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OBSESSIVE-COMPULSIVE AND HYSTERIC STYLES OF THINKING AND PERCEIVING IN A COLLEGE POPULATION

City University of New York PH.D. 1982

OBSESSIVE-COMPULSIVE AND HYSTERIC STYLES OF THINKING AND PERCEIVING IN A COLLEGE POPULATION

by

EDWARD A. HAHN

A dissertation submitted to the Graduate Faculty in Psychology
in partial fulfillment of the requirements for the degree of
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The City University of New York

1982

This manuscript has been read and accepted for the Graduate Faculty in Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

April 19, 1982
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Abstract

OBSESSIVE-COMPULSIVE AND HYSTERIC STYLES OF THINKING AND PERCEIVING IN A COLLEGE POPULATION

by

Edward A. Hahn

Adviser: Professor Charles P. Smith

The present study involves the development and validation of self-report measures of obsessive-compulsive and hysteric styles of thinking and perceiving, in a sample of 100 male undergraduates.

The 17 items of the obsessive-compulsive scale manifested relatively high internal consistency (alpha = .81) and the 17 items of the hysteric scale manifested moderate internal consistency (alpha = .66). As expected, obsessive-compulsive style scale scores were independent of hysteric style scale scores (r = .02)

Relationships between the two scales and acquiescence and social desirability responding were examined. The obtained results were not regarded as problematic, but construct validation results were reported th and without social desirability partialled out.

The following construct validation results were in accordance with predictions: Obsessive-compulsive style scores were positively and significantly related to Group Embedded Figures Test

performance, reported high school grades in mathematics, intended college majors in the sciences, interest ratings for a physics reading passage, and conventional or authoritarian attitudes. Obsessive-compulsive style scores were negatively and significantly related to intended college majors in the arts.

Hysteric style scores were positively and significantly related to relatively better reported SAT Verbal than SAT Quantitative scores, intended college majors in the arts, unconventional or non-authoritarian attitudes, and interest ratings for a reading passage about romance. Hysteric style scores were negatively and significantly related to Group Embedded Figures Test performance, WAIS Information Scale scores, recall of one's SAT scores, reported high school grades in mathematics, and intended college majors in the sciences.

Obtained results involving the obsessive-compulsive and hysteric scales and reported SAT Quantitative scores, reported high school grades in science, interest ratings for a fashion reading passage, and Object-Uses Test performance were in the predicted direction for all hypotheses except one, but were either weak or equivocal.

Theoretical issues involving field-dependence, convergent and divergent styles, cerebral hemispheric functioning, and selective forgetting and repression were discussed in context of the present results.

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Professor Messick's courses in personality measurement opened up my interest in cognitive styles, and the theoretical and methodological knowledge that he provided served as a key impetus in the crystallization of my choice of dissertation topic.

Professor Schmeidler not only gave me valuable assistance and advice in the planning and implementation of my pilot and dissertation studies, but also constructive critical analyses during various stages of my research.

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Chapter I

Introduction

Individuals who frequently manifest obsessions or compulsions, typically recall the details of threatening events but not their feelings about the events, and exhibit such traits as meticulousness and orderliness are said to be characterized by an obsessive-compulsive personality (Fenichel, 1945; Rapaport, Shafer, & Gill, 1946). Individuals who frequently manifest hysterical paralysis or hysterical dissociation, typically repress the details of threatening events, and often display emotional outbursts, are said to be characterized by an hysterical (or hysteric) personality (Fenichel, 1945; Rapaport, et al., 1946).

According to Shapiro (1965), there are characteristic styles of cognition and perception associated with obsessive-compulsive and hysteric personality organization. The present study is concerned with the investigation of these styles. It involves the development of self-report measures of these styles, and the validation of these measures through an examination of their relationship to intellectual and perceptual test performance, aspiration, and interest. A non-psychiatric college population was employed. No attempt was made to assess overt neurotic symptomatology or defense mechanisms.

Obsessive-Compulsive and Hysteric Styles of Cognition and Perception

According to Shapiro (1965), individuals characterized by an obsessive-compulsive personality generally think in terms of discrete details or parts, are concerned with remembering specific facts and details as well as with planning and organizing activities, and display an intensive, technical concentration. Individuals characterized by an hysteric personality generally perceive in terms of impressions, experience events in terms of their feelings, concentrate intensely only when they are emotionally excited, and frequently engage in romantic fantasy in which they imagine themselves in different roles.

Although Shapiro's descriptions are based upon the clinical examination of a psychiatric population, the cognitive and perceptual styles which he described should be present in a general, non-psychiatric population, since they appear to involve potentially adaptive as well as potentially maladaptive components.

The Inventory of Obsessive-Compulsive and Hysteric Styles

Although measures of obsessive-compulsive and hysteric personality traits, neuroses, and defenses exist (See Pollak, 1979; Krohn, 1978), no measure has been designed to assess obsessive-compulsive and hysteric styles of cognition and perception.

The present study attempts to develop self-report measures of these styles which are internally consistent, relatively independent

of neuroticism and social desirability, and applicable for use in a non-psychiatric population.

Item construction and internal consistency. Seventeen items were written to represent an obsessive-compulsive cognitive and perceptual style, and 17 items were written to represent an hysteric cognitive and perceptual style. Separate items were written to represent each style because the two styles are regarded as relatively independent dimensions, rather than as opposite ends of a single dimension.

In the instructions to the test, subjects are asked to rate the extent to which each item adequately describes them on a scale of 1 to 7. An individual's ratings for all the obsessive-compulsive items are summed to derive a total obsessive-compulsive style scale score, while an individual's ratings for all the hysteric style items are summed to derive a total hysteric style scale score. The order of the items in the inventory was randomly assigned, with obsessive-compulsive and hysteric items intermixed. (The instructions are presented on page 24, the actual inventory is provided in Appendix A, and a classification of items within each scale based on content similarity is given in Appendix B.).

The following items were written to represent an obsessive-compulsive cognitive and perceptual style:

I often think about what I plan to be doing five or ten years from now, and organize many of my present activities according to these plans.

Before making a decision, I usually try to take into consideration all of the details involved.

I frequently work hard in developing carefully organized plans for action.

I like to engage in technical and scientific pursuits.

I usually attempt to organize things according to a schedule, and try to carry them out at a steady pace.

I have very specific, well-defined future plans, and work hard in attempting to attain my goal.

In reviewing work that I have done, I always try to concentrate very hard in order to detect and correct possible mistakes.

I like to attempt problems involving technical details.

I like to assemble and fix gadgets.

I often try to study all the facts before choosing a course of action.

I prefer work which involves intense concentration.

