations.

CHAPTER III

METHOD

I. SUBJECTS

Subjects are college-aged males and females, either in the College Scholars program or the Honor students program at the University of Tennessee in Knoxville, Tennessee.

There are numerous criteria for selecting College Scholars: high school grade point average--usually 3.70 or higher, ACT scores--usually 30+, letters of reference, and results of an interview with a four person committee. College Scholars usually are independent, motivated, needing little outside structure, and wanting to pursue a hybrid academic program not readily available in existing departments.

Honors students have similar qualifications. Honors students, however, are able to find their academic needs met in existing academic departments.

There are 97 data records for either College Scholars or Honor students.

Initial descriptive statistics demonstrate that the relevant DPQ variables are distributed comparably to normative samples. Normative data are based upon 500

college females and 300 college males (Tellegen, 1982). The mean for Control is 14.57 ± 5.85 (confidence intervals in this study are standard deviations), compared to a normative mean of 14.20 ± 5.20 . These means do not differ significantly ($t = .5922$, 2-tailed $p < .80$). The mean for Harmavoidance is 13.49 ± 5.83 , compared to a normative mean of 15.05 ± 5.75 . These means are significantly different ($t = 2.4808$, 2-tailed $p < .05$). The mean for Absorption is 23.53 ± 7.27 , compared to a normative mean of 20.50 ± 7.10 . These means differ significantly ($t = 6.4211$, 2-tailed $p < .002$).

The mean for HM is 7.22 ± 5.70 . The Burstein-Loucks System (in press) has no normative data of a comparable age group; however, the Burstein-Loucks System (Ibid) does provide an HM mean for "Healthy Adults" of 3.5 ± 2.1 ($N = 50$) and Exner (1986) provides an HM mean for "Nonpatient Adults" of 4.19 ± 2.04 ($N = 600$). These means are significantly lower than this study's mean ($t = 6.3357$, 2-tailed $p < .001$ and $t = 4.8702$, 2-tailed $p < .001$, respectively). This is not surprising, though. College Scholars and College Honors students should be more intellectually inclined than a cross-section of nonpatient adults.

The mean of this study's subjects for sum C is 6.43 ± 3.77 . Adding the various color responses in Exner's data, without any weightings, the normative mean for sum C is

5.99 $\pm$ 3.7 for "Nonpatient Adults" ($N = 600$). These means are not significantly different ($t = 1.0747$, 2-tailed $p < .5$). The Burstein-Loucks System (in press) offers a mean for "Healthy Adults" for all color responses of 3.0 $\pm$ 2.5 ($N = 50$). This mean differs significantly from this study's mean ($t = 6.7285$, 2-tailed $p < .001$).

II. INSTRUMENTS

All subjects took the Rorschach Inkblot Test and the Differential Personality Questionnaire (DPQ). The subjects took the DPQ in small group settings, with monitor present. Each subject took the Rorschach in a one-to-one setting with an experienced administrator.

The three DPQ scales of primary interest in the present study are Absorption, Control, and Harmavoidance. The two Rorschach scorings of primary interest are Human Movement (HM) and Color (C). Other Rorschach scorings included in the factor analysis are Total Responses Per Subject, Mean Latency Per Subject, Animal Movement, Human Emotion, Object Movement, Texture, Vista, Achromatic Color, Form, Shading, Oral Overt, Oral Covert, Anal Overt, Anal Covert, Phallic Overt, Phallic Covert, Integrated, Articulated, Simple, Diffuse, Arbitrary, and Popular.

Also included were the subject's sex and status, either Honors student or Scholar.

III. PROCEDURES

Lists of participants in the College Scholars and Honors students programs at the University of Tennessee provided names and telephone numbers of potential participants. A researcher talked with each individual on the lists. Those agreeing to participate committed to dates for taking the measures.

Researchers explained all procedures to participants before any data collection. Each individual had the opportunity to not participate; since the Human Subjects Committee at the University of Tennessee has ruled that the measures collected present minimal risk to the participants, participants have provided merely verbal agreement.

First, participants took the DPQ, as well as other group measures, in a small group setting. Also, each participant took a short projective measure, the Van Lenneps, in a private office. At the end of the session, each participant agreed to a specific future date for taking the Rorschach.

Each participant returned later to take the Rorschach in a one-to-one setting with an experienced administrator.

Following this administration, each participant engaged in a structured interview with the administrator. This interview was tape-recorded.

Individuals scored all data. Undergraduate psychology majors scored the DPQ. Two different graduate researchers independently scored all Rorschach protocols. Reconcilers, seasoned graduate student Rorschach scorers, resolved any scoring differences. Sandra Loucks, Ph.D. then reviewed and resolved all records with scoring differences.

After resolution of any scoring discrepancies, undergraduate and graduate researchers coded data into the mainframe computer at the University of Tennessee. Researchers double-checked all entered Rorschach data for accuracy, comparing a printout to the original scoring record and correcting any discrepancies.

With the assistance of computer consultants, I transformed the data from alpha-numeric into numeric data. Following this transformation, I selected theoretically valuable variables for inclusion in this study. I then downloaded the data for these variables to floppy disks. Subsequently all but one of the analyses took place on an IBM-PC compatible computer (Leading Edge, Model D), utilizing the SPSS/PC+ statistical package (Norusis, 1985). I performed a canonical correlation with SAS on

the mainframe computer at the University of Tennessee (SAS, 1985).

IV. DATA ANALYSIS

The data were of two types: the DPQ variables and the Rorschach variables. The DPQ data were expressed as summation scores for each variable. The Rorschach data were expressed as summation scores for Total Responses Per Subject, averages for Mean Latency, categorical for Sex and status, and percentages of a given variable per subject for all other variables. I converted the variables expressed as percentages per subject to expressions of summation scores per subject. It seemed theoretically of value to have the data expressed in similar units of measurement. Blatt and Berman (1984), however, have argued that the practice of using summation scores per subject in Rorschach research is likely to misrepresent the data, particularly if the subject sample is not normatively distributed for number of responses. In the present sample there are two distinctly non-normative records, one of 151 and the other of 199 responses. Thus, I compared the two data sets with correlation matrices and t-tests for sex differences to assess the influence of number of responses.

I performed a reliability check on the scoring of HM and C responses. I compared the scorings of HM and C on randomly selected responses between the initial two scorings of the Rorschach protocols. This check of the Rorschach scoring for HM and C responses revealed that of 87 randomly selected scorings 8 were discrepant between the two initial scorers. This translates into .104 percent of the scorings being discrepant or .896 of the scorings being in agreement. Since subsequent to these scorings a seasoned Rorschach scorer reconciled all discrepancies, which then were rechecked by a senior consultant, the reliability of the data seemed good.

I obtained initial descriptive statistics and correlation matrices of the set of variables, both expressed as percentages and as summation scores, to assess the acceptability of the distribution and of the relatedness of variables.

Further, I subjected the data expressed as percentage scores to various measures of adequacy before running a factor analysis. I used the data expressed as percentage scores, since they had fewer significant differences (t-test) between variables means, suggesting that variables found to correlate sufficiently would probably also correlate sufficiently for the data expressed as summation scores. Inspection of the anti-image correlation matrix revealed variables of questionable value for factor

analysis, according to the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) (Norusis, 1986). I deleted these variables from further analysis. The resultant overall KMO value was acceptable. Further, I employed Bartlett's Test of Sphericity to assure that the factor analytic correlation matrix was not an identity matrix without significant correlations. Finally I inspected the off-diagonal elements of the anti-image covariance matrix as an indicator of acceptability for factor analysis (Dziuban & Shirkey, 1974).

Following such checks on the data's suitability for factor analysis, I performed a factor analysis. I arrived at an eight variable factor analysis.

I made further checks on the analyses. Following a final 'run' of the program with all parameters holding satisfactorily, as a check on the "robustness of the factors" (Lambert, 1988) I factor analyzed randomly determined split halves of the sample and compared the resultant matrices. In this stage, I deleted the two subjects with large numbers of responses (151, 199) in an effort to increase the factor analytic stability. All subsequent analyses were with these two subjects excluded. Then I ran the full factor analysis again, with the two subjects deleted.

I performed a factor analysis, identical to the reduced variable full factor analysis, on first the subset

of males, then on females. I compared the resultant factor matrices. Then I computed factor scores for the factor analyses and compared the males to females on each factor score. Then I performed a factor analysis with the same variables but with the data expressed as summation scores and compared the resultant matrix to that of the matrix derived using the data expressed as percentage scores. At the suggestion of a senior consultant, I ran a post-hoc factor analysis with HM, C, and other variables from the DPQ that theoretically might provide more insight into the psychological significance of HM and C responses.

Following these analyses, I performed simple canonical correlations with the variables of the factor analysis, with HM and then C designated as single canonical variables, to assess further the relationship between HM and C and the rest of the variables in the data set.

CHAPTER IV

RESULTS

Initial descriptive statistics demonstrated that included variables were acceptably distributed (Table 1). Examination of the correlation matrices, with Rorschach variables expressed both as summations and as percentages, revealed that numerous variables in the data set were correlated significantly with HM and with C, suggesting the suitability of a factor analysis (Table 2; Table 3, respectively). Tables 1A and 2A (Appendix A) present correlations for all variables in the study.

I performed a t-test on both sets of data, Rorschach variables expressed as summation scores and expressed as percentage scores, to assess whether there were any differences between the sexes. With the Rorschach data expressed as summation scores, there were 17 out of 22 Rorschach variables for which differences were significant: Total Responses per Subject, Mean Latency, Animal Movement, Human Movement, Object Movement, Texture, Vista, Form, Shading, Oral Covert, Anal Overt, Anal Covert, Phallic Overt, Articulated, Simple, Diffuse, and Arbitrary (Table 4). Of these significant differences, 15 were for variables which had been converted from expressions of percentage scores per subject to summation scores per

TABLE 1
DESCRIPTIVE STATISTICS

VARIABLE	MEAN	<u>S. D.</u>	RANGE	<u>N</u>
CONTROL	14.57	5.85	24.00	90
HARMAVOIDANCE	13.49	5.83	26.00	90
ABSORPTION	23.53	7.27	29.00	90
SUM R/SUBJECT	30.41	25.28	189.00	90
MEAN LATENCY	6.74	6.85	40.00	90
ANIMAL MOVEMENT	4.12	3.11	22.65	90
HUMAN EMOTION	.99	1.29	5.97	90
HUMAN MOVEMENT	7.22	5.70	37.75	90
OBJECT MOVEMENT	3.15	4.44	37.81	90
TEXTURE	1.44	1.72	7.96	90
VISTA	2.12	2.26	13.93	90
COLOR	6.43	3.77	16.12	90
ACHROMATIC COLOR	2.56	2.18	7.90	90
FORM	29.77	24.66	179.06	90
SHADING	4.69	6.61	53.73	90
ORAL OVERT	1.48	1.89	8.69	90
ORAL COVERT	.77	1.18	4.93	90
ANAL OVERT	.18	.47	2.37	90
ANAL COVERT	1.08	2.13	15.92	90
PHALLIC OVERT	.36	.90	5.20	90
PHALLIC COVERT	2.29	2.43	9.86	90
INTEGRATED	4.99	2.95	15.10	90
ARTICULATED	17.43	14.51	97.46	90
SIMPLE	3.75	7.64	38.27	90
DIFFUSE	1.57	2.49	17.91	90
ARBITRARY	3.29	3.55	24.16	90
POPULAR	6.05	2.14	11.01	90
SEX:				
MALE				54
FEMALE				43

TABLE 2
CORRELATIONS OF HM AND C WITH RORSCHACH DATA
EXPRESSED AS PERCENTAGE SCORES

	CONTROL	HARMA- VOIDANCE	ABSORP- TION	ANIMAL MOVE.	HUMAN EMOT.
HUMAN MOVE.	-.0091 (90) <u>P=</u> .932	.0291 (90) <u>P=</u> .786	.2035 (90) <u>P=</u> .054	.0964 (95) <u>P=</u> .353	.3696 (95) <u>P=</u> .000
COLOR	-.0702 (90) <u>P=</u> .511	-.0077 (90) <u>P=</u> .942	.2897 (90) <u>P=</u> .006	.2461 (95) <u>P=</u> .016	.1883 (95) <u>P=</u> .068
	HUMAN MOVE.	OBJECT MOVE.	TEXTURE	VISTA	COLOR
HUMAN MOVE.	1.0000 (95) <u>P=</u> 0.0	.0441 (95) <u>P=</u> .671	.1578 (95) <u>P=</u> .127	.2173 (95) <u>P=</u> .034	.1548 (95) <u>P=</u> .134
COLOR	.1548 (95) <u>P=</u> .134	.2935 (95) <u>P=</u> .004	.3086 (95) <u>P=</u> .002	.1436 (95) <u>P=</u> .165	1.0000 (95) <u>P=</u> 0.0
	ACHROM. COLOR	FORM	SHADING	ORAL OVERT	ORAL COVERT
HUMAN MOVE.	.1943 (95) <u>P=</u> .059	.0323 (95) <u>P=</u> .756	.1887 (95) <u>P=</u> .067	-.0117 (95) <u>P=</u> .910	.2129 (95) <u>P=</u> .038
COLOR	.5033 (95) <u>P=</u> .000	-.1291 (95) <u>P=</u> .212	.1913 (95) <u>P=</u> .063	-.1506 (95) <u>P=</u> .145	.1040 (95) <u>P=</u> .316

TABLE 2 (Continued)

	ANAL OVERT	ANAL COVERT	PHALLIC OVERT	PHALLIC COVERT	INTE- GRATED
HUMAN MOVE.	.2274 (95) <u>P</u> = .027	.0597 (95) <u>P</u> = .565	.1175 (95) <u>P</u> = .257	.1644 (95) <u>P</u> = .111	.4695 (95) <u>P</u> = .000
COLOR	-.2336 (95) <u>P</u> = .023	.2725 (95) <u>P</u> = .008	-.1375 (95) <u>P</u> = .184	-.1558 (95) <u>P</u> = .132	.2885 (95) <u>P</u> = .005
	ARTIC- ULATED	SIMPLE	DIFFUSE	ARBI- TRARY	POP- ULAR
HUMAN MOVE.	-.2744 (95) <u>P</u> = .007	-.3513 (95) <u>P</u> = .000	-.2711 (95) <u>P</u> = .008	.3463 (95) <u>P</u> = .001	.2970 (95) <u>P</u> = .003
COLOR	-.2444 (95) <u>P</u> = .017	-.2684 (95) <u>P</u> = .009	.1213 (95) <u>P</u> = .242	.2136 (95) <u>P</u> = .038	-.0317 (95) <u>P</u> = .760

(Coefficient / (Cases) / 2-tailed Significance)

TABLE 3
CORRELATIONS OF HM AND C WITH RORSCHACH DATA
EXPRESSED AS SUMMATION SCORES

	CONTROL	HARMA- AVOIDANCE	ABSORP- TION	ANIMAL MOVE.	HUMAN EMOT.
HUMAN MOVE.	-.0779 (90) <u>P=</u> .465	-.0984 (90) <u>P=</u> .356	.1492 (90) <u>P=</u> .161	.5999 (95) <u>P=</u> .000	.4765 (95) <u>P=</u> .000
COLOR	-.2468 (90) <u>P=</u> .019	-.0817 (90) <u>P=</u> .444	.1598 (90) <u>P=</u> .132	.3910 (95) <u>P=</u> .000	.1917 (95) <u>P=</u> .063
	HUMAN MOVE.	OBJECT MOVE.	TEXTURE	VISTA	COLOR
HUMAN MOVE.	1.0000 (95) <u>P=</u> .	.4493 (95) <u>P=</u> .000	.4900 (95) <u>P=</u> .000	.4599 (95) <u>P=</u> .000	.4609 (95) <u>P=</u> .000
COLOR	.4609 (95) <u>P=</u> .000	.5277 (95) <u>P=</u> .000	.4462 (95) <u>P=</u> .000	.3144 (95) <u>P=</u> .002	1.0000 (95) <u>P=</u> .
	ACHROM. COLOR	FORM	SHADING	ORAL OVERT	ORAL COVERT
HUMAN MOVE.	.2858 (95) <u>P=</u> .005	.7588 (95) <u>P=</u> .000	.5941 (95) <u>P=</u> .000	.5457 (95) <u>P=</u> .000	.5249 (95) <u>P=</u> .000
COLOR	.5154 (95) <u>P=</u> .000	.5432 (95) <u>P=</u> .000	.5184 (95) <u>P=</u> .000	.3213 (95) <u>P=</u> .002	.2847 (95) <u>P=</u> .005

TABLE 3 (Continued)

	ANAL OVERT	ANAL COVERT	PHALLIC OVERT	PHALLIC COVERT	INTE- GRATED
HUMAN MOVE.	.7086 (95) <u>P=</u> .000	.4438 (95) <u>P=</u> .000	.0904 (95) <u>P=</u> .384	.4496 (95) <u>P=</u> .000	.5592 (95) <u>P=</u> .000
COLOR	.3047 (95) <u>P=</u> .003	.3873 (95) <u>P=</u> .000	.0636 (95) <u>P=</u> .541	.1325 (95) <u>P=</u> .200	.3133 (95) <u>P=</u> .002
	ARTIC- ULATED	SIMPLE	DIFFUSE	ARBI- TRARY	POP- ULAR
HUMAN MOVE.	.7084 (95) <u>P=</u> .000	.5125 (95) <u>P=</u> .000	.3130 (95) <u>P=</u> .002	.7368 (95) <u>P=</u> .000	.4487 (95) <u>P=</u> .000
COLOR	.5020 (95) <u>P=</u> .000	.4019 (95) <u>P=</u> .000	.4213 (95) <u>P=</u> .000	.5063 (95) <u>P=</u> .000	.2311 (95) <u>P=</u> .024

(Coefficient / (Cases) / 2-tailed Significance)

TABLE 4
MEAN VARIABLE SCORES WITH RORSCHACH DATA
EXPRESSED AS SUMMATION SCORES

VARIABLE	MEANS		F VALUE	2-TAIL PROB
	MALES	FEMALES		
CONTROL	14.88	14.19	1.12	.706
HARMAVOIDANCE	13.12	13.93	1.13	.692
ABSORPTION	21.80	25.60	1.15	.658
SUM R/SUBJECT	32.35	28.07	6.35	.000**
MEAN LATENCY	8.09	5.12	3.97	.000**
ANIMAL MOVEMENT	4.41	3.66	2.39	.004**
HUMAN EMOTION	.97	.94	1.45	.214
HUMAN MOVEMENT	7.23	6.99	2.81	.001**
OBJECT MOVEMENT	3.26	2.78	5.63	.000**
TEXTURE	1.53	1.14	3.10	.000**
VISTA	2.41	1.61	3.47	.000**
COLOR	6.29	6.34	1.46	.212
ACHROMATIC COLOR	2.73	2.39	1.28	.409
FORM	31.08	26.80	5.79	.000**
SHADING	5.27	3.63	7.75	.000**
ORAL OVERT	1.49	1.28	1.70	.078
ORAL COVERT	.73	.72	2.41	.004**
ANAL OVERT	.21	.11	2.89	.001**
ANAL COVERT	1.11	.98	2.74	.001**
PHALLIC OVERT	.48	.18	4.75	.000**
PHALLIC COVERT	2.17	2.22	1.42	.245
INTEGRATED	4.90	5.08	1.13	.682
ARTICULATED	17.90	16.04	3.39	.000**
SIMPLE	4.41	2.67	10.62	.000**
DIFFUSE	1.55	1.48	3.21	.000**
ARBITRARY	3.56	2.73	2.77	.001**
POPULAR	6.10	6.01	1.09	.776

* = SIGNIFICANT AT THE .05 LEVEL.