I usually try to carefully plan my activities in accordance with a steady, systematic schedule.

I have very clear professional goals, and carefully plan appropriate action which will lead to the attainment of my goals.

Mathematics has always been one of my favorite subjects in school.

I like problems in which one is required to pay close attention to details.

I would enjoy working with computers.

I enjoy the planning of things I am going to do.

The following items were written to represent an hysteric cognitive and perceptual style:

I sometimes think about what it would be like to be an actor or an actress and to play a lot of different roles or parts.

I can sometimes lose myself in the lives and experiences of characters portrayed in a novel, play, or movie.

Certain people who have a charisma about them capture my attention.

Thinking about the excitement of a romantic fling often stimulates me.

The theater enraptures and excites me.

Buying new clothes or trying on the latest fashions often excites me.

Large insects often frighten me.

A sad movie often makes me feel like crying.

When I am happy, I tend to be bubbly, spontaneous, and flowing with energy.

Romantic daydreams or fantasies excite me.

I consider myself an emotionally expressive person.

I sometimes get so carried away by romantic feelings that I completely forget about everyday activities.

I concentrate best when I find something exciting and become emotionally involved with it.

I enjoy reading or reciting poetry.

I love theater and art.

When I feel good, I am lively and emotionally expressive.

I perform best when I have a strong emotional involvement in what I am doing.

If the obsessive-compulsive and hysteric style scales are internally consistent, all the items of the obsessive-compulsive scale should be positively interrelated, while all the items of the hysteric scale should also be positively interrelated. If both scales manifest discriminant validity, all obsessive-compulsive style items should be more highly correlated with the total obsessive-compulsive style scale than with the total hysteric style scale, and the reverse pattern should occur with the hysteric style items.

In a pilot study involving similar items, an alpha coefficient of .63 was obtained for the obsessive-compulsive style scale, and an alpha coefficient of .63 was also obtained for the hysteric style scale. These results indicate moderate internal consistency for both scales.

Items used in the pilot study were eliminated if they did not correlate highly with their total scale, did not correlate with theoretically related variables, or appeared to lack content validity upon a later (post-test) evaluation. Items used in the

present study included the items from the pilot study which were not eliminated, and new items which expressed ideas similar to those in the good pilot items (See Appendix C).

Neuroticism and social desirability. Since the intent of the present study is to assess obsessive-compulsive and hysteric styles of thinking and perception, not to assess neurosis, the items of the present scales were written to be relatively free of overt neurotic content. However, since some facets of these styles may be relatively maladaptive while others may be relatively adaptive, it is not expected that all the items will be completely independent of neuroticism, but it is anticipated that the overall obsessive-compulsive and hysteric scales will not be strongly related to neuroticism.

Social desirability content often reduces the validity of self-report scales. Since there is often a very strong negative relationship between neuroticism and social desirability (Edwards, 1957), the present effort to write items which are relatively independent of neuroticism should also result in items which are relatively independent of social desirability. However, certain aspects of social desirability are not as negatively related to neuroticism as others (Damarin & Messick, 1965). Therefore, the present study will assess the relationships between the present scales and two measures of social desirability, one of which is very negatively correlated with neuroticism (i.e., the Edwards Social Desirability Scale), and another which is less negatively correlated with neuroticism (i.e.,

the Personality Research Form Social Desirability Scale). If the relationships with both social desirability scales are marginal, we will have reason to believe that the present style scales are relatively independent of both neuroticism and social desirability.

Acquiescence. When an item on a personality or attitude scale is ambiguous, difficult to understand, or too simple and over-generalized, many individuals endorse or refuse to endorse the item for reasons other than item content (Jackson, 1967).

Some individuals (described by Couch & Keniston, 1960, as "yea-sayers") generally endorse most positively worded items (e.g., "I am an outgoing individual") while others (described by Couch & Keniston as "nay-sayers") refuse to endorse most positively worded items, even when the items are not ambiguous, difficult to understand or simple and overgeneralized. The former individuals are especially likely to endorse the difficult, ambiguous, and overgeneralized items, while the latter individuals are especially likely to refuse to endorse these kinds of items.

One way of determining whether items are too difficult, ambiguous, or simple and overgeneralized is by assessing the extent to which "yea-sayers" endorse the items and "nay-sayers" refuse to endorse the items. In the present study, the items in the obsessive-compulsive and hysteric scales (which are all positively worded) will be correlated with a common measure of "Yea-saying" versus "Nay-saying" (i.e., the Couch-Keniston Acquiescence Scale). If items are highly correlated with this scale (which is scored in

the "yea-saying" direction), it would provide an initial indication that items are either difficult, unclear, or too simple and over-generalized, and are not adequately representing the content.

Construct Validation of The Inventory of Obsessive-Compulsive and Hysteric Styles

The construct validation of The Inventory of Obsessive-Compulsive and Hysteric Styles involves an investigation of the relationships between obsessive-compulsive and hysteric style scale scores and the following variables:

Group Embedded Figures Test

Wechsler Adult Intelligence Scale (WAIS) Information Scale

Reported high school grades in science

Reported high school grades in mathematics

Reported Scholastic Aptitude Test (SAT) Quantitative scores

Object-Uses Test

Intended college majors in the sciences

Intended college majors in the arts

Interest ratings for a romantic reading passage

Interest ratings for a reading passage about current fashion

Interest ratings for a reading passage about physics

Scores on the Liam Hudson measure of degree of satisfaction with traditional academic curriculums

Although all of these variables bear upon the overall construct validation of the scales, the ability measures (the Group Embedded Figures Test, the WAIS Information Scale, reported high school grades and SAT scores, and the Object-Uses Test) are of particular interest because positive relationships with these variables would help establish a connection between cognitive and perceptual style as measured by self-report and actual cognitive and perceptual performance.

Perceptual disembedding. The Embedded Figures Test (Witkin, Dyk, Faterson, Goodenough, & Karp, 1962) is a perceptual task in which one attempts to find a simple geometric figure that is hidden within a larger, more complex figure. In order to be able to disembed the small geometric figure from the complex figure, one must break up the larger complex whole into parts, and one needs to concentrate on and remember the simple figure or part that one is looking for.

(The present study involves the Group Embedded Figures Test which, according to Witkin, Oltman, Raskin, & Karp, 1971, is very highly correlated with the Embedded Figures Test.)

Since an obsessive-compulsive style involves an intense concentration on details, and an attempt to organize, delineate, or isolate details or parts (Shapiro, 1965, pp. 27-29), one would expect that obsessive-compulsive style scale scores would be positively related to Embedded Figures Test performance.