** = SIGNIFICANT AT THE .01 LEVEL.

subject. When analyzed as percentages per subject, 11 means of the Rorschach variables were significantly different between the sexes (Table 5). This discrepancy between the two ways of expressing the data suggests that some of the variance between the sexes is in the Total Responses per Subject. Thus, it seemed appropriate to perform factor analyses on both sets of data. While Blatt and Berman (1984) indicate that the data expressed as percentages per subject provides the more suitable data set, comparison of the factor analytic results from the two different ways of expressing the data might clarify the issue.

I selected an eight variable subset of the data, based upon theoretical considerations, inspection of the correlation of variables (Tables 2 & 3), and inspection of the anti-image correlation matrix (AIC) for the data expressed as percentages. Since the data expressed as percentages provided fewer significant correlations than the data expressed as summations, I expected that whichever of these variables proved to be good candidates for inclusion in the factor analysis would prove so for a factor analysis with the data expressed as summation scores. First I deleted those variables with little theoretical importance and included those with good correlations, until the anti-image correlation matrix revealed those with poor AIC values, which thereby lowered the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value (Dziuban & Shirkey, 1974)

TABLE 5
MEAN VARIABLE SCORES WITH RORSCHACH DATA
EXPRESSED AS PERCENTAGE SCORES

VARIABLE	MEANS		F VALUE	2-TAIL PROB
	MALES	FEMALES		
CONTROL	14.88	14.19	1.12	.706
HARMAVOIDANCE	13.12	13.93	1.13	.692
ABSORPTION	21.80	25.60	1.15	.658
SUM R/SUBJECT	32.35	28.07	6.35	.000**
MEAN LATENCY	8.09	5.12	3.97	.000**
ANIMAL MOVEMENT	.16	.15	1.27	.409
HUMAN EMOTION	.03	.04	1.90	.029*
HUMAN MOVEMENT	.25	.26	1.47	.204
OBJECT MOVEMENT	.09	.10	1.15	.638
TEXTURE	.05	.05	1.49	.188
VISTA	.09	.07	1.38	.280
COLOR	.23	.24	1.27	.422
ACHROMATIC COLOR	.11	.01	1.08	.781
FORM	.08	26.80	5.79	.000**
SHADING	.14	.13	1.28	.418
ORAL OVERT	1.49	1.28	1.70	.078
ORAL COVERT	.02	.03	3.00	.000**
ANAL OVERT	.21	.11	2.89	.001**
ANAL COVERT	.03	.04	1.31	.357
PHALLIC OVERT	.48	.18	4.75	.000**
PHALLIC COVERT	.08	.08	1.16	.627
INTEGRATED	4.90	5.08	1.13	.682
ARTICULATED	17.90	16.04	3.39	.000**
SIMPLE	4.41	2.67	10.62	.000**
DIFFUSE	1.55	1.48	3.21	.000**
ARBITRARY	3.56	2.73	2.77	.001**
POPULAR	.25	.24	1.52	.166

* = SIGNIFICANT AT THE .05 LEVEL.

** = SIGNIFICANT AT THE .01 LEVEL.

(Table 6). I deleted these variables. I sought an overall KMO of at least .50000. I eventually obtained an overall KMO value of .67211 for the factor analysis, which is high in the "mediocre" but "acceptable" range of values (Ibid) (Table 7). This suggested that the data were correlated enough to factor analyze (Lambert, 1988).

Bartlett's Test of Sphericity produced a value of 99.05371, with a significance of .00000 (Table 7). This result suggested that the data do not provide an identity matrix, which would indicate the presence of random numbers rather than numbers with relationships. Next, I inspected the off-diagonal elements of the anti-image covariance matrix. I found that 50.0 percent of the elements were suspect ($> .09$), indicating a lack of relatedness of the variables (Table 7). This lack might influence the factor analytic procedure, such that it would have difficulty in deriving factors. Dziuban & Sharkey (1974) cite a cut-off value of 25 percent. Since the other measures of acceptability demonstrate adequate characteristics of the matrix, and since inspection of the covariance off-diagonal elements provides a more refined assessment of the matrix's psychometric properties than the other measures of acceptability (Lambert, 1988), I proceeded with the factor analysis.

I used the default Eigenvalue of 1.0000.

TABLE 6
VARIABLES WITH INSUFFICIENT AIC DIAGONAL VALUES

VARIABLE	AIC VALUE	DELETED FROM ANALYSIS
CONTROL	.40611	YES
HARMAVOIDANCE	.46566	YES
OBJECT MOVEMENT	.47823	YES
FORM	.50889	YES
ANAL OVERT	.31987	YES
PHALLIC OVERT	.45644	YES
INTEGRATED	.29704	YES
ARTICULATED	.24050	YES
SIMPLE	.24785	YES
DIFFUSE	.17522	YES
ARBITRARY	.23433	YES

TABLE 7
CRITERIA FOR INCLUSION
IN FACTOR ANALYSES

ANALYSIS	KMO VALUE	BARTLETT'S TEST OF SPHERICITY	SIGNIF- CANCE	% OFF-D. OF AIC
SUMMATION SCORES				
----- FULL	.68401	115.09158	.000000	53.6
PERCENTAGE SCORES				
----- FULL	.67211	99.05371	.000000	50.0
FEMALES	.64025	52.37540	.00347	42.9
MALES	.60762	71.70792	.000001	53.6
SPLIT-N:1	.59460	95.34249	.000000	64.3
SPLIT-N:2	.70517	61.59079	.00025	57.1
POST-HOC				
----- FULL	.54040	60.75982	.000001	42.9

I used the default extraction for the factors, Principal Component Analysis (Norusis, 1986). I rotated the initial data both orthogonally (default) with Varimax and obliquely with Oblimin. It seemed reasonable to suspect that, although the DPQ variables are essentially orthogonal factors themselves, the Rorschach variables might be inter-related. If the resulting matrices were different, and particularly if the Oblimin matrices were more interpretable, with fewer variables shared between factors, ill effects of interdependence of variables might be suspected (Hair, et al, 1979). Then the Oblimin matrices would offer the clearer image of the factors.

With the Varimax rotation there was one variable shared by factors; there was one variable shared in the Oblimin rotation. This non-difference left the choice of rotations dependent upon theoretical considerations. Since theory suggests inter-relatedness of the Rorschach variables, I performed subsequent rotations with Oblimin.

Then I split the group into randomly determined halves and performed a factor analysis with the same variables as in the full factor analysis on each half. In this phase, I deleted two subjects' data from further analysis in an effort to increase the overall factor stability, since they each had highly discrepant numbers of responses (151, 199). The first run entailed an N of 39, while the second had an N

of 45. Criterional values for these analyses are in Table 7. I then reran the full analysis with the two subjects' data excluded. Then I compared the two resultant sets of factor matrices of the split-N analyses, one to the other, and to the full analysis's matrix.

Between the two split-N matrices there were 10 variables which did not "stay put" in their respective factors, while 8 variables did remain in place (Tables 1B-3B, Appendix B). Since two of these had opposite signs, in fact, only 6 variables stayed in place.

Comparisons of the matrices of the two halves of the split-N with the full analysis matrix provided some further insight into the reliability of the final matrix. The first half of the split-N to the full analysis matrix revealed that 9 variables stayed in place, while 4 did not (Tables 1C-3C; Appendix C). The second half to the final matrix showed that 8 stayed in place, while 8 did not (Tables 1D-3D, Appendix D).

These results suggest that the factor matrix is less than stable. Comparison of the split-N matrices revealed 47% of the variables moving, while comparison of each half of the split-N to the whole revealed 41% of the variables moving.

It should be concluded that this factor analysis is subject to doubt; whether one accepts the split-N comparisons or the split-N to whole comparisons, the

variables did not "stay put" in either comparison. This suggests that chance is playing a role in the derivation of the factors. The extent of such chance is unclear, but with such randomness, conclusions must be tentative.

Then I ran a factor analysis with the data expressed as summation scores. The factors for this analysis are presented in Tables 8-10, and the factors for the analysis with the data expressed as percentage scores are presented in Tables 11-13. I labelled the dimensions according to psychoanalytic theory, particularly as conceived in the Burstein-Loucks System (in press), and where specific psychoanalytic meanings for dimensions are lacking, according to the information presented in the Literature Review. First is each variable's name, then the interpretative label, then the theoretical meaning of a negative loading, then the theoretical meaning of a positive loading, and finally the actual loading of the variable on the factor. Table 14 presents the correlation matrix for the factors.

In order to assess the actual contribution of differences between the sexes, subsequently I performed a factor analysis, identical to the full factor analysis with the percentage scores data, on first the subset of males, then on females. Criterional values for these analyses are in Table 7. The resulting factors are presented in dimensionalized form in Tables 15-17 for

TABLE 8
 FULL ANALYSIS (SUMMATION SCORES): FACTOR 1
 DEVELOPMENTAL ADJUSTMENT: CONFLICTED

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
SHADING	ANXIETY	LOW	HIGH	.79877
COLOR	AFFECTIVITY	UNEMOT.	EMOT.	.75230
TEXTURE	NEED FOR TOUCH	SATISF.	DEPRIVED	.70233
ORAL COVERT	DISGUISED N.F.N.	SATISF.	DEPRIVED	.46345
HUMAN MOVE.	WORLD MEANING	EXTERNL	INTERNL	.45172

TABLE 9
FULL ANALYSIS (SUMMATION SCORES): FACTOR 2
DEVELOPMENTAL ADJUSTMENT: UNCONFLICTED

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
HUMAN MOVE.	WORLD MEANING	EXTERNL	INTERNAL	.88801
HUMAN EMOT.	EMOT. CONNECT.	SCHIZ.	INVOLVED	.64055
ORAL COVERT	DISGUISED N.F.N.	SATISF.	DEPRIVED	.32638

TABLE 10
FULL ANALYSIS (SUMMATION SCORES): FACTOR 3
DISTANT UNCONFLICTED

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
ABSORPTION	EXPERIENCE INVOLV.	DIS- TRACTED	ENGROS- SED	.77577
ANAL COVERT	DISGUISED CONTROL/ HOSTILITY	LOW	HIGH	.69272

TABLE 11
 FULL ANALYSIS (PERCENTAGE SCORES): FACTOR 1
 UNCONSCIOUS CONFLICTED

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
ORAL COVERT	DISGUISED N.F.N.	SATISF.	DEPRIVED	.79959
SHADING	ANXIETY	LOW	HIGH	.69282
TEXTURE	NEED FOR TOUCH	SATISF.	DEPRIVED	.66278
ANAL COVERT	DISGUISED CONTROL/ HOSTILITY	LOW	HIGH	.39183

TABLE 12
 FULL ANALYSIS (PERCENTAGE SCORES): FACTOR 2
 RUMINATIVE WITHDRAWN

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
ABSORPTION	EXPERIENCE INVOLV.	DIS- TRACTED	ENGROS- SED	.82039
COLOR	AFFECTIVITY	UNEMOT.	EMOT.	.68065
ANAL COVERT	DISGUISED CONTROL/ HOSTILITY	LOW	HIGH	.53202

TABLE 13
FULL ANALYSIS (PERCENTAGE SCORES): FACTOR 3
HUMAN ATTENTION

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
HUMAN MOVE.	WORLD MEANING	EXTERNL	INTERNAL	.78237
HUMAN EMOT.	EMOT. CONNECT.	SCHIZ.	INVOLVED	.72527
ANAL COVERT	DISGUISED CONTROL/ HOSTILITY	LOW	HIGH	-.31117

TABLE 14
FACTOR CORRELATION MATRICES

	FACTOR 1	FACTOR 2	FACTOR 3
----- FULL ANALYSIS MATRIX (SUMMATION SCORES) -----			
FACTOR 1	1.000		
FACTOR 2	.24291	1.000	
FACTOR 3	.26591	.09506	1.000
----- FULL ANALYSIS MATRIX (PERCENTAGE SCORES) -----			
FACTOR 1	1.000		
FACTOR 2	.225	1.000	
FACTOR 3	.179	.088	1.000
----- FEMALE ANALYSIS MATRIX (PERCENTAGE SCORES) -----			
FACTOR 1	1.000		
FACTOR 2	.217	1.000	
FACTOR 3	.064	.043	1.000
----- MALE ANALYSIS MATRIX (PERCENTAGE SCORES) -----			
FACTOR 1	1.000		
FACTOR 2	-.160	1.000	
FACTOR 3	.220	-.107	1.000

TABLE 15
FEMALE ANALYSIS (PERCENTAGE SCORES): FACTOR 1
CONFLICTED HUMAN ATTENTION

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
TEXTURE	NEED FOR TOUCH	SATISF.	DEPRIVED	.83424
HUMAN EMOT.	EMOT. CONNECT.	SCHIZ.	INVOLVED	.78513
SHADING	ANXIETY	LOW	HIGH	.65592
COLOR	AFFECTIVITY	UNEMOT.	EMOT.	.37510

TABLE 16
FEMALE ANALYSIS (PERCENTAGE SCORES): FACTOR 2
IDEATIONAL ATTENTION

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
ABSORPTION	EXPERIENCE INVOLV.	DIS- TRACTED	ENGROS- SED	.84344
HUMAN MOVE.	WORLD MEANING	EXTERNL	INTERNL	.68425
ANAL COVERT	DISGUISED CONTROL/ HOSTILITY	LOW	HIGH	.50363
COLOR	AFFECTIVITY	UNEMOT.	EMOT.	.47963

TABLE 17
FEMALE ANALYSIS (PERCENTAGE SCORES): FACTOR 3
DEVELOPMENTAL ADJUSTMENT: CONFLICTED

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
ORAL COVERT	DISGUISED N.F.N.	SATISF.	DEPRIVED	.89263
SHADING	ANXIETY	LOW	HIGH	.53844
ANAL COVERT	DISGUISED CONTROL/ HOSTILITY	LOW	HIGH	.40107

females and in Tables 18-20 for males.

To further assess the differences between the sexes, I computed factor scores for each factor for the full factor analysis. I then compared the males and the females on each derived factor score with a t -test. The results of this comparison are presented in Table 21. There was a significant difference between the means on Factor 1 factor analysis ($t = 1.96$, $p < .05$).

I then ran a final post-hoc factor analysis, with Human Movement, Color, and from the DPQ: Absorption, Control, Harmavoidance, and Social Closeness. The results of this analysis are in Tables 22 and 23 and criterional values are in Table 7.

To provide yet another image of the relationships of the variables to HM and C, the researcher then performed simple canonical correlations on the data expressed as percentage scores. HM and C were each set as one canonical variable in the canonical correlation opposite the rest of the variables forming the other canonical variable. The results of these analyses are presented in dimensionalized form in Tables 24 and 25. Both canonical correlation were significant ($p < .01$).

TABLE 18
 MALE ANALYSIS (PERCENTAGE SCORES): FACTOR 1
 UNCONSCIOUS CONFLICTED HUMAN ATTENTION

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
ANAL COVERT	DISGUISED CONTROL/ HOSTILITY	LOW	HIGH	.89566
ORAL COVERT	DISGUISED N.F.N.	SATISF.	DEPRIVED	.58210
COLOR	AFFECTIVITY	UNEMOT.	EMOT.	.51778
HUMAN EMOT.	EMOT. CONNECT.	SCHIZ.	INVOLVED	.41839

TABLE 19
 MALE ANALYSIS (PERCENTAGE SCORES): FACTOR 2
 DISCONNECTED

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
HUMAN MOVE.	WORLD MEANING	EXTERNL	INTERNAL	-.78881
HUMAN EMOT.	EMOT. CONNECT.	SCHIZ.	INVOLVED	-.78508
ORAL COVERT	DISGUISED N.F.N.	SATISF.	DEPRIVED	-.54396
SHADING	ANXIETY	LOW	HIGH	-.53148
TEXTURE	NEED FOR TOUCH	SATISF.	DEPRIVED	-.39095

TABLE 20
MALE ANALYSIS (PERCENTAGE SCORES): FACTOR 3
CONFLICTED RUMINATION

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
ABSORPTION	EXPERIENCE INVOLV.	DIS- TRACTED	ENGROS- SED	.91213
COLOR	AFFECTIVITY	UNEMOT.	EMOT.	.48169
TEXTURE	NEED FOR TOUCH	SATISF.	DEPRIVED	.33712

TABLE 21
COMPARISON OF MEAN FACTOR SCORES FOR
MALES AND FEMALES (PERCENTAGE SCORES)

FACTOR	MEANS		<i>F</i> VALUE	2-TAILED PROBABILITY
	----- FEMALES	MALES		
1	-.0756	.1535	1.96	.032*
2	.2016	-.2052	1.11	.731
3	.0365	-.0340	1.11	.747

* = SIGNIFICANT AT .05 LEVEL.

** = SIGNIFICANT AT .01 LEVEL.

TABLE 22
 POST-HOC FACTOR ANALYSIS: FACTOR 1
 (PERCENTAGE SCORES)
 AFFECTIVE HUMAN ATTENTION

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
ABSORPTION	EXPERIENCE INVOLV.	DIS-TRACTED	ENGROSSED	.67133
COLOR	AFFECTIVITY	UNEMOT.	EMOT.	.56214
HARMAVOIDANCE	SELF SAFETY	RISK TAKER	PLAYS SAFE	-.54793
HUMAN MOVE.	WORLD MEANING	EXTERNL	INTERNAL	.48498
CONTROL	KEEP ORDER	IMPUL- SIVE	OBSES- SIVE	-.46113
SOC. CLOSENESS	DESIRE FOR OTHERS	DISTANT	CLOSE	-.37460
HUMAN EMOT.	EMOT. CONNECT.	SCHIZ.	INVOLVED	.36111

TABLE 23
 POST-HOC FACTOR ANALYSIS: FACTOR 2
 (PERCENTAGE SCORES)
 IDEATIONAL HUMAN ATTENTION

VARIABLE	INTERPRETATION	LOW	HIGH	LOADING
HUMAN EMOT.	EMOT. CONNECT.	SCHIZ.	INVOLVED	.70089
CONTROL	KEEP ORDER	LOW	HIGH	.61439
HUMAN MOVE.	WORLD MEANING	EXTERNL	INTERNAL	.53584
HARMAVOIDANCE	SELF SAFETY	RISK TAKER	PLAYS SAFE	.50567

TABLE 24
 CANONICAL CORRELATION: HM WITH 7 VARIABLES
 STANDARDIZED CANONICAL COEFFICIENTS

VARIABLE	INTERPRETATION	LOW	HIGH	COEFF.
HUMAN EMOT.	EMOT. CONNECT.	SCHIZ.	INVOLV.	.7619
ABSORPTION	EXPERIENCE INVOLV.	DIS- TRACTED	ENCROS- SED	.4241
ORAL COVERT	DISGUISED N.F.N.	SATISF.	DEPRIVED	.4096
ANAL COVERT	DISGUISED CONTROL/ HOSTILITY	LOW	HIGH	-.1950
TEXTURE	NEED FOR TOUCH	SATISF.	DEPRIVED	-.1217
SHADING	ANXIETY	LOW	HIGH	.1150
COLOR	AFFECTIVITY	UNEMOT.	EMOT.	.0574

CANONICAL CORRELATION = .4723; $f = 3.3630$, $p < .0033$.

TABLE 25
CANONICAL CORRELATION: C WITH 7 VARIABLES
STANDARDIZED CANONICAL COEFFICIENTS

VARIABLE	INTERPRETATION	LOW	HIGH	COEF.
TEXTURE	NEED FOR TOUCH	SATISF.	DEPRIVED	.4718
ANAL COVERT	DISGUISED CONTROL/ HOSTILITY	LOW	HIGH	.4637
ABSORPTION	EXPERIENCE INVOLV.	DIS- TRACTED	ENCROS- SED	.4608
ORAL COVERT	DISGUISED N.F.N.	SATISF.	DEPRIVED	-.2215
HUMAN EMOT.	EMOT. CONNECT.	SCHIZ.	INVOLV.	.1800
SHADING	ANXIETY	LOW	HIGH	.1741
HUMAN MOVE.	WORLD MEANING.	EXTERNL	INTERNL	.0585

CANONICAL CORRELATION = .4667; $f = 3.2611$, $p < .0042$.

CHAPTER V

DISCUSSION

I. CONCLUSIONS

Two types of conclusions are available from these results. The first are about the psychological posture of the College Scholars and Honor students. The second are about the psychological significance of HM and C in Rorschach behavior. The lack of substantiation of the Rorschach variables by strong correlations with the DPQ scales limits particularly this second set of conclusions.

I deleted Harmavoidance and Control from the factor analyses because of insufficient AIC values (Table 6, p. 76). Absorption did contribute to factors and provided some insight into the nature of the Rorschach variables. I added Social Closeness to the post-hoc factor analysis; however, its contribution was minimal.

Several considerations may bear on these results. First, the DPQ scales are essentially orthogonal, created factor analytically by Tellegen (1982) to be separate and distinct. Thus, these scales may have difficulty interacting statistically with one another, which could contribute to an inability of the present factor analytic procedures to pull them into relationships with each other.

This separateness then could cause the DPQ scales to be less readily assimilated into statistical interactions with other variables which relate, at least theoretically, with all the DPQ scales.

Second, the DPQ scales afford different types of data from that of the Rorschach variables. The DPQ scales provide summation scores within a finite range. The Rorschach variables provide either percentage scores, with a range from 0.0 to 1.0 or summation scores with a potentially infinite range. Further, the DPQ scales cover a broad range of possibly correlated behaviors which load on a given scale. In other words, the DPQ scales provide indications of behavioral dimensions. The Rorschach variables are not so constructed. They have been dimensionalized in the relevant tables in order to facilitate interpretation; nonetheless, rather than dimensions, generally they provide indications of underlying influences upon psychological functioning. Such influences are not necessarily dimensions of functioning, but rather are more apt to permeate many different dimensions. Thus, the DPQ scales provide a somewhat more psychologically shallow, behaviorally consistent, and factorally distinct representation of functioning, while the Rorschach variables provide a somewhat psychologically deeper, pervasive, and therefore factorally not readily differentiated representation of functioning.

Thus, the expectation of strong statistical interactions between the DPQ scales and the Rorschach variables may have fallen on the familiar rocks of the difficulties of comparing 'apples and oranges.' Of course, other interpretations of such non-interactions are possible. The most telling would be that the supposed psychological significance of the Rorschach variables is just not born out by this study, suggesting that the Rorschach does not access meaningful information about psychological functioning. This is plausible and, at least from this study's results, irrefutable. In order to decide such a question, a third set of measures with which to compare the Rorschach and DPQ data is needed. Provided such a third set of measurements had good validity, a clearer determination of the basis for the lack of relatedness between the DPQ scales and the Rorschach variables might be forthcoming.

Despite these shortcomings of the interactions of Rorschach variables and DPQ scales, the results do provide support for the notion of EB. In the factor analysis of the full group, HM and C adhered to separate factors, in which other variables provided support for common notions of the psychological significance of HM and of C. These loadings of variables also were reflected in the canonical correlations.

C appears to be related to affectivity, evidence of developmentally early psychosexual issues, and to a lesser

extent involvement with experiences and others. HM appears to be related to ideation, control, evidence of anal psychosexual issues, involvement with experiences and others, inter-personal connections, and by inference, to empathic behaviors. Primarily through activities of involvement in experience, accessed by Absorption, do HM and C correlate strongly with each other.

These conclusions support Rorschach's (1932) conception of EB. Even more, they support Schachtel's (1943, 1950, 1959, 1966) phenomenologically derived propositions about the developmental and psychological significance of the use of form, color, and projection.

From these results it seems reasonable to suggest that HM and C are well conceived constructs. In order to claim that they actually are such well conceived constructs, one needs substantiation with another measure of psychological functioning. The DPQ did not provide this substantiation.

Therefore, future efforts at determining the psychological significance of HM and C should focus upon obtaining some form of better substantiation. This might include behavioral efforts and use of well-validated measures of psychological functioning. The DPQ is such a measure, and yet, it did not correlate sufficiently with Rorschach variables to provide substantiation. Before concluding that the Rorschach Inkblot Test is invalid, future efforts at substantiation should attend to the

subtleties of measure construction, nature of data expression, implicit domains of variables' influence, and the influence of these subtleties on statistical procedures. Only through careful consideration of and controlling for these aspects are results likely to answer convincingly questions about the psychological significance of HM and C responses on the Rorschach Inkblot Test.

II. INTERPRETATION OF CORRELATION MATRICES

The correlations between HM and C and the other variables in the factor analysis are presented in Table 2 (p. 68) for the Rorschach data expressed as percentages and in Table 3 (p 70) for the Rorschach data expressed as summation scores. Discussion begins with the Rorschach data expressed as percentages. Examination of these correlations offers insight into the possible relationships to be found in the factor analyses and canonical correlations.

HM is positively and significantly correlated ($p < .05$) with, in rank order from high to low, Integrated, Human Emotion, Arbitrary, Popular, Anal Covert, Vista, and Oral Covert. These correlations suggest that these subjects try to integrate their experiences into meaningful wholes, often with a keen awareness of other individuals. For some of these subjects, it appears that such integrative efforts do not produce consensually validated perceptions, while others

are able to produce consensually validated perceptions. For some of the subjects there seems to be considerable overt anger and efforts at control, while others seem to feel psychologically weak. As well, these subjects appear to experience some sense of oral deprivation.

HM is negatively and significantly correlated ($p < .05$), in rank order from high to low, with Simple, Articulated, and Diffuse. Since HM is often construed as an indicator of overall intellectual capacity the correlations with Simple and Diffuse seem appropriate, suggesting that these subjects do not resort to intellectually minimal efforts. The negative correlation with Articulated is somewhat surprising, suggesting that these subjects make more use of synthetic reasoning (Integrated) than analytic reasoning (Articulated).

C is positively and significantly correlated ($p < .05$) with, in rank order from high to low, Achromatic Color, Texture, Object Movement, Absorption, Integrated, Anal Covert, Animal Movement, and Arbitrary. Thus, some of these subjects feel considerable depression and desires for touch. It seems likely that the same subjects providing such indicators of psychological stress are also the ones providing Object Movement responses, suggesting the possibility of early parental failure to adequately modulate stimulation. These psychologically negative indicators being correlated with Integrated suggests at least that

possibly early traumas do not preclude effective functioning. However, on the other hand, other correlated indicators suggest the presence of anger and interpersonal ambivalence in some of the subjects, as well as an inability on some subjects' parts to provide consensually accurate perceptions. Further, some of the subjects feel drawn into experiences, engrossed with events.

C is negatively and significantly correlated ($p < .05$), in rank order from high to low, with Simple, Articulated, and Anal Overt. These correlations suggest, as with those with HM, that these subjects do not revert to use of intellectually easy coping strategies, while maintaining more of a synthetic than analytic cognitive style. Also, the negative presence of Anal Overt suggests a connection between emotionality (C) and an absence of hostility and control issues.

Pulling these various correlations together, several observations seem of interest. First are the absence of expected correlations. Despite theoretical indications, Control and Harmavoidance of the DPQ did not correlate significantly with either HM or C. Absorption did provide correlations with both HM and C, but both in the same direction, which again is not in keeping with theoretical notions. Therefore, it seems likely that HM and C should not be construed as signs unto themselves, rather,

interpretation of their significance should occur in context.

Otherwise, it seems that correlations make considerable psychological sense, especially if focusing on variables other than those of Cognitive Complexity. In correlations with HM are evidence of human connectedness (Human Emotion), anality (Anal Overt), and feelings of psychological weakness (Vista). These correlated aspects fit well into a composite notion of HM. Individuals producing such correlations are apt to present as controlled and pleasant, engaging people.

In correlations with C are evidence of more affective issues: need for touch (Texture), anxiety around human contact (Animal Movement), depression (Achromatic Color), and disguised hostility/control issues (Anal Covert). Also, possibly underlying such emotional issues is an indication of early parental failures (Object Movement). The only variable which shares in correlations with both HM and C is Absorption. Tellegen (1982) suggests that Absorption is a process which can focus inwardly or outwardly, in apparent intellectual effort or in an almost daydream-like, effortless state. Thus, there is a fairly good split in the correlations: HM correlates with indications of control and human connection; C correlates with indications of various emotional issues, which theoretically mostly derive from early developmental difficulties. While such correlations do not provide evidence for imputing more extensive

relationships, the present results are consistent with the notions of C responses accessing early psychological processes and issues and with HM responses accessing developmentally later, more ideational processes.

Inspection of the correlations of HM and C with the other variables in the study, expressed as summation scores (Table 3, p 70), reveals a different image of relatedness. HM is positively and significantly correlated ($p < .05$) with, in rank order from high to low, Form, Arbitrary, Anal Overt, Articulated, Animal Movement, Shading, Integrated, Oral Overt, Oral Covert, Simple, Texture, Color, Vista, Human Emotion, Phallic Covert, Object Movement, Popular, Diffuse, and Articulated.

Thus, as summation scores, the Rorschach variables provide 19 positive and significant correlations with HM, which compares dramatically to the 7 positive and 3 negative significant correlations of HM with the other Rorschach variables expressed as percentage scores. This inflation of the relationships of the variables must result from the number of responses per subject being subsumed in the variables' numeric representation, since only number of responses differs between the two forms of data expression. It seems of little value to attempt to interpret these significant correlations.

The correlations of C with the other variables in the study expressed as summation scores reveals a similar image.

C correlates positively and significantly ($p < .05$) with, in rank order from high to low, Form, Object Movement, Shading, Achromatic Color, Arbitrary, Articulated, Human Movement, Texture, Phallic Overt, Anal Covert, Animal Movement, Anal Covert, Oral Overt, Vista, Integrated, Anal Overt, Oral Covert, and Popular. C also correlates negatively and significantly ($p < .05$) with Control.

In correlations of C with other variables expressed as percentage scores, there were 11 significant correlations, 8 positive and 3 negative. In correlations of C with other variables expressed as summation scores, there are 19 significant correlations, 18 positive and 1 negative. Again, it appears that the presence of number of responses has inflated the relatedness of the variables. The variable, Articulated, provides the most dramatic evidence of the alteration of magnitude of the correlations with HM, going from $r = -.2744$ with percentage scores, to $r = .7084$ with summation scores. Not only has this inflation altered the magnitude of relationships, it has also dramatically altered the nature of many. For example, whereas with percentage scores, HM was negatively correlated with Articulated, Simple, and Diffuse, with summation scores, HM was positively correlated with these variables. This suggests that Blatt and Berman (1984) may be correct in

concluding that use of summation scores adds more noise than statistical power to analyses.

III. INTERPRETATION OF FACTOR ANALYSES

In Tables 11-13 (p 84-86) are the variables, loadings, and labels of the factor analysis for the entire group of subjects, with data expressed as percentage scores. I have assigned to this factor the name "Unconscious Conflicted." High positive loadings for Oral Covert, Shading, and Texture in Factor 1 suggest that a predominant aspect for many of these subjects is a sense of emotional needs. The presence of a positive but less significant loading for Anal Covert suggests that many of these subjects experience issues around control and hostility.

High positive loadings for Absorption, Color, and Anal Covert in Factor 2 (Table 12, p. 85) suggest that many of these subjects become emotionally involved in experiences. I have assigned the factor the name "Ruminative Withdrawn." The presence of Anal Covert suggests again that many experience issues around control and hostility.

I have assigned Factor 3 (Table 13, p. 86) the name "Human Attention." High positive loadings for Human Movement and Human Emotion on Factor 3 suggest that some of these subjects experience the world in an ideational and humanly connected way. A less significant, negative loading

of Anal Covert suggests that some of the subjects do not experience issues around control and hostility.

These results offer confirmation of some of the lore surrounding HM and C responses. The loadings of Factor 1 (Table 11, p. 84) do not include either HM or C. This seems unusual. If HM and C are central to Rorschach behavior and by inference as indicators of human psychological functioning, then one would expect at least one of them to be present in the first factor. Instead there are numerous indications of emotional needs.

Intuitively, it would seem likely that C might show up in such a factor. But it does not. This result may be a consequence of strong underlying needs of many of the subjects in this study; it does make some sense to infer that such highly motivated individuals as Scholars and Honor students do not strive so diligently merely out of a love of knowledge. Rather such efforts may be a way of attempting to ameliorate feelings of emotional need. Such inferences do provide some meaning to the results but do not dispel the question of what happened to HM and/or C in the first factor. Indeed, Factor 2 (Table 12, p. 85), which does include a strong positive loading from C, is correlated ($r = .24291$) with Factor 1 (Table 14, p. 87).

The presence of C, Absorption, and Anal Covert in Factor 2 (Table 12, p. 85) provides an image of how C does contribute to psychological processes. All loadings are

high, suggesting a strong relatedness in their contribution to the factor. Thus, being engrossed in activities is correlated with emotionality, as well as with issues around control and hostility. Such connections may reflect more the characteristics of these particular subjects, but possibly this factor reflects more general tendencies. If being engrossed in experiences pulls for affective involvement, then perhaps there needs to be some defensive balancing of such involvement. Indeed, Absorption is correlated (Table 2, p. 68) significantly with C ($r = .2897$, $p = .006$) and nearly significantly ($r = .2035$, $p = .054$) with HM. This suggests that in the process of being engrossed with experience, there are contributions more from emotions, but also from ideational capacities.

Factor 3 (Table 13, p. 86) provides an image of HM as being strongly correlated with interpersonal involvement and somewhat negatively correlated with issues of control and hostility. There is a sense of psychological maturity here. To have a high score on HM suggests a person who has resolved essential psychological issues and is involved with others in an emotionally engaged and perhaps even empathic manner.

From a larger perspective, that HM and C load on separate factors suggests that they are indicators of distinct psychological processes. On the one hand, HM seems related to human connectedness at a psychologically

relatively mature level of functioning. On the other hand, C seems related to being engrossed in activities at a less mature level of functioning. And in this engrossment there is a sense of issues around control and hostility.

Factor 3 is only marginally correlated ($r = .088$) with Factor 2 but more so with Factor 1 ($r = .179$), while Factor 2 also is correlated ($r = .225$) with Factor 1 (Table 14, p. 87). This suggests that out of the emotional needs manifested on Factor 1, two different coping strategies may derive. One is represented by Factor 3, with a human relatedness and general psychological maturity. The other is represented by Factor 2, with an engrossed, somewhat oppositional, and less psychologically mature posture.

While the data do not allow claiming such inferences, nor do they refute such inferences. It seems tenable to claim that such inferences are plausible.

The variables, labels, and loadings for the factor analysis for the entire group with the data expressed as summation scores are in Tables 8-10 (p. 81-83). Despite the inflation of the correlations by inclusion of the number of responses previously noted, the resulting factors are similar to those derived with the data expressed as percentage scores. Apparently there was enough variance apart from that in the number of responses to approximate the same factor analytic results.

Factor 1 (Table 8, p. 81) has high positive loadings

from Shading, Color, and Texture. Also, positive but lesser loadings of Oral Covert and Human Movement contribute to the factor. I assigned the factor the name "Developmental Adjustment: Conflicted." In this factor C plays the expected part of aligning with emotional needs which were also manifest in Factor 1 of the factor analysis with the data expressed as percentage scores (Table 11, p. 84). Unexpected is the presence, albeit lesser, of HM.

This result, however, is not that surprising, if one compares the correlation tables for the data in the two different forms of expression (Tables 2 & 3, p. 68-70). When expressed as percentage scores, HM and C are unrelated; when expressed as summation scores, they are significantly related ($r = .4609$, $p = .000$) (Table 3, p. 70). Here again is evidence of the influence of the number of responses altering dramatically the relationships of the variables.

One might argue that such alteration is in the direction of more clarity, since the number of responses is an aspect of Rorschach behavior. The number of responses should not be dismissed as inconsequential, either statistically or psychologically, but it is only one aspect of Rorschach behavior. To let it permeate all scorings, as in data expressed as summation scores, obscures the nature of the other variables' contribution to both statistical and psychological interpretation. That the factor analysis with

data expressed as summation scores approximates the factor analysis with data expressed as percentage scores attests to the power of the other Rorschach variables, not to the value of expressing the data as summation scores.