Since an hysteric style involves a global impressionism as opposed to detailed concentration (Shapiro, 1965, pp. 111-114), one would expect that hysteric style scale scores would be negatively related to Embedded Figures Test performance.

In a study by Zukmann (1957), psychiatric patients were interviewed and were given the Rorschach Test in order to determine the presence of obsessive-compulsive or hysteric personality characteristics. Individuals classified as obsessive-compulsive outperformed those classified as hysteric on the Embedded Figures Test.

Bertini (1960) gave college students the Rorschach Test in order to determine the presence of the defense mechanism of isolation. Degree of isolation was positively related to performance on the Gottschaldt Figures Test. Since the Gottschaldt test is very similar to the Embedded Figures Test, and Rorschach indices for isolation are very similar to those which indicate the presence of an obsessive-compulsive personality, Bertini's results are very similar to those obtained by Zukmann.

Gardner and Moriarty (1968) analyzed the protocols obtained from the Wechsler Intelligence Scale for Children, Thematic Apperception Test, and Rorschach Tests of children in order to determine the presence of the defense mechanisms of isolation and repression. The methods for determining isolation were very similar to those used for determining an obsessive-compulsive personality, while those used for determining repression were very similar to those

used for determining an hysteric personality (Schafer, 1954). Repression was negatively related to Embedded Figures Test performance, but isolation was not significantly related to Embedded Figures Test performance.

The three preceding studies give an indication that measures of obsessive-compulsive personality are positively related to Embedded Figures Test performance and measures of hysteric personality are negatively related to Embedded Figures Test performance. Since our present scales are specific measures of cognitive and perceptual style rather than general measures of personality, the effects obtained in the present study should be at least as strong as those obtained in the three preceding studies.

Hypothesis 1: Obsessive-compulsive style scale scores will be positively related to Group Embedded Figures Test performance.

Hypothesis 2: Hysteric style scale scores will be negatively related to Group Embedded Figures Test performance.

(The relationships between style scores and Group Embedded Figures Test performance are stated in two separate hypotheses because the two styles are regarded as relatively independent dimensions. Hence, it is possible for one of the above hypotheses to be supported and not the other.)

Factual Knowledge. Since an obsessive-compulsive style involves a concern with knowing facts and details (Shapiro, 1965, pp. 47, 27, 109-110), one would expect obsessive-compulsive style scale scores to be positively related to scores on a test of general factual

knowledge. Since an hysteric style involves a general perception in terms of impressions rather than details or facts (Shapiro, 1965, pp. 111, 115, 116), one would expect hysteric style-scale scores to be negatively related to scores on a test of general factual information.

Rapaport et al. (1946) found small absolute differences in performance between obsessive-compulsive and hysteric personality groups on the Information Scale of the Wechsler Adult Intelligence Scale (WAIS). It is expected that a similar or larger effect will be obtained in the present study using specific measures of cognitive and perceptual style rather than general personality measures.

Hypothesis 3: Obsessive-compulsive style scale scores will be positively related to scores on the Information Scale of the Wechsler Adult Intelligence Scale (WAIS).

Hypothesis 4: Hysteric style scale scores will be negatively related to scores on the Information Scale of the Wechsler Adult Intelligence Scale (WAIS).

Reported high school grades in science and mathematics and quantitative Scholastic Aptitude Test (SAT) scores. According to Shapiro (1965, pp. 27, 30, 113, 114), individuals with an obsessive-compulsive style are technically oriented and perform well in technical pursuits. Individuals with an hysteric style dislike technical pursuits, and perform poorly in technical and scientific areas. Shapiro's descriptions are based upon individual clinical observation and study rather than the systematic testing of large

numbers of individuals.

The present study will test Shapiro's contentions by examining the relationships between obsessive-compulsive and hysteric style scale scores and performance in science and mathematics, since good performance in these two areas necessitates a strong technical orientation. (Since actual grades and Scholastic Aptitude Test scores could not be obtained, the present study will use reported rather than actual grades and Scholastic Aptitude Test scores. Nichols and Holland (1963) found that reported grades are often very highly correlated with actual grades.)

Hypothesis 5: Obsessive-compulsive style scale scores will be positively related to reported high school grades in science.

Hypothesis 6: Hysteric style scale scores will be negatively related to reported high school grades in science.

Hypothesis 7: Obsessive-compulsive style scale scores will be positively related to reported high school grades in mathematics.

Hypothesis 8: Hysteric style scale scores will be negatively related to reported high school grades in mathematics.

Hypothesis 9: Obsessive-compulsive style scale scores will be positively related to reported Scholastic Aptitude Test Quantitative scores.

Hypothesis 10: Hysteric style scale scores will be negatively related to reported Scholastic Aptitude Test Quantitative scores.

Intended college majors in the sciences and the arts. Since the obsessive-compulsive style involves a strong technical

orientation, one would expect that obsessive-compulsive style scores would be positively related to the selection of college majors in the sciences. One would also expect that a strong technical orientation might preclude majoring in areas such as art and theater, where feeling and intuition often take precedence over intense technical concentration.

Since the hysteric style involves impressionistic perception, romanticism, preoccupation with imagining one's self in different roles and concentration dependent upon emotional excitement (Shapiro, 1965, pp. 111, 118-120), hysteric style scores should be positively related to selection of college majors in the arts (i.e. art history, theater, television and radio) and negatively related to selection of college majors in the sciences.

Although subjects in the present study have not yet selected college majors, relationships between college majors aspired to and style scores will be examined.

Hypothesis 11: Obsessive-compulsive style scale scores will be positively related to the intention to major in the sciences.

Hypothesis 12: Hysteric style scale scores will be negatively related to the intention to major in the sciences.

Hypothesis 13: Obsessive-compulsive style scale scores will be negatively related to the intention to major in the arts.

Hypothesis 14: Hysteric style scale scores will be positively related to the intention to major in the arts.

Creativity. According to Reich (1933), individuals who display an obsessive-compulsive personality are good in abstract, logical thinking but poor in creative thinking.

According to Shapiro (1965, pp. 24-30) individuals who display an obsessive-compulsive style are frequently dogmatic and opinionated, and often do not pay attention to new or different points of view. They do not allow themselves to act upon hunches, and try not to think about ideas which seem peripheral or incidental to their original, intended focus of attention.

Since tolerance for new or unusual ideas and following through one's hunches are thought to be important components of creativity (Jackson & Messick, 1965), Shapiro's descriptions seem consistent with Reich's contention that obsessive-compulsive individuals are poor in creative thinking. However, apart from clinical observation, no research has been conducted to assess creativity in individuals who display an obsessive-compulsive style.