Table 9 (p. 82) presents the variables, labels, and loadings for Factor 2 with the data expressed as summation scores. I have assigned the name "Developmental Adjustment: Unconflicted" to this factor. High positive loadings for Human Movement and Human Emotion provide comparable results to that of Factor 3 (Table 13, p. 86) with data expressed as percentage scores. Also present is a positive, lower loading for Oral Covert. This factor provides little new insight into the nature of HM or of C. That Oral Covert does correlate positively with HM and Human Emotion suggests that human connectedness, at least for these subjects, has some basis in more primary and developmentally earlier aspects of functioning.

Table 10 (p. 83) presents the variables, labels, and loadings for Factor 3 using the data expressed as summation scores. I have named this factor "Distant Unconflicted." The two, high, positive loadings are for Absorption and Anal Covert. This suggests that being engrossed entails controlling behaviors. This seems even more clear when considering the manner of data expression. As the number of responses increases for any given subject, one would be inclined to posit an obsessive style of coping to that

subject's Rorschach behavior. Such an individual, according to psychoanalytic theory, would be apt to display anal tendencies and might well be inclined to endorse items from the Absorption scale (DPQ).

Thus, the factor analysis with the data expressed as summation scores, for the most part, approximates the factor analysis with the data expressed as percentage scores. The most salient differences pivot around the influence of the number of responses, which is as expected.

The variables, labels, and loadings of the factor analysis for females with data expressed as percentage scores are presented in Tables 15-17 (p. 88-90). For Factor 1, high positive loadings for Texture, Human Emotion, and Shading are coupled with a lower positive loading for C. I have named this factor "Conflicted Human Attention." It seems likely that the females contributing to the scores correlating to produce this factor feel connected to others, but in an anxious and emotionally needful manner. This factor is similar to Factor 1 with data expressed as percentage scores (Table 11, p. 84), but with the particular addition of Human Emotion. This suggests that the females are able to express their emotional needs more readily than the whole group. Since the whole group is only males and females, it is even more likely that the males' factor analysis will manifest an inability to express emotional needs in an interpersonal context.

Factor 2 for the females with data expressed as percentage scores has high, positive loadings for Absorption and Human Movement, with only somewhat lower, positive loadings for Anal Covert and C. I have named this factor "Ideational Attention." It seems likely that this factor represents psychological processes of some of the females which may be analogous to their involvement in academic pursuits. It suggests individuals who are engrossed in activities in an ideational manner, but with some issues around control and hostility and presence of emotionality. Indeed, Factor 2 is positively correlated ($p = .217$) (Table 14, p. 87) with Factor 1, suggesting influence of emotional needs. Thus, it seems possible that some of the females may experience conflict in their coping. If entirely different individual subjects produced the data supporting this factor, which is statistically possible, then such a posited conflict is a non-entity. On the other hand, if the majority of the variance here was produced by essentially the same individuals, then it seems likely that some of the female subjects may approximate an ambitent style of functioning.

Table 17 (p. 90) presents the variables, labels, and loadings for Factor 3 with data expressed as percentage scores for the females. I have named this factor "Developmental Adjustment: Conflicted." A high, positive

loading for Oral Covert and somewhat lesser, positive loadings for Shading and Anal Covert comprise this factor. Factor 1 and Factor 3 are essentially identical; only Texture is in Factor 1 and not in Factor 3.

The variables, labels, and loadings for the factor analysis with data expressed as percentage scores for the males are presented in Tables 18-20 (p. 92-94). A high, positive loading on Anal Covert coupled with only somewhat lower, positive loadings for Oral Covert, C, and Human Emotion comprise Factor 1 (Table 18, p. 92). I have assigned this factor the name "Unconscious Conflicted Human Attention." These loadings provide some support to the previously posited difference between females and males. It seems likely that males make stronger efforts to control their emotions, although the presence of Human Emotion suggests a connectedness with others. Nonetheless, the factor loadings suggest that the males are somewhat more weighted towards control of emotions than the females.

Factor 2 with data expressed as percentage scores for the males reinforces this impression of differences between the sexes. High, negative loadings for Human Movement and Human Emotion, with slightly lower, negative loadings for Oral Covert and Shading, and a somewhat lower, negative loading for Texture comprise this factor. I have assigned this factor the name "Disconnected." It is marginally and

negatively correlated with Factor 1 for the males ($r = -.160$) (Table 14, p.87). These loadings suggest that some of the males maintain considerable distance from others and emotional issues in general.

Factor 3 with data expressed as percentage scores for the males is comprised of a high, positive loading for Absorption and lower, positive loadings for C and Texture. I have assigned this factor the name "Conflicted Rumination." This Factor is positively correlated with Factor 1 with data expressed as percentage scores for the males ($r = .220$). Thus, it seems likely that some of the males are emotionally engrossed in experience, which correlates with a tendency to be emotionally controlled. It seems likely that within the male sample there might be at least two fairly distinct sub-groups. One would consist of individuals who are affectively involved and engrossed in activities, albeit with tendencies to control emotions. The other sub-group would consist of individuals who are withdrawn from emotional experience.

The composite image of the males is somewhat different from that of the females. The females seem conflicted between emotional and ideational coping strategies, while the males are more controlling of emotions in general, and in the extreme, may be disconnected from their emotions. The results of the comparison of the females and the males on the factor scores for the full factor analysis offer some

further clarification of these differences (Table 21, p. 95). The males are significantly higher than the females on Factor 1: Developmental Adjustment: Conflicted ($F = 1.96$, $p = .032$). This suggests that the males experience more emotional need than the females. It is also apparent from the previous analysis that at least some of the males maintain an emotionally disconnected stance. This seems logical; one probably would not disconnect from others (and self) unless one felt so overwhelmed by feelings of need that even the suggestion of connection gave rise to emotions experienced as too powerful to manage.

What do these differences between the sexes mean for HM and C as central indicators of psychological functioning on the Rorschach Inkblot Test? First, by separating the two groups, clearer individual images obtained. Since it seems likely that there are differences between the sexes in the manner in which they manage their emotional needs, looking just at the composite Rorschach image tends to obscure any answer to the central question of how HM and C contribute to the Rorschach.

In the factor analysis for females, C loaded on the first factor, something which did not occur for the full group's factor analysis. This would suggest that the females are more emotionally present, except that C was also present in the first factor for the males. For the males, C was subsumed within a factor named Unconscious Conflicted

Human Attention. Nonetheless, the presence of C in each of the two sexes' first factors and not in the whole group's first factor seems anomalous. It seems most likely that this results from the previously noted instability of these factor analyses.

Otherwise the differences between the sexes provide variable results regarding the significance of HM and C. Out of six factors, in the two first factors for the females HM and C were both present; in the first and third factors for the males C was present without HM; in the second factor for the males HM was present without C; and in the third factor for the females neither HM nor C was present. These results offer further support to the notion of the females approximating an ambivalent style, but more, they suggest the centrality of HM and C to Rorschach behavior.

While I chose variables for their correlations with HM and C, such correlations did not preclude the possibility of HM and C isolating themselves in meaningless factors. The full factor analysis (Tables 11-13, p. 84-86) showed HM and C residing in distinct factors. The factor analyses for the sexes showed HM and C to be interactive in several factors. The difference between the analyses for the sexes and the analysis for the full group suggests that given enough subjects, and thereby more variance, HM and C manifest as distinct elements of psychological functioning. As the number of subjects decreases and the attendant variance

also, HM and C become less separable. This pattern is as it should be.

An individual generally will produce both HM and C responses. Such an individual will not appear to have distinct HM and C aspects. Only as the number of subjects increases do HM and C have enough statistical variance to separate into distinct elements. This pattern of two distinct, yet at the individual level inter-related, developmental and psychological processes is compatible with Rorschach's (1932) notion of the EB.

Table 22 (p. 96) presents Factor 1 of the post-hoc factor analysis with data expressed as percentage scores. I have assigned this factor the name "Affective Human Attention." Relatively high, positive loadings for Absorption, C, and HM, somewhat lower, negative loadings for Harmavoidance, Control, and Social Closeness, and a lower, positive loading for Human Emotion comprise this factor. This complex factor manifests apparently opposite tendencies. The first three highest loadings form a logically coherent image of affective involvement, with little concern for personal safety, suggesting an impulsivity. At the same time, HM suggests an ideational, internal manner of coping, which seems discontinuous with the above image. This suggests that indeed the variables loading on this factor came from different subjects, who,

nonetheless, have variance in common around central variables.

It seems likely that these central variables are Absorption and C. Already in other analyses Absorption has manifested a capacity to pull both for ideational and affective correlations. Thus, Absorption tends to draw in variance from both sides of the HM:C ratio. C pulls also for more than merely emotionality. In previous analyses it has been common in factors with Human Emotion, suggesting interactive emotionality. And Human Emotion has shown a steady pattern of correlations with HM.

More than any other factor this one seems to represent the complexity of these subjects. Some are involved, ideationally and emotionally. At the same time, others of them are impulsive, with little concern for self or others. It seems likely, since they are highly regarded students, that the most common variable is Absorption. But it seems also likely that different subjects are engrossed in very different ways.

The variables, labels, and loadings for Factor 2 for the post-hoc analysis are presented in Table 23 (p. 97). I have assigned this factor the name "Ideational Human Attention." High, positive loadings for Human Emotion, Control, Human Movement, and Harmavoidance comprise this factor. Herein is HM, isolated from the affect and impulsivity of Factor 1 for the post-hoc analysis. Indeed,

Factor 2 is correlated with factor 1 only marginally ($r = .05800$). This factor captures the theoretical essence of HM, at least insofar as Rorschach (1932) conceived of it: Empathic connection and concern for others, control and caution bespeaking an ideational coping style, an internal perspective on the world, and a care to avoid harm, suggesting a lack of impulsivity and even possibly a lack of refined motor skills to deal with physically dangerous contexts.

IV. INTERPRETATION OF CANONICAL CORRELATIONS

The results of the canonical correlations are presented in Table 24 (p. 98) for HM with the other variables in the study and in Table 25 (p. 99) for C with the other variables in the study. Presented are the variables, labels, and canonical coefficients.

The canonical correlation of HM with other variables in the study was significant ($= .4723$; $F = 3.3630$, $p < .0033$). The coefficients reflect the contribution of the other variables to the canonical variable correlated with HM. Human Emotion, Absorption, and Oral Covert made significant contributions to the canonical correlation. Anal Covert and Texture made non-significant, negative contributions, while Shading and Color made non-significant, positive contributions.

These results add another image of the nature of HM, which is similar to that derived from the factor analyses. The contribution of Human Emotion suggests that HM is highly correlated with human relations and empathy. The contribution of Absorption suggests that HM is correlated with becoming engrossed in activities. The contribution of Oral Covert suggests that HM is correlated with oral needs.

But perhaps the most significant result of this canonical correlation is the last place contribution of C to the canonical variable correlated with HM. This suggests that C is only marginally related to HM. Further, the ranking of the variables within the canonical variable provides an image of the split of HM and variables associated with ideational and inter-personal aspects of functioning from C and variables associated with emotionality. The coefficients mirror this split as well.

The canonical correlation of C and the other variables in this study was significant ($= .4667$; $F = 3.2611$, $p < .0042$). This canonical correlation presents an inverse image of the one with HM and the other variables. Texture, Anal Covert, and Absorption make significant, positive contributions to the canonical variable correlated with C. Here again Absorption demonstrates that it pulls for both ideational as well as emotional involvement. Texture and Anal Covert contribute to the image of C being related to emotional, developmentally early issues.

Thereafter non-significant contributions by Oral Covert, Human Emotion, Shading, and finally Human Movement complete the variables in the canonical correlation. Human Movement being least correlated with C again supports the notion of the EB.

BIBLIOGRAPHY

- Beck, S.J. Rorschach's Test, I. Basic Processes. New York: Grune & Stratton, 1944.
- Blatt, S. & Berman, W. A methodology for the use of the Rorschach in clinical research. Journal of Personality Assessment, 1984, 48, 226-239.
- Brian, C.R. & Goodenough, F.L. The relative potency of color and form perception at various ages. Journal of Experimental Psychology, 1929, 12, 197-213.
- Burstein, A.G. Personal communications, 1988.
- Burstein, A.G. & Loucks, S. A Comprehensive Scoring Manual for the Rorschach Test. Unpublished manuscript. Knoxville: University of Tennessee, 1980.
- Burstein, A.G. & Loucks, S. Rorschach's Test: Scoring And Interpretation. Copyrighted manuscript. Knoxville: University of Tennessee, in press.
- Cerbus, G. & Nichols, R.C. Personality variables and response to color. Psychological Bulletin, 1963, 6, 566-575.
- Cocking, R.R.; Dana, J.M.; & Dana, R.H. Six constructs to define Rorshcach M: A response. Journal of Personality Assessment, 1969, 33, 322-323.
- Corah, N.L. Color and form in children's perceptual behavior. Perceptual and Motor Skills, 1964, 18, 313-316.
- Dziuban, C.D. & Shirkey, E. C. When is a correlation matrix appropriate for factor analysis? Psychological Bulletin, 1974, 81, 6, 358-361.
- Exner, J.E. Jr. The Rorschach Systems. New York: Grune & Stratton, 1969.
- Exner, J.E. Jr. The Rorschach: A Comprehensive System, Vol. 1. New York: John Wiley & Sons, 1974.
- Exner, J.E. Jr. The Rorschach: A Comprehensive System, Vol. 1, 2nd Ed. New York: John Wiley & Sons, 1986.
- Goleman, D. Major personality study finds that traits are mostly inherited. The New York Times, Dec 1., 1986.

- Guilford, J.P. The affective value of color as a function of hue, tint, and chroma. Journal of Experimental Psychology, 1934, 17, 342-370.
- Hair, J.F., Jr., Anderson, R.E., Tatham, R.L., & Grablowsky, B.J. Multivariate Data Analysis. Tulsa: Petroleum Publishing Co., 1979.
- Honkavaara, S. A critical reevaluation of the color and form reaction, and disproving of the hypothesis connected to it. Journal of Psychology, 1958, 45, 25-36.
- Kagan, J. & Lemkin, J. Form, color, and size in children's conceptual behavior. Child Development, 1961, 32, 25-28.
- Klopfer, B. & Kelley, D.M. The Rorschach Technique. New York: World Book, 1942.
- Klopfer, B., Speigelman, M., & Fox, J. The interpretation of children's records. In: Klopfer, B., Ainsworth, M.D., Klopfer, W.G. & Holt, R.R. Developments in the Rorschach Technique. New York: World Books Company, 1956.
- Lambert, W. Personal communication, 1988.
- Lazarus, R.S. The influence of color on the protocol of the Rorschach Test. Journal of Abnormal and Social Psychology, 1949, 44, 506-516.
- Meili-Dworetzki, G. The development of perception in the Rorschach. In: Klopfer, B., Ainsworth, M.D., Klopfer, W.G. & Holt, R.R. Developments in the Rorschach Technique. New York: world Books Company, 1956.
- Miller, D. Color/form matching as indicator of cognitive reorganization in kindergarten children. The Journal of Genetic Psychology, 1977, 130, 271-278.
- Norman, R.D. & Scott, W.A. Color and affect: A review and semantic evaluation. The Journal of General Psychology, 1952, 46, 185-223.
- Norusis, M.J. SPSS/PC+ Advanced Statistics. Chicago: SPSS Inc., 1986.
- Omsted, P.P. & Sigel, I.E. The generality of color-form preference as a function of materials and task

- requirements among lower-class Negro children. Child Development, 1970, 41, 1025-1032.
- Piaget, J. The Psychology of Intelligence. London: Routledge & Kegan, Paul, 1950.
- Piaget, J. The Origins of Intelligence in Children. London: Routledge & Kegan, Paul, 1953.
- Piotrowski, Z.A. Perceptanalysis. New York: The MacMillan Company, 1957.
- Piotrowski, Z.A. The movement score. In: M.A. Rickers-Ovsiankina (Ed.) Rorschach Psychology, New York: John Wiley & Sons, 1960.
- Pressey, S.L. The influence of color upon mental and motor efficiency. American Journal of Psychology, 1921, 32, 326-356.
- Rapaport, D., Gill, M.M., & Schafer, R. Diagnostic Psychological Testing, Rev. Ed. New York: International Universities Press, Inc., 1968.
- Rickers-Ovsiankina, M.A. Rorschach Psychology. New York: John Wiley & Sons, Inc., 1960.
- Rorschach, H. [Psychodiagnostiks]. (Lemkau, P. & Kronenberg, B., Trans., Morganthaler, W. Ed.) New York: Grune & Stratton, 1942. (Originally published, 1932.)
- SAS Institute. SAS User's Guide: Statistics, Version 5 Edition, Cary, North Carolina, 1985.
- Schachtel, E.G. On color and affect. Psychiatry, 1943, 6, 393-409.
- Schachtel, E.G. Projection and its relation to character attitudes and creativity in the kinesthetic responses. Psychiatry, 1950, 13, 69-100.
- Schachtel, E.G. Metamorphosis. New York: Basic Books, 1959.
- Schachtel, E.G. Experiential Foundations of Rorschach's Test. New York: Basic Books, 1966.
- Schaie, K. W. A Q-sort study of color-mood association. Journal of Projective Techniques, 1961, 25, 341-346.
(a)

- Schaie, K.W. Scaling the associations between colors and mood-tones. American Journal of Psychology, 1961, 74, 266-273. (b)
- Schaie, K.W. The color pyramid test: A nonverbal technique for prsonality assessment. Psychology Bulletin, 1963, 6, 530-547.
- Schaie, K.W. On the realtion of color and personality. Journal of Personality Assessment, 1966, 30, 512-524.
- Schaie, K.W. Developmental changes in response differentiation on color-arrangement task. Journal of Consulting and Clinical Psychology , 1968, 32, 2, 233-235.
- Shapiro, D. Perceptual understanding of color response. In M.A. Rickers-Ovsiankina (Ed.), Rorshcach Psychology. New York: John Wiley & Sons, 1960.
- Siipola, E.M. The influence of color on reactions to ink blots. Journal of Personality, 1950, 18, 358-382.
- Siipola, E.M., Kuhns, F., & Taylor, V. Measurement of the individual's reaction to color in ink blots. Journal of Personality, 1950, 19, 153-170.
- Singer, J.L. & Herman, J. Motor and fantasy correlates of Rorschach human movement responses. Journal of Consulting Psychology, 1954, 18, 5, 325-331.
- Singer, J.L. & Spohn, H.E. Some behavioral correlates of Rorschach's Experience-Type. Journal of Consulting Psychology, 1954, 18, 1, 1-9.
- Strauss, H. & Lewin, I. An empirical study of the Weigl-Goldstein-Scheerer Color-From Test according to a developmental frame of reference. Journal of Clinical Psychology, 1982, 38, 2, 367-375.
- Suchman, R.G. Cultrual differences in children's color and form preferences. The Journal of Social Psychology, 1966, 70, 3-10.
- Suchman, R.G. & Trabasso, T. Color and form preference in young children. Journal of Experimental Child Psychology, 1966, 3, 177-187. (a)

- Suchman, R.G. & Trabasso, T. Stimulus preference and cue function in young children's concept attainment. Journal of Experimental Child Psychology, 1966, 3, 188-198. (b)
- Tellegen, A. Brief Manual for the Differential Personality Questionnaire. Minneapolis: University of Minnesota, 1982.
- Tellegen, A. Practicing the two disciplines of relaxation and enlightenment: Comment on "Role of the feedback signal in electromyograph biofeedback: The relevance of attention" by Qualls and Sheehan. Journal of Experimental Psychology: General, 1981, 110, 2, 217-226.
- Tellegen, A. & Atkinson, G. Openness to absorbing and self-altering experiences ("Absorption"), a trait related to hypnotic susceptibility. Journal of Abnormal Psychology, 1974, 83, 3, 268-277.
- Tellegen, A., Lykken, D.T., Bouchard, T.J. Jr., Wilcox, K.J., Segal, N.L., & Rich, S. Personality similarity in twins reared apart and together. Journal of Personality and Social Psychology, in press.
- Thetford, W.N. Fantasy perceptions in the personality development of normal and deviant children. American Journal of Orthopsychiatry, 1952, 22, 542-550.
- Wexner, L.B. The degree to which colors (hues) are associated with mood-tones. Journal of Applied Psychology, 1954, 38, 432-435.
- Wolman, B.B. Dictionary of Behavioral Sciences. New York: Van Nostrand Reinhold Co., 1973.
- Zevon, M.A. & Tellegen, A. The structure of mood change: An idiographic/nomothetic analysis. Journal of Personality and Social Psychology, 1982, 43, 1, 111-122.