Due to a global, impressionistic mode of perception, individuals who display an hysteric style often get attracted by incidental or peripheral cues and act upon hunches (Shapiro, 1965, p. 114). Such attraction and action typically lead to incorrect solutions when one is dealing with a technical problem or a problem involving propositional logic, but may lead to creative production when novel or unusual solutions are desired.

According to Breuer and Freud (1893-95), many hysterics are intellectually gifted but are easily bored by repetition or monotony.

They often display their talents in unusual or unconventional pursuits, such as romantic fantasy. Reich (1933) believed that many individuals who display hysteric personalities are frequently imaginative.

The present study will attempt to initiate the study of creative thinking in relation to obsessive-compulsive and hysteric styles of thinking and perceiving through the use of the Object-Uses Test of creativity or "divergent production" (Guilford, 1967). In the Object-Uses Test (or Uses of Object Test), an individual is given a list of five common objects (e.g., a brick, a paper clip) and told to think of uses for these objects which are different than their common, everyday uses. If one sticks too closely to the actual or factual uses for these objects, and is not willing to entertain new or different possibilities, one will not be able to think up many new or different uses for the objects. On the other hand, acting upon hunches or upon seemingly incidental or peripheral ideas can lead to the discovery of new uses for these objects.

Based upon the preceding considerations, the following two hypotheses were formulated:

Hypothesis 15: Obsessive-compulsive style scale scores will be negatively related to performance on the Object-Uses Test.

Hypothesis 16: Hysteric style scale scores will be positively related to performance on the Object-Uses Test.

Reading preferences. Since individuals who display an obsessive-compulsive style are thought to be technically or

scientifically oriented, one would expect that they would be particularly interested in reading an article about historical developments in physics, and not particularly interested in reading about current fashion styles or in reading a romantic novel.

Since individuals who display an hysteric style are not technically or scientifically oriented, are thought to be romantically oriented, and are frequently concerned with playing different "roles" and in displaying one's self (Shapiro, 1965, p. 120; Horowitz, 1977), one would expect the reverse preferences among reading selections.

Hypothesis 17: Obsessive-compulsive style scale scores will be positively related to interest ratings for a reading passage dealing with physics and society.

Hypothesis 18: Hysteric style scale scores will be positively related to interest ratings for a reading passage dealing with current fashion.

Hypothesis 19: Hysteric style scale scores will be positively related to interest ratings for a reading passage from a romantic novel.

Attitudes towards school. Traditional academic settings usually emphasize the importance of intense, deliberate concentration, knowledge of facts and details, and orderly scheduling and planning (Hudson, 1966). Since these qualities are also essential components of an obsessive-compulsive style (Shapiro, 1965), one would expect obsessive-compulsive style scale scores to be positively related to satisfaction with the organization of a traditional academic

curriculum.

An hysteric style involves impressionism, romanticism, and concentration dependent upon emotional excitement. . These qualities may facilitate creative performance in certain subject areas (such as the arts), but they do not fit in well with the traditional academic emphasis on facts, details, clear organization of ideas, and persistent, consistent concentration. One would expect hysteric style scale scores to be negatively related to satisfaction with a traditional academic curriculum.

Hudson (1968) devised a self-report measure of degree of satisfaction with traditional academic curriculums. The following hypotheses involving obsessive-compulsive and hysteric styles and the Hudson measure are proposed:

Hypothesis 20: Obsessive-compulsive style scale scores will be positively related to scores on the Liam Hudson measure of satisfaction with traditional academic curriculums.

Hypothesis 21: Hysteric style scale scores will be negatively related to scores on the Liam Hudson measure of satisfaction with traditional academic curriculums.

Summary of Hypotheses

Obsessive-compulsive style scale scores will be positively related to the following variables:

Group Embedded Figures Test

Wechsler Adult Intelligence Scale Information Scale

reported high school grades in science

reported high school grades in mathematics

reported Scholastic Aptitude Test Quantitative scores

aspired college majors in the sciences

interest ratings for a reading passage about physics

scores on the Liam Hudson measure of degree of satisfaction with traditional academic curriculums

Obsessive-compulsive style scale scores will be negatively related to the following variables:

Object-Uses Test

aspired college majors in the arts

Hysteric style scale scores will be positively related to the following variables:

Object-Uses Test

aspired college majors in the arts

interest ratings for a romantic reading passage

interest ratings for a reading passage about current fashion

Hysteric style scale scores will be negatively related to the following variables:

Group Embedded Figures Test

Wechsler Adult Intelligence Scale Information Scale

reported high school grades in science

reported high school grades in mathematics

reported Scholastic Aptitude Test Quantitative scores

aspired college majors in the sciences

scores on the Liam Hudson measure of degree of satisfaction with traditional academic curriculums

Chapter II

Method

Subjects

The sample consisted of 100 freshman and sophomore undergraduate males who participated in the present study in order to fulfill an Introductory Psychology research participation requirement. To fulfill their requirement, the subjects had a choice of participating in one of several research projects. They chose the present dissertation project by affixing their name to the sign-up sheet entitled, "cognitive styles," which was posted, along with other project sign-up sheets, near the Psychology Department office. Out of 105 subjects tested, the records of five subjects were discarded because they did not follow the presented instructions.

The sample was restricted to one sex because it was thought that sex differences might occur in some variables, but it was not practical to increase the sample size in order to deal with such differences satisfactorily.

The study was approved by the Human Subjects Committee of Brooklyn College and subject recruitment procedures conformed to the rules of the Brooklyn College Department of Psychology Subject Pool Committee.

Procedure

The testing involved group sessions of two hours duration.

Subjects were addressed in the following manner at the beginning of the group session:

"Hello. My name is Ed Hahn. Today's study includes several different kinds of tasks and involves the investigation of different ways of thinking and feeling. None of the tasks that you will engage in involves any stress or deception. I will explain later what it is all about."

Subjects were presented with the following tasks in order:

Questionnaire for Report of Grades and Intended Major

The Inventory of Obsessive-Compulsive and Hysteric Styles

Reading Passage Interest Task

Group Embedded Figures Test

Object-Uses Test

Information Scale of the Wechsler Adult Intelligence Scale

Couch-Keniston Acquiescence Scale

Personality Research Form Social Desirability Scale

Edwards Social Desirability Scale

Hudson School Attitudes Scale

Instructions and descriptions of the tasks are presented on the following pages. The actual tasks are included in Appendix A.

Reported grades and intended major. Each subject completed a questionnaire asking about his intended major, his Scholastic Aptitude Test scores, and his high school grades in science, mathematics, social studies, English, and foreign language. The questionnaire is reproduced in Appendix A.

The Inventory of Obsessive-Compulsive and Hysteric Styles. The following introduction to the inventory was read to the subjects: "The following statements represent possible descriptions of yourself, your feelings, your behavior, and your ideas. If you were asked to describe yourself, some of these statements may be closely related to the kinds of statements you might make about yourself. Please use the scale below to rate each item in terms of the extent to which it describes you."

A seven point scale ranging from completely unrelated (1) to very closely realted (7) was provided. A copy of the inventory is included in Appendix A.

Reading passage interest task. Subjects were given the following instructions to the reading preference task: "Begin reading each passage when the experimenter instructs you to 'start,' and stop reading that particular passage when the experimenter says 'stop.' Do not read any passage other than the specific passage that the experimenter has instructed you to read at that particular time.

Please try to remember what each passage is about because you will be asked some questions about the passages. Do not be concerned if you are not able to complete reading any of the three passages in the time that will be allowed. In order to adequately answer the questions about the reading passages, it is not necessary to have completed any of the passages."

Three reading passages entitled, "Love at First Sight?," "Current Fashion," and "Physics and Society" were then presented

(see Appendix A). Two minutes were allowed for the reading of each passage. Then subjects rated the interest value of each passage using a seven-point scale (see Appendix A).

The Group Embedded Figures Test. The Group Embedded Figures Test is a form of the Embedded Figures Test devised for group use. The seven practice figures in the first section are not scored. The number of figures that are correctly outlined among the nine figures in the second section and the nine figures in the third section constitute the total score for an individual. The instructions and procedures for this test are based on the instructions provided in the Embedded Figures Test manual (Witkin, et al., 1971).

The Object-Uses Test. This test was adapted from the Alternate Uses Test (Christensen, Guilford, Merrifield, & Wilson, 1960) by Hudson (1966). The Object-Uses Test item, "a tin of boot polish," was replaced by the Alternate Uses item, "a chair," since the former item may be somewhat more appropriate in England than in the United States.

The instructions for the Object-Uses Test have been adapted from those used by Hudson (1966) and Christensen et al. (1960). The instructions and test are presented in Appendix A. In accordance with the scoring procedure outlined by Hudson, all appropriate uses given to each item are summed to provide a total score.

The Information Scale of the Wechsler Adult Intelligence Scale. This test was presented in a written, group form rather than the more common individual, oral form. The instructions, which are

presented in Appendix A, were adapted for use in a group setting. Items 1-4, which are used to screen individuals who display very low intelligence or severe pathology were eliminated from the present scale (Wechsler, 1955). All correct answers were summed to provide a total score. A 12 minute time limit was set for the test.

Couch-Keniston Acquiescence Scale. The instructions and test are presented in Appendix A. The number of items circled "T" for "true" are summed to provide a total score.

Personality Research Form Social Desirability Scale. The instructions and test are presented in Appendix A. The following items are scored "1" if they are circled "T" for "true": 2, 3, 6, 9, 10, 11, 13, 16, 17, 19. The following items are scored "1" if they are circled "F" for "false:" 1, 4, 5, 7, 8, 12, 14, 15, 18, 20. All items scored "1" are summed to provide a total score.

Edwards Social Desirability Scale. The instructions and test are presented in Appendix A. The following items are scored "1" if they are circled "T" for "true": 12, 17, 20, 21, 22, 27, 28, 33, 34. The following items are scored "1" if they are circled "F" for "false": 1-11, 13-16, 23-26, 29-32, 35-39. All items scored "1" are summed to provide a total score.

Hudson School Attitudes Scale. The instructions and test are presented in Appendix A. The following items are scored "1" if they are circled "T" for "true": 2, 4. The following items are scored "1" if they are circled "F" for "false": 1, 3, 5-9. All items scored "1" are summed to provide a total score.

Social desirability item ratings. In order to obtain information regarding the relationships between social desirability and the obsessive-compulsive and hysteric style scales, a separate group of subjects was asked to rate the social desirability value of each obsessive-compulsive and hysteric style item. The subjects were 20 male and 25 female college undergraduates. A five-point scale ranging from very socially undesirable (1) to very socially desirable (5) was provided. The 45 subjects were only asked to rate the items for social desirability, not to endorse them.

Chapter III

Results

Properties of the Inventory of Obsessive-Compulsive and Hysteric Styles

The mean total obsessive-compulsive style scale score was 81.81, and the mean total hysteric style scale score was 78.45 (see Table 1). The means for individual items are given in Table 2. Since 16 out of 17 obsessive-compulsive style items and 12 out of 17 hysteric style items had means between four and six, most items were endorsed as related to one's self rather than as unrelated.

The Pearson product-moment correlation between total obsessive-compulsive and total hysteric style scale scores was -.02 (see Table 3). This correlation indicates that, in accordance with expectations, the two scales represent independent dimensions.

Internal consistency. A standardized item alpha coefficient of .81 was obtained for the 17 item obsessive-compulsive scale, and a standardized item alpha of .66 was obtained for 17 item hysteric style scale. These coefficients indicate a substantial degree of internal consistency among the items of the obsessive-compulsive style scale, and a moderate degree of internal consistency among the items of the hysteric style scale. (Subscales derived by factor analyses are reported in Appendices D and E).

Table 1

Means and Standard Deviations of Variables

Variable	n	M	SD
Obsessive-Compulsive Style Scale	100	81.81	14.71
Hysteric Style Scale	100	78.45	12.18
PRF Social Desirability Scale	100	14.62	2.99
Edwards Social Desirability Scale	100	27.49	5.46
Couch-Keniston Acquiescence Scale	100	7.04	2.34
Group Embedded Figures Test	100	9.62	4.39
WAIS Information Scale	100	18.20	4.76
High School Grades in Science[a]	96	83.83	7.07
High School Grades in Mathematics[a]	96	83.16	9.10
High School Grades in Social Studies[a]	94	85.05	6.38
High School Grades in English[a]	96	83.56	7.09
High School Grades in Foreign Language[a]	92	82.86	9.44
SAT Quantitative (exact)[b]	34	578.82	87.76
SAT Verbal (exact)[b]	34	500.00	101.47
SAT Quantitative (approximate)[b]	30	477.00	124.74
SAT Verbal (approximate)[b]	30	473.00	77.38
Object-Uses Test	100	16.21	8.08
Interest Ratings: physics passage	100	4.24	1.75
Interest Ratings: fashion passage	100	4.00	1.48
Interest Ratings: romance passage	100	3.84	1.73
Hudson School Attitudes Scale	100	3.67	1.88

[a]High school grades as reported by subjects.