APPENDICES

APPENDIX A

TABLE 1A

CORRELATIONS WITH PERCENTAGE RORSCHACH DATA

	CONTROL	HARMA- VOIDANCE	ABSORP- TION	ANIMAL MOVE.	HUMAN EMOT.
CONTROL	1.0000 (92) <u>P=0.0</u>	.4277 (92) <u>P=.000</u>	-.2234 (92) <u>P=.032</u>	.0881 (90) <u>P=.409</u>	.1581 (90) <u>P=.137</u>
HARMAV- OIDANCE	.4277 (92) <u>P=.000</u>	1.0000 (92) <u>P=0.0</u>	-.2595 (92) <u>P=.012</u>	-.0993 (90) <u>P=.352</u>	.0207 (90) <u>P=.846</u>
ABSORP- TION	-.2234 (92) <u>P=.032</u>	-.2595 (92) <u>P=.012</u>	1.0000 (92) <u>P=0.0</u>	.0911 (90) <u>P=.393</u>	.0150 (90) <u>P=.888</u>
ANIMAL MOVE.	.0881 (90) <u>P=.409</u>	-.0993 (90) <u>P=.352</u>	.0911 (90) <u>P=.393</u>	1.0000 (95) <u>P=0.0</u>	.0959 (95) <u>P=.355</u>
HUMAN EMOT.	.1581 (90) <u>P=.137</u>	.0207 (90) <u>P=.846</u>	.0150 (90) <u>P=.888</u>	.0959 (95) <u>P=.355</u>	1.0000 (95) <u>P=0.0</u>
HUMAN MOVE.	-.0091 (90) <u>P=.932</u>	.0291 (90) <u>P=.786</u>	.2035 (90) <u>P=.054</u>	.0964 (95) <u>P=.353</u>	.3696 (95) <u>P=.000</u>
OBJECT MOVE.	-.0724 (90) <u>P=.498</u>	.0838 (90) <u>P=.432</u>	.0777 (90) <u>P=.467</u>	.1727 (95) <u>P=.094</u>	.0682 (95) <u>P=.512</u>
TEXTURE	.1136 (90) <u>P=.286</u>	-.0454 (90) <u>P=.671</u>	.1570 (90) <u>P=.139</u>	.3124 (95) <u>P=.002</u>	.3512 (95) <u>P=.000</u>
VISTA	.0887 (90) <u>P=.406</u>	-.1383 (90) <u>P=.193</u>	.0957 (90) <u>P=.370</u>	.2476 (95) <u>P=.016</u>	.1609 (95) <u>P=.119</u>
COLOR	-.0702 (90) <u>P=.511</u>	-.0077 (90) <u>P=.942</u>	.2897 (90) <u>P=.006</u>	.2461 (95) <u>P=.016</u>	.1883 (95) <u>P=.068</u>

TABLE 1A (Continued)

	CONTROL	HARMA-AVOIDANCE	ABSORPTION	ANIMAL MOVE.	HUMAN EMOT.
ACHROM. COLOR	.0170 (90) <u>P= .873</u>	.0379 (90) <u>P= .723</u>	.1334 (90) <u>P= .210</u>	.2069 (95) <u>P= .044</u>	.1646 (95) <u>P= .111</u>
FORM	.0552 (90) <u>P= .605</u>	-.2301 (90) <u>P= .029</u>	-.0350 (90) <u>P= .743</u>	.0970 (95) <u>P= .350</u>	.1058 (95) <u>P= .307</u>
SHADING	.0139 (90) <u>P= .897</u>	-.0477 (90) <u>P= .655</u>	.0302 (90) <u>P= .777</u>	.1513 (95) <u>P= .143</u>	.2471 (95) <u>P= .016</u>
ORAL OVERT	.0760 (90) <u>P= .476</u>	.0543 (90) <u>P= .611</u>	.0640 (90) <u>P= .549</u>	.0917 (95) <u>P= .377</u>	.0804 (95) <u>P= .439</u>
ORAL COVERT	.0853 (90) <u>P= .424</u>	.0656 (90) <u>P= .539</u>	.0700 (90) <u>P= .512</u>	.1751 (95) <u>P= .090</u>	.1538 (95) <u>P= .137</u>
ANAL OVERT	.1060 (90) <u>P= .320</u>	.0624 (90) <u>P= .559</u>	.0587 (90) <u>P= .583</u>	-.1189 (95) <u>P= .251</u>	-.0151 (95) <u>P= .885</u>
ANAL COVERT	.1080 (90) <u>P= .311</u>	.0913 (90) <u>P= .392</u>	.1759 (90) <u>P= .097</u>	.1474 (95) <u>P= .154</u>	.0974 (95) <u>P= .347</u>
PHALLIC OVERT	-.0042 (90) <u>P= .968</u>	-.0064 (90) <u>P= .953</u>	-.2091 (90) <u>P= .048</u>	-.0462 (95) <u>P= .657</u>	-.0108 (95) <u>P= .917</u>
PHALLIC COVERT	.0469 (90) <u>P= .661</u>	-.0081 (90) <u>P= .940</u>	.1488 (90) <u>P= .162</u>	.0790 (95) <u>P= .447</u>	.0137 (95) <u>P= .895</u>
INTEGRATED	.0719 (90) <u>P= .501</u>	-.1132 (90) <u>P= .288</u>	.3019 (90) <u>P= .004</u>	.3110 (95) <u>P= .002</u>	.1978 (95) <u>P= .055</u>
ARTICULATED	-.0883 (90) <u>P= .408</u>	-.0598 (90) <u>P= .576</u>	-.1338 (90) <u>P= .209</u>	-.2898 (95) <u>P= .004</u>	-.1818 (95) <u>P= .078</u>

TABLE 1A (Continued)

	CONTROL	HARMA- AVOIDANCE	ABSORP- TION	ANIMAL MOVE.	HUMAN EMOT.
SIMPLE	-.0343 (90) <u>P=</u> .748	.0861 (90) <u>P=</u> .420	-.2234 (90) <u>P=</u> .034	-.2988 (95) <u>P=</u> .003	-.2140 (95) <u>P=</u> .037
DIFFUSE	-.0365 (90) <u>P=</u> .733	.0554 (90) <u>P=</u> .604	.2152 (90) <u>P=</u> .042	-.0745 (95) <u>P=</u> .473	-.2477 (95) <u>P=</u> .015
ARBI- TRARY	.0830 (90) <u>P=</u> .437	.0950 (90) <u>P=</u> .373	-.0735 (90) <u>P=</u> .491	.3863 (95) <u>P=</u> .000	.3853 (95) <u>P=</u> .000
POP- ULAR	.1619 (90) <u>P=</u> .127	.0818 (90) <u>P=</u> .443	.1091 (90) <u>P=</u> .306	.1053 (95) <u>P=</u> .310	.0140 (95) <u>P=</u> .893
////////////////////////////////////					

TABLE 1A (Continued)

	HUMAN MOVE.	OBJECT MOVE.	TEXTURE	VISTA	COLOR
CONTROL	-.0091 (90) <u>P=</u> .932	-.0724 (90) <u>P=</u> .498	.1136 (90) <u>P=</u> .286	.0887 (90) <u>P=</u> .406	-.0702 (90) <u>P=</u> .511
HARMA- VOIDANCE	.0291 (90) <u>P=</u> .786	.0838 (90) <u>P=</u> .432	-.0454 (90) <u>P=</u> .671	-.1383 (90) <u>P=</u> .193	-.0077 (90) <u>P=</u> .942
ABSORP- TION	.2035 (90) <u>P=</u> .054	.0777 (90) <u>P=</u> .467	.1570 (90) <u>P=</u> .139	.0957 (90) <u>P=</u> .370	.2897 (90) <u>P=</u> .006
ANIMAL MOVE.	.0964 (95) <u>P=</u> .353	.1727 (95) <u>P=</u> .094	.3124 (95) <u>P=</u> .002	.2476 (95) <u>P=</u> .016	.2461 (95) <u>P=</u> .016
HUMAN EMOT.	.3696 (95) <u>P=</u> .000	.0682 (95) <u>P=</u> .512	.3512 (95) <u>P=</u> .000	.1609 (95) <u>P=</u> .119	.1883 (95) <u>P=</u> .068
HUMAN MOVE.	1.0000 (95) <u>P=</u> 0.0	.0441 (95) <u>P=</u> .671	.1578 (95) <u>P=</u> .127	.2173 (95) <u>P=</u> .034	.1548 (95) <u>P=</u> .134
OBJECT MOVE.	.0441 (95) <u>P=</u> .671	1.0000 (95) <u>P=</u> 0.0	.2625 (95) <u>P=</u> .010	.1301 (95) <u>P=</u> .209	.2935 (95) <u>P=</u> .004
TEXTURE	.1578 (95) <u>P=</u> .127	.2625 (95) <u>P=</u> .010	1.0000 (95) <u>P=</u> 0.0	.2511 (95) <u>P=</u> .014	.3086 (95) <u>P=</u> .002
VISTA	.2173 (95) <u>P=</u> .034	.1301 (95) <u>P=</u> .209	.2511 (95) <u>P=</u> .014	1.0000 (95) <u>P=</u> 0.0	.1436 (95) <u>P=</u> .165
COLOR	.1548 (95) <u>P=</u> .134	.2935 (95) <u>P=</u> .004	.3086 (95) <u>P=</u> .002	.1436 (95) <u>P=</u> .165	1.0000 (95) <u>P=</u> 0.0
ACHROM. COLOR	.1943 (95) <u>P=</u> .059	.2756 (95) <u>P=</u> .007	.0080 (95) <u>P=</u> .939	.1627 (95) <u>P=</u> .115	.5033 (95) <u>P=</u> .000

TABLE 1A (Continued)

	HUMAN MOVE.	OBJECT MOVE.	TEXTURE	VISTA	COLOR
FORM	.0323 (.95) <u>P=</u> .756	.0693 (.95) <u>P=</u> .505	-.0381 (.95) <u>P=</u> .714	.0265 (.95) <u>P=</u> .799	-.1291 (.95) <u>P=</u> .212
SHADING	.1887 (.95) <u>P=</u> .067	.1279 (.95) <u>P=</u> .217	.3940 (.95) <u>P=</u> .000	.1814 (.95) <u>P=</u> .079	.1913 (.95) <u>P=</u> .063
ORAL OVERT	-.0117 (.95) <u>P=</u> .910	.1466 (.95) <u>P=</u> .156	.2618 (.95) <u>P=</u> .010	.0069 (.95) <u>P=</u> .947	-.1506 (.95) <u>P=</u> .145
ORAL COVERT	.2129 (.95) <u>P=</u> .038	.1185 (.95) <u>P=</u> .253	.3966 (.95) <u>P=</u> .000	.0571 (.95) <u>P=</u> .583	.1040 (.95) <u>P=</u> .316
ANAL OVERT	.2274 (.95) <u>P=</u> .027	.0989 (.95) <u>P=</u> .341	-.0132 (.95) <u>P=</u> .899	-.0477 (.95) <u>P=</u> .647	-.2336 (.95) <u>P=</u> .023
ANAL COVERT	.0597 (.95) <u>P=</u> .565	.4921 (.95) <u>P=</u> .000	.1886 (.95) <u>P=</u> .067	-.0513 (.95) <u>P=</u> .622	.2725 (.95) <u>P=</u> .008
PHALLIC OVERT	.1175 (.95) <u>P=</u> .257	.0545 (.95) <u>P=</u> .600	-.0229 (.95) <u>P=</u> .826	-.0402 (.95) <u>P=</u> .699	-.1375 (.95) <u>P=</u> .184
PHALLIC COVERT	.1644 (.95) <u>P=</u> .111	.0757 (.95) <u>P=</u> .466	.1141 (.95) <u>P=</u> .271	.1374 (.95) <u>P=</u> .184	-.1558 (.95) <u>P=</u> .132
INTE- GRATED	.4695 (.95) <u>P=</u> .000	.1145 (.95) <u>P=</u> .269	.1508 (.95) <u>P=</u> .145	.2838 (.95) <u>P=</u> .005	.2885 (.95) <u>P=</u> .005
ARTIC- ULATED	-.2744 (.95) <u>P=</u> .007	-.2792 (.95) <u>P=</u> .006	-.1834 (.95) <u>P=</u> .075	-.0963 (.95) <u>P=</u> .353	-.2444 (.95) <u>P=</u> .017
SIMPLE	-.3513 (.95) <u>P=</u> .000	-.1428 (.95) <u>P=</u> .167	-.0811 (.95) <u>P=</u> .435	-.3027 (.95) <u>P=</u> .003	-.2684 (.95) <u>P=</u> .009

TABLE 1A (Continued)

	HUMAN MOVE.	OBJECT MOVE.	TEXTURE	VISTA	COLOR
DIFFUSE	-.2711 (95) <u>P= .008</u>	.1723 (95) <u>P= .095</u>	-.0225 (95) <u>P= .829</u>	.0330 (95) <u>P= .751</u>	.1213 (95) <u>P= .242</u>
ARBI- TRARY	.3463 (95) <u>P= .001</u>	.3116 (95) <u>P= .002</u>	.1867 (95) <u>P= .070</u>	.0879 (95) <u>P= .397</u>	.2136 (95) <u>P= .038</u>
POP- ULAR	.2970 (95) <u>P= .003</u>	-.0333 (95) <u>P= .749</u>	-.0581 (95) <u>P= .576</u>	.1806 (95) <u>P= .080</u>	-.0317 (95) <u>P= .760</u>

////////////////////////////////////

TABLE 1A (Continued)

	ACHROM. COLOR	FORM	SHADING	ORAL OVERT	ORAL COVERT
CONTROL	.0170 (90) <u>P=</u> .873	.0552 (90) <u>P=</u> .605	.0139 (90) <u>P=</u> .897	.0760 (90) <u>P=</u> .476	.0853 (90) <u>P=</u> .424
HARMA- VOIDANCE	.0379 (90) <u>P=</u> .723	-.2301 (90) <u>P=</u> .029	-.0477 (90) <u>P=</u> .655	.0543 (90) <u>P=</u> .611	.0656 (90) <u>P=</u> .539
ABSORP- TION	.1334 (90) <u>P=</u> .210	-.0350 (90) <u>P=</u> .743	.0302 (90) <u>P=</u> .777	.0640 (90) <u>P=</u> .549	.0700 (90) <u>P=</u> .512
ANIMAL MOVE.	.2069 (95) <u>P=</u> .044	.0970 (95) <u>P=</u> .350	.1513 (95) <u>P=</u> .143	.0917 (95) <u>P=</u> .377	.1751 (95) <u>P=</u> .090
HUMAN EMOT.	.1646 (95) <u>P=</u> .111	.1058 (95) <u>P=</u> .307	.2471 (95) <u>P=</u> .016	.0804 (95) <u>P=</u> .439	.1538 (95) <u>P=</u> .137
HUMAN MOVE.	.1943 (95) <u>P=</u> .059	.0323 (95) <u>P=</u> .756	.1887 (95) <u>P=</u> .067	-.0117 (95) <u>P=</u> .910	.2129 (95) <u>P=</u> .038
OBJECT MOVE.	.2756 (95) <u>P=</u> .007	.0693 (95) <u>P=</u> .505	.1279 (95) <u>P=</u> .217	.1466 (95) <u>P=</u> .156	.1185 (95) <u>P=</u> .253
TEXTURE	.0080 (95) <u>P=</u> .939	-.0381 (95) <u>P=</u> .714	.3940 (95) <u>P=</u> .000	.2618 (95) <u>P=</u> .010	.3966 (95) <u>P=</u> .000
VISTA	.1627 (95) <u>P=</u> .115	.0265 (95) <u>P=</u> .799	.1814 (95) <u>P=</u> .079	.0069 (95) <u>P=</u> .947	.0571 (95) <u>P=</u> .583
COLOR	.5033 (95) <u>P=</u> .000	-.1291 (95) <u>P=</u> .212	.1913 (95) <u>P=</u> .063	-.1506 (95) <u>P=</u> .145	.1040 (95) <u>P=</u> .316
ACHROM. COLOR	1.0000 (95) <u>P=</u> .000	-.1099 (95) <u>P=</u> .289	.0987 (95) <u>P=</u> .341	-.2125 (95) <u>P=</u> .039	-.0597 (95) <u>P=</u> .566

TABLE 1A (Continued)