[b]Subjects who reported their exact SAT scores are considered separately from those who reported their approximate scores.

Table 2

Endorsement Means and Standard Deviations for Obsessive-Compulsive and Hysteric Style Items

Obsessive-Compulsive Style Items			Hysteric Style Items		
Item Number	M	SD	Item Number	M	SD
2	5.52	1.36	1	4.24	2.00
3	5.61	1.33	4	3.87	2.04
5	4.78	1.50	6	5.04	1.46
8	4.34	1.98	7	5.56	1.45
9	5.16	1.72	11	3.68	1.87
10	5.02	1.58	13	4.10	1.73
12	5.13	1.55	15	3.32	1.96
14	4.03	1.82	17	4.50	1.85
16	4.22	1.83	18	5.93	1.27
19	5.48	1.28	21	5.08	1.51
20	4.47	1.65	22	4.91	1.60
25	5.09	1.55	23	3.46	1.87
26	5.16	1.41	24	5.87	1.29
28	4.31	2.29	27	3.37	2.01
29	4.57	1.50	30	4.02	1.83
33	3.85	1.94	31	5.71	1.25
34	5.31	1.41	32	5.86	1.23

Note. $n = 100$.

Table 3

Intercorrelations Among Measures of Obsessive-Compulsive and Hysteric Style, Social Desirability, and Acquiescence

	H	ACQ	PRF	EDW
Obsessive-Compulsive Scale	-.02	-.12	.31***	.11
Hysteric Scale (H)	--	.37***	-.24*	-.36***
Couch-Keniston Acquiescence Scale (ACQ)		--	-.43***	-.58***
PRF Social Desirability Scale (PRF)			--	.55***
Edwards Social Desirability Scale (EDW)				--

Note. Two-tailed tests of significance (n = 100).

*p <.05

**p <.01

***p <.001

Discriminant validity. All obsessive-compulsive style scale items were significantly correlated with the total obsessive-compulsive style scale at a .001 level of significance, and were more highly correlated with the total obsessive-compulsive style scale than with the total hysteric style scale or the Edwards and PRF Social Desirability Scales (see Table 4).

The hysteric style items were significantly correlated with the total hysteric style scale at a level of significance of .05 or less, except for one item (r (99) = .13, p = .19). All hysteric style items were more highly correlated with the total hysteric style scale than with the total obsessive-compulsive style scale, or the Edwards and PRF Social Desirability Scales (see Table 5).

Social desirability. A significant positive correlation was obtained between total obsessive-compulsive style scale scores and PRF Social Desirability Scale scores, r (99) = .31, p <.001. A positive but non-significant correlation was obtained between total obsessive-compulsive style scale scores and Edwards Social Desirability Scale scores, r (99) = .11, p = .27.

A significant negative correlation was obtained between total hysteric style scale scores and both PRF Social Desirability Scale scores, r (99) = -.24, p<.05, and Edwards Social Desirability Scale scores, r (99) = -.36, p <.001.

Since all obsessive-compulsive and hysteric style items were more highly correlated with their respective total style scale scores than with Edwards or PRF Social Desirability Scale scores,

Table 4

Correlations between Individual Obsessive-Compulsive Style Items and Total Obsessive-Compulsive and Hysteric Scale Scores, Social Desirability, and Acquiescence

Obsessive-Compulsive Item Number	Total Obsessive Compulsive Scale	Total Hysteric Scale	Couch-Keniston Acquiescence Scale	PRF Social Desirability Scale	Edwards Social Desirability Scale
2	.54***	-.01	-.04	.32***	.12
3	.54***	-.02	-.06	.32***	.12
5	.61***	.00	-.12	.11	.16
8	.48***	-.27**	-.15	.22*	.18
9	.50***	.05	.02	.06	-.10
10	.53***	.00	-.02	.18	.12
12	.49***	.15	.00	.11	-.01
14	.64***	-.10	-.14	.23*	.23*
16	.40***	-.01	.15	-.04	-.07
19	.60***	.18	-.13	.16	-.03
20	.64***	.07	-.07	.29**	.14
25	.51***	.12	-.13	.13	-.06
26	.51***	.00	-.04	.25*	.15
28	.46***	-.10	-.14	.17	.07
29	.69***	.03	-.10	.30**	.00
33	.50***	-.03	-.03	.00	-.01
34	.38***	.16	-.04	.04	-.05

Note. Two-tailed tests of significance (n = 100).

*$p < .05$

**$p < .01$

***$p < .001$

Table 5

Correlations between Individual Hysteric Style Items and Total Obsessive-Compulsive and Hysteric Scale Scores, Social Desirability, and Acquiescence

Hysteric Item Number	Total Obsessive Compulsive Scale	Total Hysteric Scale	Couch-Keniston Acquiescence Scale	PRF Social Desirability Scale	Edwards Social Desirability Scale
1	-.23*	.52***	.22*	-.12	-.12
4	-.14	.59***	.31***	-.28**	-.31***
6	.02	.13	-.08	-.02	.01
7	-.03	.30**	.02	-.04	-.11
11	.08	.55***	.19	-.14	-.15
13	.00	.27**	.13	-.19	-.16
15	.03	.25*	.17	-.08	-.22*
17	.00	.42***	.15	-.07	-.19
18	.02	.24*	.20	.07	-.09
21	.05	.40***	.10	-.12	-.14
22	.15	.47***	.24*	.14	-.02
23	-.05	.49***	.24*	-.29**	-.30**
24	-.04	.46***	.01	.01	.01
27	.06	.41***	.10	-.09	-.17
30	.04	.59***	.15	-.11	-.14
31	.02	.50***	.21*	.01	-.12
32	.01	.36***	.17	-.01	-.11

Note: Two-tailed tests of significance (n = 100)

*$p < .05$

**$p < .01$

***$p < .001$

and only a few obsessive-compulsive and hysteric items correlated strongly with the social desirability scales (see Tables 4 and 5), the preceding significant correlations do not necessarily indicate that particular style items are not adequately representing appropriate style content. The correlations may reflect general perceptions of many obsessive-compulsive items as involving moderately socially desirable characteristics, and of many hysteric items as involving moderately socially undesirable characteristics.

The emphasis on hard work, objectivity, and consistent concentration inherent in the obsessive-compulsive style, and the close relationship between obsessive-compulsive personality traits and ideals of masculinity (Freud, 1926; Shapiro, 1965), suggests that an obsessive-compulsive style would appear at least somewhat socially desirable for a college male. The romanticism, emotionality, suggestibility, and lack of consistent concentration or objectivity inherent in the hysteric style, and the close relationship between hysteric personality traits and ideals of femininity (Freud, 1926; Shapiro, 1965; Wolowitz, 1969), suggests that an hysteric style would appear to be at least somewhat socially undesirable for a college male.