	ACHROM. COLOR	FORM	SHADING	ORAL OVERT	ORAL COVERT
FORM	-.1099 (95) <u>P=</u> .289	1.0000 (95) <u>P=</u> 0.0	-.0271 (95) <u>P=</u> .794	.1026 (95) <u>P=</u> .322	.0295 (95) <u>P=</u> .777
SHADING	.0987 (95) <u>P=</u> .341	-.0271 (95) <u>P=</u> .794	1.0000 (95) <u>P=</u> 0.0	.3604 (95) <u>P=</u> .000	.3509 (95) <u>P=</u> .000
ORAL OVERT	-.2125 (95) <u>P=</u> .039	.1026 (95) <u>P=</u> .322	.3604 (95) <u>P=</u> .000	1.0000 (95) <u>P=</u> 0.0	.6273 (95) <u>P=</u> .000
ORAL COVERT	-.0597 (95) <u>P=</u> .566	.0295 (95) <u>P=</u> .777	.3509 (95) <u>P=</u> .000	.6273 (95) <u>P=</u> .000	1.0000 (95) <u>P=</u> 0.0
ANAL OVERT	-.0411 (95) <u>P=</u> .692	.0500 (95) <u>P=</u> .630	.0397 (95) <u>P=</u> .702	.0060 (95) <u>P=</u> .954	.0377 (95) <u>P=</u> .717
ANAL COVERT	.2093 (95) <u>P=</u> .042	.0132 (95) <u>P=</u> .899	.1365 (95) <u>P=</u> .187	.2181 (95) <u>P=</u> .034	.2911 (95) <u>P=</u> .004
PHALLIC OVERT	-.0623 (95) <u>P=</u> .549	.0222 (95) <u>P=</u> .831	.2511 (95) <u>P=</u> .014	.0999 (95) <u>P=</u> .336	.1247 (95) <u>P=</u> .229
PHALLIC COVERT	-.0295 (95) <u>P=</u> .776	.1597 (95) <u>P=</u> .122	.1139 (95) <u>P=</u> .272	.4083 (95) <u>P=</u> .000	.2687 (95) <u>P=</u> .008
INTE- GRATED	.2334 (95) <u>P=</u> .023	.0848 (95) <u>P=</u> .414	.0570 (95) <u>P=</u> .583	.0017 (95) <u>P=</u> .987	.1536 (95) <u>P=</u> .137
ARTIC- ULATED	-.1060 (95) <u>P=</u> .307	.2932 (95) <u>P=</u> .004	-.1548 (95) <u>P=</u> .134	-.0412 (95) <u>P=</u> .692	-.1209 (95) <u>P=</u> .243
SIMPLE	-.2447 (95) <u>P=</u> .017	-.3334 (95) <u>P=</u> .001	-.1143 (95) <u>P=</u> .270	-.0176 (95) <u>P=</u> .865	-.1520 (95) <u>P=</u> .141

TABLE 1A (Continued)

	ACHROM. COLOR	FORM	SHADING	ORAL OVERT	ORAL COVERT
DIFFUSE	.0943 (95) <u>P=</u> .363	-.5564 (95) <u>P=</u> .000	.0464 (95) <u>P=</u> .655	-.0407 (95) <u>P=</u> .695	-.0310 (95) <u>P=</u> .766
ARBI- TRARY	.0683 (95) <u>P=</u> .511	.1387 (95) <u>P=</u> .180	.2491 (95) <u>P=</u> .015	.0900 (95) <u>P=</u> .386	.1588 (95) <u>P=</u> .124
POP- ULAR	.1376 (95) <u>P=</u> .184	.0531 (95) <u>P=</u> .609	-.1221 (95) <u>P=</u> .239	-.1062 (95) <u>P=</u> .306	-.0068 (95) <u>P=</u> .948

////////////////////////////////////

TABLE 1A (Continued)

	ANAL OVERT	ANAL COVERT	PHALLIC OVERT	PHALLIC COVERT	INTE- GRATED
CONTROL	.1060 (90) <u>P=</u> .320	.1080 (90) <u>P=</u> .311	-.0042 (90) <u>P=</u> .968	.0469 (90) <u>P=</u> .661	.0719 (90) <u>P=</u> .501
HARMA- VOIDANCE	.0624 (90) <u>P=</u> .559	.0913 (90) <u>P=</u> .392	-.0064 (90) <u>P=</u> .953	-.0081 (90) <u>P=</u> .940	-.1132 (90) <u>P=</u> .288
ABSORP- TION	.0587 (90) <u>P=</u> .583	.1759 (90) <u>P=</u> .097	-.2091 (90) <u>P=</u> .048	.1488 (90) <u>P=</u> .162	.3019 (90) <u>P=</u> .004
ANIMAL MOVE.	-.1189 (95) <u>P=</u> .251	.1474 (95) <u>P=</u> .154	-.0462 (95) <u>P=</u> .657	.0790 (95) <u>P=</u> .447	.3110 (95) <u>P=</u> .002
HUMAN EMOT.	-.0151 (95) <u>P=</u> .885	.0974 (95) <u>P=</u> .347	-.0108 (95) <u>P=</u> .917	.0137 (95) <u>P=</u> .895	.1978 (95) <u>P=</u> .055
HUMAN MOVE.	.2274 (95) <u>P=</u> .027	.0597 (95) <u>P=</u> .565	.1175 (95) <u>P=</u> .257	.1644 (95) <u>P=</u> .111	.4695 (95) <u>P=</u> .000
OBJECT MOVE.	.0989 (95) <u>P=</u> .341	.4921 (95) <u>P=</u> .000	.0545 (95) <u>P=</u> .600	.0757 (95) <u>P=</u> .466	.1145 (95) <u>P=</u> .269
TEXTURE	-.0132 (95) <u>P=</u> .899	.1886 (95) <u>P=</u> .067	-.0229 (95) <u>P=</u> .826	.1141 (95) <u>P=</u> .271	.1508 (95) <u>P=</u> .145
VISTA	-.0477 (95) <u>P=</u> .647	-.0513 (95) <u>P=</u> .622	-.0402 (95) <u>P=</u> .699	.1374 (95) <u>P=</u> .184	.2838 (95) <u>P=</u> .005
COLOR	-.2336 (95) <u>P=</u> .023	.2725 (95) <u>P=</u> .008	-.1375 (95) <u>P=</u> .184	-.1558 (95) <u>P=</u> .132	.2885 (95) <u>P=</u> .005
ACHROM. COLOR	-.0411 (95) <u>P=</u> .692	.2093 (95) <u>P=</u> .042	-.0623 (95) <u>P=</u> .549	-.0295 (95) <u>P=</u> .776	.2334 (95) <u>P=</u> .023

TABLE 1A (Continued)

	ANAL OVERT	ANAL COVERT	PHALLIC OVERT	PHALLIC COVERT	INTE- GRATED
FORM	.0500 (95) <u>P=</u> .630	.0132 (95) <u>P=</u> .899	.0222 (95) <u>P=</u> .831	.1597 (95) <u>P=</u> .122	.0848 (95) <u>P=</u> .414
SHADING	.0397 (95) <u>P=</u> .702	.1365 (95) <u>P=</u> .187	.2511 (95) <u>P=</u> .014	.1139 (95) <u>P=</u> .272	.0570 (95) <u>P=</u> .583
ORAL OVERT	.0060 (95) <u>P=</u> .954	.2181 (95) <u>P=</u> .034	.0999 (95) <u>P=</u> .336	.4083 (95) <u>P=</u> .000	.0017 (95) <u>P=</u> .987
ORAL COVERT	.0377 (95) <u>P=</u> .717	.2911 (95) <u>P=</u> .004	.1247 (95) <u>P=</u> .229	.2687 (95) <u>P=</u> .008	.1536 (95) <u>P=</u> .137
ANAL OVERT	1.0000 (95) <u>P=</u> 0.0	.1804 (95) <u>P=</u> .080	-.0210 (95) <u>P=</u> .840	.1162 (95) <u>P=</u> .262	-.0416 (95) <u>P=</u> .689
ANAL COVERT	.1804 (95) <u>P=</u> .080	1.0000 (95) <u>P=</u> 0.0	.1259 (95) <u>P=</u> .224	.2394 (95) <u>P=</u> .019	.1284 (95) <u>P=</u> .215
PHALLIC OVERT	-.0210 (95) <u>P=</u> .840	.1259 (95) <u>P=</u> .224	1.0000 (95) <u>P=</u> .000	.2743 (95) <u>P=</u> .007	.0162 (95) <u>P=</u> .876
PHALLIC COVERT	.1162 (95) <u>P=</u> .262	.2394 (95) <u>P=</u> .019	.2743 (95) <u>P=</u> .007	1.0000 (95) <u>P=</u> 0.0	.2857 (95) <u>P=</u> .005
INTE- GRATED	-.0416 (95) <u>P=</u> .689	.1284 (95) <u>P=</u> .215	.0162 (95) <u>P=</u> .876	.2857 (95) <u>P=</u> .005	1.0000 (95) <u>P=</u> 0.0
ARTIC- ULATED	.0571 (95) <u>P=</u> .583	-.1618 (95) <u>P=</u> .117	-.2116 (95) <u>P=</u> .040	-.1660 (95) <u>P=</u> .108	-.5542 (95) <u>P=</u> .000
SIMPLE	-.0484 (95) <u>P=</u> .641	-.1132 (95) <u>P=</u> .275	.2465 (95) <u>P=</u> .016	-.0468 (95) <u>P=</u> .653	-.4131 (95) <u>P=</u> .000

TABLE 1A (Continued)

	ANAL OVERT	ANAL COVERT	PHALLIC OVERT	PHALLIC COVERT	INTE- GRATED
DIFFUSE	.0198	.1475	-.0385	-.0212	-.1541
	(95)	(95)	(95)	(95)	(95)
	<u>P=</u> .849	<u>P=</u> .154	<u>P=</u> .711	<u>P=</u> .839	<u>P=</u> .136
ARBI- TRARY	-.0166	.0962	.0724	-.0583	.0953
	(95)	(95)	(95)	(95)	(95)
	<u>P=</u> .873	<u>P=</u> .354	<u>P=</u> .486	<u>P=</u> .575	<u>P=</u> .358
POP- ULAR	.1261	-.0332	.0711	.0997	.4747
	(95)	(95)	(95)	(95)	(95)
	<u>P=</u> .224	<u>P=</u> .750	<u>P=</u> .494	<u>P=</u> .336	<u>P=</u> .000

////////////////////////////////////

TABLE 1A (Continued)

	ARTIC- ULATED	SIMPLE	DIFFUSE	ARBI- TRARY	POP- ULAR
CONTROL	-.0883 (90) <u>P</u> = .408	-.0343 (90) <u>P</u> = .748	-.0365 (90) <u>P</u> = .733	.0830 (90) <u>P</u> = .437	.1619 (90) <u>P</u> = .127
HARMA- VOIDANCE	-.0598 (90) <u>P</u> = .576	.0861 (90) <u>P</u> = .420	.0554 (90) <u>P</u> = .604	.0950 (90) <u>P</u> = .373	.0818 (90) <u>P</u> = .443
ABSORP- TION	-.1338 (90) <u>P</u> = .209	-.2234 (90) <u>P</u> = .034	.2152 (90) <u>P</u> = .042	-.0735 (90) <u>P</u> = .491	.1091 (90) <u>P</u> = .306
ANIMAL MOVE.	-.2898 (95) <u>P</u> = .004	-.2988 (95) <u>P</u> = .003	-.0745 (95) <u>P</u> = .473	.3863 (95) <u>P</u> = .000	.1053 (95) <u>P</u> = .310
HUMAN EMOT.	-.1818 (95) <u>P</u> = .078	-.2140 (95) <u>P</u> = .037	-.2477 (95) + <u>P</u> = .015	.3853 (95) <u>P</u> = .000	.0140 (95) <u>P</u> = .893
HUMAN MOVE.	-.2744 (95) <u>P</u> = .007	-.3513 (95) <u>P</u> = .000	-.2711 (95) <u>P</u> = .008	.3463 (95) <u>P</u> = .001	.2970 (95) <u>P</u> = .003
OBJECT MOVE.	-.2792 (95) <u>P</u> = .006	-.1428 (95) <u>P</u> = .167	.1723 (95) <u>P</u> = .095	.3116 (95) <u>P</u> = .002	-.0333 (95) <u>P</u> = .749
TEXTURE	-.1834 (95) <u>P</u> = .075	-.0811 (95) <u>P</u> = .435	-.0225 (95) <u>P</u> = .829	.1867 (95) <u>P</u> = .070	-.0581 (95) <u>P</u> = .576
VISTA	-.0963 (95) <u>P</u> = .353	-.3027 (95) <u>P</u> = .003	.0330 (95) <u>P</u> = .751	.0879 (95) <u>P</u> = .397	.1806 (95) <u>P</u> = .080
COLOR	-.2444 (95) <u>P</u> = .017	-.2684 (95) <u>P</u> = .009	.1213 (95) <u>P</u> = .242	.2136 (95) <u>P</u> = .038	-.0317 (95) <u>P</u> = .760
ACHROM. COLOR	-.1060 (95) <u>P</u> = .307	-.2447 (95) <u>P</u> = .017	.0943 (95) <u>P</u> = .363	.0683 (95) <u>P</u> = .511	.1376 (95) <u>P</u> = .184

TABLE 1A (Continued)

	ARTIC- ULATED	SIMPLE	DIFFUSE	ARBI- TRARY	POP- ULAR
FORM	.2932 (95) <u>P= .004</u>	-.3334 (95) <u>P= .001</u>	-.5564 (95) <u>P= .000</u>	.1387 (95) <u>P= .180</u>	.0531 (95) <u>P= .609</u>
SHADING	-.1548 (95) <u>P= .134</u>	-.1143 (95) <u>P= .270</u>	.0464 (95) <u>P= .655</u>	.2491 (95) <u>P= .015</u>	-.1221 (95) <u>P= .239</u>
ORAL OVERT	-.0412 (95) <u>P= .692</u>	-.0176 (95) <u>P= .865</u>	-.0407 (95) <u>P= .695</u>	.0900 (95) <u>P= .386</u>	-.1062 (95) <u>P= .306</u>
ORAL COVERT	-.1209 (95) <u>P= .243</u>	-.1520 (95) <u>P= .141</u>	-.0310 (95) <u>P= .766</u>	.1588 (95) <u>P= .124</u>	-.0068 (95) <u>P= .948</u>
ANAL OVERT	.0571 (95) <u>P= .583</u>	-.0484 (95) <u>P= .641</u>	.0198 (95) <u>P= .849</u>	-.0166 (95) <u>P= .873</u>	.1261 (95) <u>P= .224</u>
ANAL COVERT	-.1618 (95) <u>P= .117</u>	-.1132 (95) <u>P= .275</u>	.1475 (95) <u>P= .154</u>	.0962 (95) <u>P= .354</u>	-.0332 (95) <u>P= .750</u>
PHALLIC OVERT	-.2116 (95) <u>P= .040</u>	.2465 (95) <u>P= .016</u>	-.0385 (95) <u>P= .711</u>	.0724 (95) <u>+P= .486</u>	.0711 (95) <u>P= .494</u>
PHALLIC COVERT	-.1660 (95) <u>P= .108</u>	-.0468 (95) <u>P= .653</u>	-.0212 (95) <u>P= .839</u>	-.0583 (95) <u>P= .575</u>	.0997 (95) <u>P= .336</u>
INTE- GRATED	-.5542 (95) <u>P= .000</u>	-.4131 (95) <u>P= .000</u>	-.1541 (95) <u>P= .136</u>	.0953 (95) <u>P= .358</u>	.4747 (95) <u>P= .000</u>
ARTIC- ULATED	1.0000 (95) <u>P= .000</u>	-.2004 (95) <u>P= .051</u>	-.1979 (95) <u>P= .055</u>	-.4681 (95) <u>P= .000</u>	-.0927 (95) <u>P= .372</u>
SIMPLE	-.2004 (95) <u>P= .051</u>	1.0000 (95) <u>P= 0.0</u>	.1332 (95) <u>P= .198</u>	-.2746 (95) <u>P= .007</u>	-.2882 (95) <u>P= .005</u>

TABLE 1A (Continued)

	ARTIC- ULATED	SIMPLE	DIFFUSE	ARBI- TRARY	POP- ULAR
DIFFUSE	-.1979 (95) <u>P= .055</u>	.1332 (95) <u>P= .198</u>	1.0000 (95) <u>P= .000</u>	-.2537 (95) <u>P= .013</u>	-.1964 (95) <u>P= .057</u>
ARBI- TRARY	-.4681 (95) <u>P= .000</u>	-.2746 (95) <u>P= .007</u>	-.2537 (95) <u>P= .013</u>	1.0000 (95) <u>P=0.0</u>	-.0374 (95) <u>P= .719</u>
POP- ULAR	-.0927 (95) <u>P= .372</u>	-.2882 (95) <u>P= .005</u>	-.1964 (95) <u>P= .057</u>	-.0374 (95) <u>P= .719</u>	1.0000 (95) <u>P=0.0</u>

(Coefficient / (Cases) / 2-tailed Significance)

TABLE 2A
CORRELATIONS WITH SUMMATION RORSCHACH DATA

	CONTROL	HARMA-AVOIDANCE	ABSORP-TION	ANIMAL MOVE.	HUMAN EMOT.
CONTROL	1.0000 (92) <u>P= .</u>	.4277 (92) <u>P= .000</u>	-.2234 (92) <u>P= .032</u>	-.0288 (90) <u>P= .787</u>	.0823 (90) <u>P= .441</u>
HARMA-VOIDANCE	.4277 (92) <u>P= .000</u>	1.0000 (92) <u>P= .</u>	-.2595 (92) <u>P= .012</u>	-.1650 (90) <u>P= .120</u>	-.0473 (90) <u>P= .658</u>
ABSORP-TION	-.2234 (92) <u>P= .032</u>	-.2595 (92) <u>P= .012</u>	1.0000 (92) <u>P= .</u>	.0407 (90) <u>P= .703</u>	-.0305 (90) <u>P= .775</u>
ANIMAL MOVE.	-.0288 (90) <u>P= .787</u>	-.1650 (90) <u>P= .120</u>	.0407 (90) <u>P= .703</u>	1.0000 (95) <u>P= .</u>	.2579 (95) <u>P= .012</u>
HUMAN EMOT.	.0823 (90) <u>P= .441</u>	-.0473 (90) <u>P= .658</u>	-.0305 (90) <u>P= .775</u>	.2579 (95) <u>P= .012</u>	1.0000 (95) <u>P= .</u>
HUMAN MOVE.	-.0779 (90) <u>P= .465</u>	-.0984 (90) <u>P= .356</u>	.1492 (90) <u>P= .161</u>	.5999 (95) <u>P= .000</u>	.4765 (95) <u>P= .000</u>
OBJECT MOVE.	-.1216 (90) <u>P= .253</u>	-.0372 (90) <u>P= .728</u>	-.0887 (90) <u>P= .406</u>	.2970 (95) <u>P= .003</u>	.3543 (95) <u>P= .000</u>
TEXTURE	-.0418 (90) <u>P= .695</u>	-.0789 (90) <u>P= .460</u>	.0888 (90) <u>P= .405</u>	.4658 (95) <u>P= .000</u>	.2913 (95) <u>P= .004</u>
VISTA	-.0343 (90) <u>P= .748</u>	-.1704 (90) <u>P= .108</u>	-.0014 (90) <u>P= .989</u>	.2542 (95) <u>P= .013</u>	.2777 (95) <u>P= .006</u>
COLOR	-.2468 (90) <u>P= .019</u>	-.0817 (90) <u>P= .444</u>	.1598 (90) <u>P= .132</u>	.3910 (95) <u>P= .000</u>	.1917 (95) <u>P= .063</u>

TABLE 2A (Continued)

	CONTROL	HARMA-AVOIDANCE	ABSORP-TION	ANIMAL MOVE.	HUMAN EMOT.
ACHROM. COLOR	-.1103 (90) <u>P=</u> .301	.0152 (90) <u>P=</u> .887	.1440 (90) <u>P=</u> .176	.2649 (95) <u>P=</u> .009	.0945 (95) <u>P=</u> .362
FORM	-.0743 (90) <u>P=</u> .486	-.1220 (90) <u>P=</u> .252	-.0908 (90) <u>P=</u> .394	.5757 (95) <u>P=</u> .000	.3965 (95) <u>P=</u> .000
SHADING	-.0370 (90) <u>P=</u> .729	-.1026 (90) <u>P=</u> .336	-.0812 (90) <u>P=</u> .447	.4614 (95) <u>P=</u> .000	.4761 (95) <u>P=</u> .000
ORAL OVERT	.0273 (90) <u>P=</u> .798	-.0003 (90) <u>P=</u> .998	-.0205 (90) <u>P=</u> .848	.4778 (95) <u>P=</u> .000	.2085 (95) <u>P=</u> .043
ORAL COVERT	.0522 (90) <u>P=</u> .625	.0266 (90) <u>P=</u> .803	.0607 (90) <u>P=</u> .570	.4720 (95) <u>P=</u> .000	.2054 (95) <u>P=</u> .046
ANAL OVERT	.0513 (90) <u>P=</u> .631	-.0221 (90) <u>P=</u> .836	.0281 (90) <u>P=</u> .793	.4892 (95) <u>P=</u> .000	.3017 (95) <u>P=</u> .003
ANAL COVERT	.0522 (90) <u>P=</u> .625	-.0202 (90) <u>P=</u> .850	.0236 (90) <u>P=</u> .826	.3578 (95) <u>P=</u> .000	.3770 (95) <u>P=</u> .000
PHALLIC OVERT	.0042 (90) <u>P=</u> .969	-.0026 (90) <u>P=</u> .980	-.2422 (90) <u>P=</u> .021	.1622 (95) <u>P=</u> .116	-.0376 (95) <u>P=</u> .717
PHALLIC COVERT	.0213 (90) <u>P=</u> .842	-.0270 (90) <u>P=</u> .800	.1397 (90) <u>P=</u> .189	.3474 (95) <u>P=</u> .001	.1110 (95) <u>P=</u> .284
INTE-GRATED	-.0013 (90) <u>P=</u> .990	-.1686 (90) <u>P=</u> .112	.2658 (90) <u>P=</u> .011	.4985 (95) <u>P=</u> .000	.2408 (95) <u>P=</u> .019
ARTIC-ULATED	-.1022 (90) <u>P=</u> .338	-.1227 (90) <u>P=</u> .249	-.1031 (90) <u>P=</u> .334	.5073 (95) <u>P=</u> .000	.3225 (95) <u>P=</u> .001

TABLE 2A (Continued)

	CONTROL	HARMA- AVOIDANCE	ABSORP- TION	ANIMAL MOVE.	HUMAN EMOT.
SIMPLE	-.0372 (90) <u>P= .728</u>	-.0330 (90) <u>P= .757</u>	-.2078 (90) <u>P= .049</u>	.3818 (95) <u>P= .000</u>	.3224 (95) <u>P= .001</u>
DIFFUSE	-.0720 (90) <u>P= .500</u>	-.0302 (90) <u>P= .778</u>	-.0288 (90) <u>P= .788</u>	.1898 (95) <u>P= .066</u>	.1915 (95) <u>P= .063</u>
ARBI- TRARY	-.0378 (90) <u>P= .724</u>	-.0684 (90) <u>P= .522</u>	-.0261 (90) <u>P= .807</u>	.6543 (95) <u>P= .000</u>	.5056 (95) <u>P= .000</u>
POPULAR	-.0101 (90) <u>P= .924</u>	.0227 (90) <u>P= .832</u>	.0584 (90) <u>P= .584</u>	.1703 (95) <u>P= .099</u>	.1264 (95) <u>P= .222</u>

////////////////////////////////////

TABLE 2A (Continued)

	HUMAN MOVE.	OBJECT MOVE.	TEXTURE	VISTA	COLOR
CONTROL	-.0779 (90) <u>P=</u> .465	-.1216 (90) <u>P=</u> .253	-.0418 (90) <u>P=</u> .695	-.0343 (90) <u>P=</u> .748	-.2468 (90) <u>P=</u> .019
HARMA- VOIDANCE	-.0984 (90) <u>P=</u> .356	-.0372 (90) <u>P=</u> .728	-.0789 (90) <u>P=</u> .460	-.1704 (90) <u>P=</u> .108	-.0817 (90) <u>P=</u> .444
ABSORP- TION	.1492 (90) <u>P=</u> .161	-.0887 (90) <u>P=</u> .406	.0888 (90) <u>P=</u> .405	-.0014 (90) <u>P=</u> .989	.1598 (90) <u>P=</u> .132
ANIMAL MOVE.	.5999 (95) <u>P=</u> .000	.2970 (95) <u>P=</u> .003	.4658 (95) <u>P=</u> .000	.2542 (95) <u>P=</u> .013	.3910 (95) <u>P=</u> .000
HUMAN EMOT.	.4765 (95) <u>P=</u> .000	.3543 (95) <u>P=</u> .000	.2913 (95) <u>P=</u> .004	.2777 (95) <u>P=</u> .006	.1917 (95) <u>P=</u> .063
HUMAN MOVE.	1.0000 (95) <u>P=</u> .	.4493 (95) <u>P=</u> .000	.4900 (95) <u>P=</u> .000	.4599 (95) <u>P=</u> .000	.4609 (95) <u>P=</u> .000
OBJECT MOVE.	.4493 (95) <u>P=</u> .000	1.0000 (95) <u>P=</u> .	.5458 (95) <u>P=</u> .000	.5532 (95) <u>P=</u> .000	.5277 (95) <u>P=</u> .000
TEXTURE	.4900 (95) <u>P=</u> .000	.5458 (95) <u>P=</u> .000	1.0000 (95) <u>P=</u> .	.4835 (95) <u>P=</u> .000	.4462 (95) <u>P=</u> .000
VISTA	.4599 (95) <u>P=</u> .000	.5532 (95) <u>P=</u> .000	.4835 (95) <u>P=</u> .000	1.0000 (95) <u>P=</u> .	.3144 (95) <u>P=</u> .002
COLOR	.4609 (95) <u>P=</u> .000	.5277 (95) <u>P=</u> .000	.4462 (95) <u>P=</u> .000	.3144 (95) <u>P=</u> .002	1.0000 (95) <u>P=</u> .
ACHROM. COLOR	.2858 (95) <u>P=</u> .005	.1083 (95) <u>P=</u> .296	.0990 (95) <u>P=</u> .340	.0753 (95) <u>P=</u> .469	.5154 (95) <u>P=</u> .000

TABLE 2A (Continued)

	HUMAN MOVE.	OBJECT MOVE.	TEXTURE	VISTA	COLOR
FORM	.7588 (95) <u>P= .000</u>	.7515 (95) <u>P= .000</u>	.5239 (95) <u>P= .000</u>	.5184 (95) <u>P= .000</u>	.5432 (95) <u>P= .000</u>
SHADING	.5941 (95) <u>P= .000</u>	.7685 (95) <u>P= .000</u>	.5667 (95) <u>P= .000</u>	.5498 (95) <u>P= .000</u>	.5184 (95) <u>P= .000</u>
ORAL OVERT	.5457 (95) <u>P= .000</u>	.4851 (95) <u>P= .000</u>	.4966 (95) <u>P= .000</u>	.3454 (95) <u>P= .001</u>	.3213 (95) <u>P= .002</u>
ORAL COVERT	.5249 (95) <u>P= .000</u>	.2228 (95) <u>P= .030</u>	.4095 (95) <u>P= .000</u>	.1730 (95) <u>P= .094</u>	.2847 (95) <u>P= .005</u>
ANAL OVERT	.7086 (95) <u>P= .000</u>	.5364 (95) <u>P= .000</u>	.5097 (95) <u>P= .000</u>	.4669 (95) <u>P= .000</u>	.3047 (95) <u>P= .003</u>
ANAL COVERT	.4438 (95) <u>P= .000</u>	.7606 (95) <u>P= .000</u>	.3937 (95) <u>P= .000</u>	.3909 (95) <u>P= .000</u>	.3873 (95) <u>P= .000</u>
PHALLIC OVERT	.0904 (95) <u>P= .384</u>	.0511 (95) <u>P= .623</u>	.0522 (95) <u>P= .615</u>	-.0081 (95) <u>P= .938</u>	.0636 (95) <u>P= .541</u>
PHALLIC COVERT	.4496 (95) <u>P= .000</u>	.1240 (95) <u>P= .231</u>	.2268 (95) <u>P= .027</u>	.1888 (95) <u>P= .067</u>	.1325 (95) <u>P= .200</u>
INTE- GRATED	.5592 (95) <u>P= .000</u>	.1349 (95) <u>P= .192</u>	.1906 (95) <u>P= .064</u>	.2489 (95) <u>P= .015</u>	.3133 (95) <u>P= .002</u>
ARTIC- ULATED	.7084 (95) <u>P= .000</u>	.6600 (95) <u>P= .000</u>	.4767 (95) <u>P= .000</u>	.4804 (95) <u>P= .000</u>	.5020 (95) <u>P= .000</u>
SIMPLE	.5125 (95) <u>P= .000</u>	.7647 (95) <u>P= .000</u>	.4789 (95) <u>P= .000</u>	.4356 (95) <u>P= .000</u>	.4019 (95) <u>P= .000</u>

TABLE 2A (Continued)

	HUMAN MOVE.	OBJECT MOVE.	TEXTURE	VISTA	COLOR
DIFFUSE	.3130	.7500	.4010	.4551	.4213
	(.95)	(.95)	(.95)	(.95)	(.95)
	<u>P=</u> .002	<u>P=</u> .000	<u>P=</u> .000	<u>P=</u> .000	<u>P=</u> .000
ARBI- TRARY	.7368	.5421	.4566	.3415	.5063
	(.95)	(.95)	(.95)	(.95)	(.95)
	<u>P=</u> .000	<u>P=</u> .000	<u>P=</u> .000	<u>P=</u> .001	<u>P=</u> .000
POP- ULAR	.4487	.2737	.0880	.1494	.2311
	(.95)	(.95)	(.95)	(.95)	(.95)
	<u>P=</u> .000	<u>P=</u> .007	<u>P=</u> .397	<u>P=</u> .148	<u>P=</u> .024

////////////////////////////////////

TABLE 2A (Continued)

	ACHROM. COLOR	FORM	SHADING	ORAL OVERT	ORAL COVERT
CONTROL	-.1103 (90) <u>P=</u> .301	-.0743 (90) <u>P=</u> .486	-.0370 (90) <u>P=</u> .729	.0273 (90) <u>P=</u> .798	.0522 (90) <u>P=</u> .625
HARMA- VOIDANCE	.0152 (90) <u>P=</u> .887	-.1220 (90) <u>P=</u> .252	-.1026 (90) <u>P=</u> .336	-.0003 (90) <u>P=</u> .998	.0266 (90) <u>P=</u> .803
ABSORP- TION	.1440 (90) <u>P=</u> .176	-.0908 (90) <u>P=</u> .394	-.0812 (90) <u>P=</u> .447	-.0205 (90) <u>P=</u> .848	.0607 (90) <u>P=</u> .570
ANIMAL MOVE.	.2649 (95) <u>P=</u> .009	.5757 (95) <u>P=</u> .000	.4614 (95) <u>P=</u> .000	.4778 (95) <u>P=</u> .000	.4720 (95) <u>P=</u> .000
HUMAN EMOT.	.0945 (95) <u>P=</u> .362	.3965 (95) <u>P=</u> .000	.4761 (95) <u>P=</u> .000	.2085 (95) <u>P=</u> .043	.2054 (95) <u>P=</u> .046
HUMAN MOVE.	.2858 (95) <u>P=</u> .005	.7588 (95) <u>P=</u> .000	.5941 (95) <u>P=</u> .000	.5457 (95) <u>P=</u> .000	.5249 (95) <u>P=</u> .000
OBJECT MOVE.	.1083 (95) <u>P=</u> .296	.7515 (95) <u>P=</u> .000	.7685 (95) <u>P=</u> .000	.4851 (95) <u>P=</u> .000	.2228 (95) <u>P=</u> .030
TEXTURE	.0990 (95) <u>P=</u> .340	.5239 (95) <u>P=</u> .000	.5667 (95) <u>P=</u> .000	.4966 (95) <u>P=</u> .000	.4095 (95) <u>P=</u> .000
VISTA	.0753 (95) <u>P=</u> .469	.5184 (95) <u>P=</u> .000	.5498 (95) <u>P=</u> .000	.3454 (95) <u>P=</u> .001	.1730 (95) <u>P=</u> .094
COLOR	.5154 (95) <u>P=</u> .000	.5432 (95) <u>P=</u> .000	.5184 (95) <u>P=</u> .000	.3213 (95) <u>P=</u> .002	.2847 (95) <u>P=</u> .005
ACHROM. COLOR	1.0000 (95) <u>P=</u> .	.1337 (95) <u>P=</u> .196	.1115 (95) <u>P=</u> .282	.1010 (95) <u>P=</u> .330	.1165 (95) <u>P=</u> .261

TABLE 2A (Continued)

	ACHROM. COLOR	FORM	SHADING	ORAL OVERT	ORAL COVERT
FORM	.1337 (95) <u>P=</u> .196	1.0000 (95) <u>P=</u> .	.8456 (95) <u>P=</u> .000	.7035 (95) <u>P=</u> .000	.4553 (95) <u>P=</u> .000
SHADING	.1115 (95) <u>P=</u> .282	.8456 (95) <u>P=</u> .000	1.0000 (95) <u>P=</u> .	.5506 (95) <u>P=</u> .000	.3298 (95) <u>P=</u> .001
ORAL OVERT	.1010 (95) <u>P=</u> .330	.7035 (95) <u>P=</u> .000	.5506 (95) <u>P=</u> .000	1.0000 (95) <u>P=</u> .	.6463 (95) <u>P=</u> .000
ORAL COVERT	.1165 (95) <u>P=</u> .261	.4553 (95) <u>P=</u> .000	.3298 (95) <u>P=</u> .001	.6463 (95) <u>P=</u> .000	1.0000 (95) <u>P=</u> .
ANAL OVERT	.2349 (95) <u>P=</u> .022	.6768 (95) <u>P=</u> .000	.5449 (95) <u>P=</u> .000	.5734 (95) <u>P=</u> .000	.5071 (95) <u>P=</u> .000
ANAL COVERT	.0789 (95) <u>P=</u> .447	.6505 (95) <u>P=</u> .000	.6960 (95) <u>P=</u> .000	.4536 (95) <u>P=</u> .000	.3188 (95) <u>P=</u> .002
PHALLIC OVERT	.0105 (95) <u>P=</u> .920	.1859 (95) <u>P=</u> .071	.2289 (95) <u>P=</u> .026	.1463 (95) <u>P=</u> .157	.0773 (95) <u>P=</u> .456
PHALLIC COVERT	.1761 (95) <u>P=</u> .088	.3429 (95) <u>P=</u> .001	.1912 (95) <u>P=</u> .063	.5608 (95) <u>P=</u> .000	.4367 (95) <u>P=</u> .000
INTE- GRATED	.2520 (95) <u>P=</u> .014	.3098 (95) <u>P=</u> .002	.1922 (95) <u>P=</u> .062	.2887 (95) <u>P=</u> .005	.3190 (95) <u>P=</u> .002
ARTIC- ULATED	.1440 (95) <u>P=</u> .164	.9652 (95) <u>P=</u> .000	.7698 (95) <u>P=</u> .000	.6971 (95) <u>P=</u> .000	.4569 (95) <u>P=</u> .000
SIMPLE	-.0409 (95) <u>P=</u> .694	.8770 (95) <u>P=</u> .000	.8218 (95) <u>P=</u> .000	.5707 (95) <u>P=</u> .000	.2612 (95) <u>P=</u> .011

TABLE 2A (Continued)

	ACHROM. COLOR	FORM	SHADING	ORAL OVERT	ORAL COVERT
DIFFUSE	.0170 (.95) <u>P=</u> .870	.6492 (.95) <u>P=</u> .000	.7221 (.95) <u>P=</u> .000	.3912 (.95) <u>P=</u> .000	.2110 (.95) <u>P=</u> .040
ARBI- TRARY	.1875 (.95) <u>P=</u> .069	.6942 (.95) <u>P=</u> .000	.6240 (.95) <u>P=</u> .000	.4219 (.95) <u>P=</u> .000	.3740 (.95) <u>P=</u> .000
POP- ULAR	.1147 (.95) <u>P=</u> .269	.4220 (.95) <u>P=</u> .000	.2885 (.95) <u>P=</u> .005	.3704 (.95) <u>P=</u> .000	.2238 (.95) <u>P=</u> .029

////////////////////////////////////

TABLE 2A (Continued)