As mentioned earlier, (see p. 27), an independent sample of male and female college students were asked to rate how socially desirable they thought it would be for an average college student of their sex to endorse the items of the obsessive-compulsive and

hysteric scales.

The ratings for each obsessive-compulsive style item were summed to provide a total obsessive-compulsive style item rating score for an individual, and the ratings for each hysteric style item were summed to provide a total hysteric style item rating score. Since there are 17 items in each scale, and the range of the rating categories is 1 to 5, a score of 17 would indicate that the items of a given scale are rated very socially undesirable, and a score of 85 would indicate that the items of a given scale are rated very socially desirable. The obsessive-compulsive style items were rated as more socially desirable by males than by females to endorse, while the opposite pattern was obtained for the hysteric style items (see Table 6). Although the number of subjects was small, these results point to the possibility that relationships between social desirability and the obsessive-compulsive and hysteric styles, as measured by the present scales, may be influenced by norms for males and females.

Based upon the preceding considerations, it is not clear that it is necessary or justifiable to partial out social desirability variance from all construct validation relationships involving the present style scales. However, since it is not clear how much of the variance shared by social desirability and style scales should be considered error variance, in order to provide a conservative indicator of the confirmation of the predicted construct validation relationships, correlations involving the construct validation

Table 6

Comparison of the Mean Social Desirability Item Ratings for the Obsessive-Compulsive and Hysteric Style Scales for Males and Females

Sex	n	M	SD	t	p (two-tailed)
Obsessive-Compulsive Scale					
Male	20	70.50	7.33	3.06	.004
Female	25	63.44	7.99		
Hysteric Scale					
Male	20	52.65	8.13	4.77	.001
Female	25	63.28	6.81		

Note. A mean of 85 would indicate maximum social desirability, a mean of 17 would indicate maximum undesirability, and a mean of 51 would indicate neutral desirability.

variables and the style scales were computed with social desirability partialled out (see Appendix F). If a partial correlation reduces a statistically significant relationship below the .05 level of significance, it is noted directly in the text.

Neuroticism. Since obsessive-compulsive style scores were not significantly correlated with Edwards Social Desirability Scale scores (which, in turn, are very highly correlated with common self-report measures of neuroticism), it seems likely that obsessive-compulsive style scale scores are not related to neuroticism as typically measured in self-report inventories.

The significant correlation between the Edwards Social Desirability Scale and the hysteric style scale ($r = -.36$, $p<.001$) may reflect some neuroticism content in the hysteric style items, in addition to social desirability content. The partialling out of social desirability scale scores from relationships between the hysteric style scale and construct validation variables (see Appendix D) may also partial out some neuroticism content from construct validation relationships involving the hysteric style scale.

Acquiescence. Total obsessive-compulsive style scale scores were negatively but not significantly correlated with Couch-Keniston Acquiescence Scale scores, r (99) = -.12, p = .23, and total hysteric style scale scores were positively and significantly correlated with Couch-Keniston Acquiescence Scale scores, r (99) = .37, p <.001. Since Couch and Keniston's (1960) descriptions of

"yea-sayers" (i.e. individuals who score high on the Couch-Keniston Acquiescence Scale) as impulsive, spontaneous, and emotionally expressive bear resemblance to characteristics of the hysteric style (c.f. Shapiro, 1965; Horowitz, 1977; Krohn, 1978), it appears that some of the variance shared by hysteric style and Couch-Keniston scales may be trait related.

Construct Validation

Table 7 presents the correlations between the two style scales and the construct validation variables. Also presented in Table 7 are multiple correlations showing the extent to which the two scales taken together predict the construct validation variables. Appendix G presents correlations between present study style items and construct validation variables.

Group Embedded Figures Test. A significant positive correlation was obtained between total obsessive-compulsive style scale scores and Group Embedded Figures Test Scores, r (99) = .27, $p < .01$, and a significant negative correlation was obtained between total hysteric style scale scores and Group Embedded Figures Test scores, r (99) = -.31, $p < .01$. These results support hypotheses one and two.

WAIS Information Scale. A positive, non-significant correlation was obtained between total obsessive-compulsive style scale scores and WAIS Information Scale scores, r (99) = .14, p = .16. Although this result is in the predicted direction, the effect is too small to support hypothesis three. A significant negative correlation was obtained between total hysteric style scale scores and WAIS Information Scale scores, r (99) = -.20, $p < .05$, supporting hypothesis four.

Table 7

Correlations between Obsessive-Compulsive (O-C) and Hysteric (H) Style Scales and Construct Validation Variables

Construct Validation Measures	O-C Scale	H Scale	O-C + H R	n
Group Embedded Figures Test	.27**	-.31**	.41***	100
WAIS Information Scale	.14	-.20*	.24*	100
Grades in Science (SC) a	.16	-.21*	.26*	96
Grades in Mathematics (M) a	.29**	-.31**	.42***	96
Grades in Social Studies (SS) a	-.05	-.16	.16	94
Grades in English (E) a	.00	-.01	.01	96
Grades in Foreign Language (L) a	.19	.09	.21	94
Grades: (SC+M+SS+E+L) a	.14	-.17	.22	96
Grades: (SC+M)-(E+L) a	.17	-.38***	.40***	96
SAT Quantitative (Q):(exact) b	.34*	-.18	.39	34
SAT Verbal (V): (exact) b	.39*	.25	.46*	34
SAT (Q+V): (exact) b	.44**	.06	.48*	34
SAT (Q-V): (exact) b	-.09	-.40*	.41*	34
SAT Quantitative (Q):(approx.) b	.13	-.28	.30	30
SAT Verbal (V): (approx.) b	-.24	.12	.25	30
SAT (Q+V): (approx.) b	-.07	-.19	.21	30
SAT (Q-V): (approx.) b	.29	-.55**	.59***	30
Recall of SAT scores c	-.02	-.50***	.50***	78
Object-Uses Test	.02	.11	.11	100
Interest Ratings: physics passage	.49***	-.03	.49***	100
Interest Ratings: fashion passage	-.05	.06	.08	100
Interest Ratings: romance passage	-.19	.21*	.28*	100
Hudson School Attitudes Scale	.33***	-.29**	.44***	100

[a]Reported high school grades.

[b]Subjects who reported their exact SAT scores are considered separately from those who reported their approximate scores.

[c]Scored: 2-exact recall; 1-approximate recall; 0-no recall.