	ANAL OVERT	ANAL COVERT	PHALLIC OVERT	PHALLIC COVERT	INTE- GRATED
CONTROL	.0513 (.90) <u>P=</u> .631	.0522 (.90) <u>P=</u> .625	.0042 (.90) <u>P=</u> .969	.0213 (.90) <u>P=</u> .842	-.0013 (.90) <u>P=</u> .990
HARMA- VOIDANCE	-.0221 (.90) <u>P=</u> .836	-.0202 (.90) <u>P=</u> .850	-.0026 (.90) <u>P=</u> .980	-.0270 (.90) <u>P=</u> .800	-.1686 (.90) <u>P=</u> .112
ABSORP- TION	.0281 (.90) <u>P=</u> .793	.0236 (.90) <u>P=</u> .826	-.2422 (.90) <u>P=</u> .021	.1397 (.90) <u>P=</u> .189	.2658 (.90) <u>P=</u> .011
ANIMAL MOVE.	.4892 (.95) <u>P=</u> .000	.3578 (.95) <u>P=</u> .000	.1622 (.95) <u>P=</u> .116	.3474 (.95) <u>P=</u> .001	.4985 (.95) <u>P=</u> .000
HUMAN EMOT.	.3017 (.95) <u>P=</u> .003	.3770 (.95) <u>P=</u> .000	-.0376 (.95) <u>P=</u> .717	.1110 (.95) <u>P=</u> .284	.2408 (.95) <u>P=</u> .019
HUMAN MOVE.	.7086 (.95) <u>P=</u> .000	.4438 (.95) <u>P=</u> .000	.0904 (.95) <u>P=</u> .384	.4496 (.95) <u>P=</u> .000	.5592 (.95) <u>P=</u> .000
OBJECT MOVE.	.5364 (.95) <u>P=</u> .000	.7606 (.95) <u>P=</u> .000	.0511 (.95) <u>P=</u> .623	.1240 (.95) <u>P=</u> .231	.1349 (.95) <u>P=</u> .192
TEXTURE	.5097 (.95) <u>P=</u> .000	.3937 (.95) <u>P=</u> .000	.0522 (.95) <u>P=</u> .615	.2268 (.95) <u>P=</u> .027	.1906 (.95) <u>P=</u> .064
VISTA	.4669 (.95) <u>P=</u> .000	.3909 (.95) <u>P=</u> .000	-.0081 (.95) <u>P=</u> .938	.1888 (.95) <u>P=</u> .067	.2489 (.95) <u>P=</u> .015
COLOR	.3047 (.95) <u>P=</u> .003	.3873 (.95) <u>P=</u> .000	.0636 (.95) <u>P=</u> .541	.1325 (.95) <u>P=</u> .200	.3133 (.95) <u>P=</u> .002
ACHROM. COLOR	.2349 (.95) <u>P=</u> .022	.0789 (.95) <u>P=</u> .447	.0105 (.95) <u>P=</u> .920	.1761 (.95) <u>P=</u> .088	.2520 (.95) <u>P=</u> .014

TABLE 2A (Continued)

	ANAL OVERT	ANAL COVERT	PHALLIC OVERT	PHALLIC COVERT	INTE- GRATED
FORM	.6768 (95) <u>P= .000</u>	.6505 (95) <u>P= .000</u>	.1859 (95) <u>P= .071</u>	.3429 (95) <u>P= .001</u>	.3098 (95) <u>P= .002</u>
SHADING	.5449 (95) <u>P= .000</u>	.6960 (95) <u>P= .000</u>	.2289 (95) <u>P= .026</u>	.1912 (95) <u>P= .063</u>	.1922 (95) <u>P= .062</u>
ORAL OVERT	.5734 (95) <u>P= .000</u>	.4536 (95) <u>P= .000</u>	.1463 (95) <u>P= .157</u>	.5608 (95) <u>P= .000</u>	.2887 (95) <u>P= .005</u>
ORAL COVERT	.5071 (95) <u>P= .000</u>	.3188 (95) <u>P= .002</u>	.0773 (95) <u>P= .456</u>	.4367 (95) <u>P= .000</u>	.3190 (95) <u>P= .002</u>
ANAL OVERT	1.0000 (95) <u>P= .</u>	.4683 (95) <u>P= .000</u>	.0686 (95) <u>P= .509</u>	.3885 (95) <u>P= .000</u>	.2745 (95) <u>P= .007</u>
ANAL COVERT	.4683 (95) <u>P= .000</u>	1.0000 (95) <u>P= .</u>	.0843 (95) <u>P= .417</u>	.2131 (95) <u>P= .038</u>	.1959 (95) <u>P= .057</u>
PHALLIC COVERT	.0686 (95) <u>P= .509</u>	.0843 (95) <u>P= .417</u>	1.0000 (95) <u>P= .</u>	.2339 (95) <u>P= .023</u>	.0549 (95) <u>P= .598</u>
PHALLIC COVERT	.3885 (95) <u>P= .000</u>	.2131 (95) <u>P= .038</u>	.2339 (95) <u>P= .023</u>	1.0000 (95) <u>P= .</u>	.5448 (95) <u>P= .000</u>
INTE- GRATED	.2745 (95) <u>P= .007</u>	.1959 (95) <u>P= .057</u>	.0549 (95) <u>P= .598</u>	.5448 (95) <u>P= .000</u>	1.0000 (95) <u>P= .</u>
ARTIC- ULATED	.6637 (95) <u>P= .000</u>	.5510 (95) <u>P= .000</u>	.1448 (95) <u>P= .161</u>	.2968 (95) <u>P= .003</u>	.1944 (95) <u>P= .059</u>
SIMPLE	.5042 (95) <u>P= .000</u>	.6663 (95) <u>P= .000</u>	.2449 (95) <u>P= .017</u>	.1668 (95) <u>P= .106</u>	.0418 (95) <u>P= .688</u>

TABLE 2A (Continued)

	ANAL OVERT	ANAL COVERT	PHALLIC OVERT	PHALLIC COVERT	INTE- GRATED
DIPFUSE	.4337	.6315	.1350	.1085	.0308
	(.95)	(.95)	(.95)	(.95)	(.95)
	<u>P=</u> .000	<u>P=</u> .000	<u>P=</u> .192	<u>P=</u> .295	<u>P=</u> .767
ARBI- TRARY	.5206	.4854	.0708	.2406	.3541
	(.95)	(.95)	(.95)	(.95)	(.95)
	<u>P=</u> .000	<u>P=</u> .000	<u>P=</u> .495	<u>P=</u> .019	<u>P=</u> .000
POP- ULAR	.3413	.2407	.1787	.3650	.3986
	(.95)	(.95)	(.95)	(.95)	(.95)
	<u>P=</u> .001	<u>P=</u> .019	<u>P=</u> .083	<u>P=</u> .000	<u>P=</u> .000

////////////////////////////////////

TABLE 2A (Continued)

	ARTIC- ULATED	SIMPLE	DIFFUSE	ARBI- TRARY	POP- ULAR
CONTROL	-.1022 (90) $P=$.338	-.0372 (90) $P=$.728	-.0720 (90) $P=$.500	-.0378 (90) $P=$.724	-.0101 (90) $P=$.924
HARMA- VOIDANCE	-.1227 (90) $P=$.249	-.0330 (90) $P=$.757	-.0302 (90) $P=$.778	-.0684 (90) $P=$.522	.0227 (90) $P=$.832
ABSORP- TION	-.1031 (90) $P=$.334	-.2078 (90) $P=$.049	-.0288 (90) $P=$.788	-.0261 (90) $P=$.807	.0584 (90) $P=$.584
ANIMAL MOVE.	.5073 (95) $P=$.000	.3818 (95) $P=$.000	.1898 (95) $P=$.066	.6543 (95) $P=$.000	.1703 (95) $P=$.099
HUMAN EMOT.	.3225 (95) $P=$.001	.3224 (95) $P=$.001	.1915 (95) $P=$.063	.5056 (95) $P=$.000	.1264 (95) $P=$.222
HUMAN MOVE.	.7084 (95) $P=$.000	.5125 (95) $P=$.000	.3130 (95) $P=$.002	.7368 (95) $P=$.000	.4487 (95) $P=$.000
OBJECT MOVE.	.6600 (95) $P=$.000	.7647 (95) $P=$.000	.7500 (95) $P=$.000	.5421 (95) $P=$.000	.2737 (95) $P=$.007
TEXTURE	.4767 (95) $P=$.000	.4789 (95) $P=$.000	.4010 (95) $P=$.000	.4566 (95) $P=$.000	.0880 (95) $P=$.397
VISTA	.4804 (95) $P=$.000	.4356 (95) $P=$.000	.4551 (95) $P=$.000	.3415 (95) $P=$.001	.1494 (95) $P=$.148
COLOR	.5020 (95) $P=$.000	.4019 (95) $P=$.000	.4213 (95) $P=$.000	.5063 (95) $P=$.000	.2311 (95) $P=$.024
ACHROM. COLOR	.1440 (95) $P=$.164	-.0409 (95) $P=$.694	.0170 (95) $P=$.870	.1875 (95) $P=$.069	.1147 (95) $P=$.269

TABLE 2A (Continued)

	ARTIC- ULATED	SIMPLE	DIFFUSE	ARBI- TRARY	POP- ULAR
FORM	.9652 (.95) $P= .000$	.8770 (.95) $P= .000$	.6492 (.95) $P= .000$	.6942 (.95) $P= .000$	.4220 (.95) $P= .000$
SHADING	.7698 (.95) $P= .000$	.8218 (.95) $P= .000$	.7221 (.95) $P= .000$	.6240 (.95) $P= .000$	.2885 (.95) $P= .005$
ORAL OVERT	.6971 (.95) $P= .000$	.5707 (.95) $P= .000$	.3912 (.95) $P= .000$	.4219 (.95) $P= .000$	.3704 (.95) $P= .000$
ORAL COVERT	.4569 (.95) $P= .000$	.2612 (.95) $P= .011$	.2110 (.95) $P= .040$	.3740 (.95) $P= .000$	.2238 (.95) $P= .029$
ANAL OVERT	.6637 (.95) $P= .000$	.5042 (.95) $P= .000$	.4337 (.95) $P= .000$	.5206 (.95) $P= .000$	.3413 (.95) $P= .001$
ANAL COVERT	.5510 (.95) $P= .000$	.6663 (.95) $P= .000$	.6315 (.95) $P= .000$	.4854 (.95) $P= .000$	.2407 (.95) $P= .019$
PHALLIC OVERT	.1448 (.95) $P= .161$	.2449 (.95) $P= .017$	.1350 (.95) $P= .192$	.0708 (.95) $P= .495$	.1787 (.95) $P= .083$
PHALLIC COVERT	.2968 (.95) $P= .003$	.1668 (.95) $P= .106$	.1085 (.95) $P= .295$	.2406 (.95) $P= .019$	.3650 (.95) $P= .000$
INTE- GRATED	.1944 (.95) $P= .059$	.0418 (.95) $P= .688$	.0308 (.95) $P= .767$	.3541 (.95) $P= .000$	.3986 (.95) $P= .000$
ARTIC- ULATED	1.0000 (.95) $P= .$	.8053 (.95) $P= .000$	.5861 (.95) $P= .000$	.5737 (.95) $P= .000$	.3990 (.95) $P= .000$
SIMPLE	.8053 (.95) $P= .000$	1.0000 (.95) $P= .$	.6952 (.95) $P= .000$	.5340 (.95) $P= .000$	.3225 (.95) $P= .001$

TABLE 2A (Continued)

	ARTIC- ULATED	SIMPLE	DIFFUSE	ARBI- TRARY	POP- ULAR
DIFFUSE	.5861 (.95) <u>P= .000</u>	.6952 (.95) <u>P= .000</u>	1.0000 (.95) <u>P= .</u>	.3344 (.95) <u>P= .001</u>	.1951 (.95) <u>P= .058</u>
ARBI- TRARY	.5737 (.95) <u>P= .000</u>	.5340 (.95) <u>P= .000</u>	.3344 (.95) <u>P= .001</u>	1.0000 (.95) <u>P= .</u>	.2100 (.95) <u>P= .041</u>
POP- ULAR	.3990 (.95) <u>P= .000</u>	.3225 (.95) <u>P= .001</u>	.1951 (.95) <u>P= .058</u>	.2100 (.95) <u>P= .041</u>	1.0000 (.95) <u>P= .</u>

(Coefficient / (Cases) / 2-tailed Significance)

APPENDIX B

TABLE 1B

COMPARISON OF SPLIT-N MATRICES

FACTOR 1

ANALYSIS 1		ANALYSIS 2	
VARIABLES	LOADING	VARIABLES	LOADING
ORAL COVERT	.92093	-----	
ANAL COVERT	.68011	-----	
SHADING	.62799	SHADING	.40403
TEXTURE	.57244	TEXTURE	.59245
-----		HUMAN EMOTION	.82480
-----		HUMAN MOVEMENT	.69907
-----		COLOR	.44810

VARIABLES:

STAYED IN FACTOR: 2

MOVED OR ABSENT : 5

TABLE 2B
COMPARISON OF SPLIT-N MATRICES
FACTOR 2

ANALYSIS 1		ANALYSIS 2	
VARIABLES	LOADING	VARIABLES	LOADING
ABSORPTION	.81134	ABSORPTION	.81481
COLOR	.75412	COLOR	.66224
TEXTURE	.37589	TEXTURE	.33190
-----		ANAL COVERT	.51735

VARIABLES:

STAYED IN FACTOR: 3
MOVED OR ABSENT : 1

TABLE 3B
COMPARISON OF SPLIT-N MATRICES
FACTOR 3

ANALYSIS 1		ANALYSIS 2	
VARIABLES	LOADING	VARIABLES	LOADING
HUMAN EMOTION	.77051	-----	
HUMAN MOVEMENT	.62876	HUMAN MOVEMENT	-.30827
ANAL COVERT	-.52016	ANAL COVERT	-.42676
SHADING	.41684	SHADING	-.69394
TEXTURE	.32988	TEXTURE	-.62121
-----		ORAL COVERT	-.86473

VARIABLES:

STAYED IN FACTOR: 4 (2 WITH OPPOSITE SIGNS)
MOVED OR ABSENT : 2

APPENDIX C

TABLE 1C

COMPARISON OF SPLIT-N MATRICES
TO FULL ANALYSIS MATRICES

FACTOR 1

ANALYSIS 1		FULL ANALYSIS	
VARIABLES	LOADING	VARIABLES	LOADING
ORAL COVERT	.92093	ORAL COVERT	.79959
ANAL COVERT	.68011	ANAL COVERT	.39183
SHADING	.62799	SHADING	.69282
TEXTURE	.57244	TEXTURE	.66278

VARIABLES:

STAYED IN FACTOR: 4
MOVED OR ABSENT : 0

TABLE 2C
COMPARISON OF SPLIT-N MATRICES
TO FULL ANALYSIS MATRICES

FACTOR 2

ANALYSIS 1		FULL ANALYSIS	
VARIABLES	LOADING	VARIABLES	LOADING
ABSORPTION	.81134	ABSORPTION	.82039
COLOR	.75412	COLOR	.68065
TEXTURE	.37589	-----	-----
-----	-----	ANAL COVERT	.53202

VARIABLES:

STAYED IN FACTOR: 2
MOVED OR ABSENT : 2

TABLE 3C
COMPARISON OF SPLIT-N MATRICES
TO FULL ANALYSIS MATRICES

FACTOR 3

ANALYSIS 1		FULL ANALYSIS	
VARIABLES	LOADING	VARIABLES	LOADING
HUMAN EMOTION	.77051	HUMAN EMOTION	.72527
HUMAN MOVEMENT	.62876	HUMAN MOVEMENT	.78237
ANAL COVERT	-.52016	ANAL COVERT	-.31117
SHADING	.41684	-----	-----
TEXTURE	.32988	-----	-----

VARIABLES:

STAYED IN FACTOR: 3
MOVED OR ABSENT : 2

APPENDIX D

TABLE 1D

COMPARISON OF SPLIT-N MATRICES
TO FULL ANALYSIS MATRICES

FACTOR 1

ANALYSIS 2		FULL ANALYSIS	
VARIABLES	LOADING	VARIABLES	LOADING
SHADING	.40403	SHADING	.69282
TEXTURE	.59245	TEXTURE	.66278
HUMAN EMOTION	.82480	-----	-----
HUMAN MOVEMENT	.69907	-----	-----
COLOR	.44810	-----	-----
-----	-----	ORAL COVERT	.79959
-----	-----	ANAL COVERT	.39183

VARIABLES:

STAYED IN FACTOR: 2
 MOVED OR ABSENT : 5

TABLE 2D
COMPARISON OF SPLIT-N MATRICES
TO FULL ANALYSIS MATRICES

FACTOR 2

ANALYSIS 2		FULL ANALYSIS	
VARIABLES	LOADING	VARIABLES	LOADING
ABSORPTION	.81481	ABSORPTION	.82039
COLOR	.66224	COLOR	.68065
TEXTURE	.33190	-----	-----
ANAL COVERT	.51735	ANAL COVERT	.39183

VARIABLES:

STAYED IN FACTOR: 3
MOVED OR ABSENT : 1

TABLE 3D
COMPARISON OF SPLIT-N MATRICES
TO FULL ANALYSIS MATRICES

FACTOR 3

ANALYSIS 2		FULL ANALYSIS	
VARIABLES	LOADING	VARIABLES	LOADING
HUMAN EMOTION	.77051	HUMAN EMOTION	.72527
HUMAN MOVEMENT	.62876	HUMAN MOVEMENT	.78237
ANAL COVERT	-.52016	ANAL COVERT	-.31117
SHADING	.41684	-----	-----
TEXTURE	.32988	-----	-----

VARIABLES:

STAYED IN FACTOR: 3
MOVED OR ABSENT : 2

VITA

Peter Bernhart Young was born in Durham, North Carolina on May 20, 1947. He attended elementary schools in Urbana, Illinois and Durham, North Carolina, graduating from Durham High School in 1965. He attended the University of North Carolina intermittently over the next several years, interspersing his undergraduate work with employment at various Outward Bound schools and related outdoor educational institutions. He received a Bachelor of Arts degree in Anthropology in 1974.

In 1978 he attended Western Carolina University to study Clinical Psychology. During these studies, he met and married Barbara Pyron. After receiving a Master of Arts degree in 1981, he worked in various inpatient and outpatient facilities as a therapist, in a Veteran's Administration Medical Center as a researcher, and at North Carolina Outward Bound School as an instructor.

In 1984 he attended North Carolina State University in Raleigh, North Carolina to gain certification as a School Psychologist II. He was certified in 1985.

In 1985 he began studies at the University of Tennessee in Knoxville towards a Doctor of Philosophy degree in Clinical Psychology. He will complete his internship at

Primary Children's Medical Center in Salt Lake City, Utah on September 1, 1989. He plans to graduate in August, 1989.

The author is a member of the American Psychological Association, the Tennessee Psychological Association, the National Association of School Psychologists, the Human Ethology Society, the Association for Experiential Education, and the American Alpine Club. Upon graduation, he will seek employment in a hospital setting.