*$p < .05$; **$p < .01$; ***$p < .001$ (two-tailed tests of significance)

Reported high school grades. A positive correlation was obtained between total obsessive-compulsive style scale scores and reported high school grades in science, r (95) = .16, p = .12. This result is in the predicted direction, but is too small to support hypothesis five. In line with hypothesis six, a significant negative correlation between total hysteric style scale scores and reported high school grades in science was obtained, r (95) = .21, $p < .05$. However, if Edwards and PRF Social Desirability scale scores are partialled out, this correlation falls below the .05 significance level (see Appendix E).

A significant positive correlation was obtained between total obsessive-compulsive style scale scores and reported high school grades in mathematics, r (95) = .29, $p < .01$, and a significant negative correlation was obtained between total hysteric style scale scores and reported high school grades in mathematics, r (95) = -.31, $p < .01$. These results support hypotheses seven and eight.

In order to determine whether an individual performed relatively better in the sciences or the language arts in high school, an individual's reported high school grades in English and foreign language were added, and the resultant sum was then subtracted from the sum of the individual's reported grades in science and mathematics. Based on the preceding index, obsessive-compulsive style scale scores were positively but not significantly related to relatively better reported grades in the sciences than in the language arts. Total hysteric style scale scores were negatively and significantly related to relatively better reported grades in the sciences than in the language arts, r (95) = -.38, $p < .001$

(see Table 7). This latter result was not specifically predicted, but is consistent with the present theoretical framework.

Reported SAT scores. The correlation between reported SAT Quantitative scores and obsessive-compulsive style scale scores was significant for those subjects who reported exact SAT scores, r (33) = .34, $p < .05$, and positive but not significant for subjects who reported approximate scores, r (29) = .13, $p = .49$. The former correlation does not reach the .05 level of significance if Edwards and PRF Social Desirability Scale scores are partialled out (see Appendix D). Reported SAT Quantitative scores were negatively but not significantly correlated with hysteric style scale scores for subjects who reported exact SAT scores, r (33) = -.18, $p = .30$, and also for subjects who reported approximate scores, r (29) = -.28, $p = .13$. These results provide partial support for hypothesis nine but no support for hypothesis ten.

In order to determine whether an individual scored relatively better in the Quantitative or Verbal section of the Scholastic Aptitude Test, an individual's reported SAT Verbal score was subtracted from his reported SAT Quantitative score. Total obsessive-compulsive style scale scores were not significantly related to relatively better reported Quantitative than Verbal scores. Total hysteric style scale scores were negatively and significantly related to relatively better reported Quantitative than Verbal scores. This latter result was significant for subjects who reported exact SAT scores, r (33) = -.40, $p < .05$, as well as for

subjects who reported approximate SAT scores, r (29) = -.55, $p < .01$ (see Table 7).

An index of level of SAT recall was established by assigning the rating of "2" for the reporting of exact SAT scores, the rating of "1" for the reporting of approximate scores, and the rating of "0" for no recall of one's SAT scores. Obsessive-compulsive style scale scores were not significantly related to level of SAT recall, but hysteric style scale scores were strongly related to level of SAT recall in the negative direction, r (77) = -.50, $p < .001$.

Intended college majors. Subjects intending to major in the sciences obtained significantly higher obsessive-compulsive style scale scores than did non-science aspirants, and significantly lower hysteric style scale scores than did non-science aspirants. Subjects intending to major in the arts obtained significantly lower obsessive-compulsive style scale scores than did non-arts aspirants, and significantly higher hysteric style scale scores than did non-arts aspirants (see Tables 8 and 9). These results support hypotheses 11 through 14 involving the two styles and intended college majors.

As shown in Table 10 obsessive-compulsive and hysteric style scale scores, in combination with each other, accounted for 47.1 percent of the variance in the prediction of intended college majors in the sciences (R = .687) and 42.9 percent of the variance in the prediction of intended college majors in the arts (R = .655). The Group Embedded Figures Test, which is often considered a good predictor of scientific interest and aptitude (Witkin & Goodenough,

Table 8

t-tests Comparing Total Obsessive-Compulsive and Hysteric Style Scores of Science versus Non-Science and Arts versus Non-Arts Aspirants

Major Area	n	M	SD	t	p (two-tailed)
Obsessive-Compulsive Scale					
Science	36	88.00	14.10	3.31	.001
Non-Science	64	78.33	13.99		
Arts	12	69.17	14.48	3.33	.001
Non-Arts	88	83.53	13.96		
Hysteric Scale					
Science	36	72.63	10.13	3.82	.001
Non-Science	64	81.72	12.08		
Arts	12	88.42	12.48	3.16	.002
Non-Arts	88	77.09	11.55		

Table 9

Number of Subjects Aspiring to Each College Major

	Major Area		n
Sciences			
	B.A.-M.D. Program		2
	Biology		15
	Chemistry		3
	Computer Sciences		7
	Mathematics		1
	Psychology (experimental)		1
	Sciences: unspecified		8
		Total	37
Arts			
	Art History		2
	Television and Radio		6
	Theater		4
		Total	12
Other			
	Accounting		19
	Economics		6
	Education		4
	Humanities		4
	Psychology (non-experimental)		3
	Undecided		12
	Other		3
		Total	51

Table 10

Prediction of Intended College Majors

in the Sciences and the Arts

Predictor Variables	Prediction of Intended Majors In The Sciences		Prediction of Intended Majors In The Arts	
	r or R	r^2 or R^2	r or R	r^2 or R^2
Group Embedded Figures Test Scores	.313	.098	.165	.027
Obsessive-Compulsive and Hysteric Style Scale Scores	.687	.471	.655	.429
Obsessive-Compulsive and Hysteric Style Scale Scores, and Group Embedded Figures Test Scores	.688	.473	.661	.437

Note. Intended college majors in the sciences and intended college majors in the arts are both dichotomously categorized.

1976) accounted for 9.8 percent of the variance in the prediction of intended college majors in the sciences, and 2.7 percent of the variance in the prediction of intended college majors in the arts. With Group Embedded Figures Test scores partialled out, the obsessive-compulsive and hysteric style scales accounted for 37.5 percent of the variance in the prediction of intended college majors in the sciences and 41.0 percent of the variance in the prediction of college majors in the arts. Independent of obsessive-compulsive and hysteric style scale scores, Group Embedded Figures Test performance accounted for 0.2 percent of the variance in the prediction of intended college majors in the Sciences and 0.8 percent of the variance in the prediction of intended college majors in the arts (see Table 10 and Appendix H).

Object-Uses Test. Neither obsessive-compulsive style scale scores nor hysteric style scale scores were significantly correlated with scores on the Object-Uses Test (see Table 7). Thus, hypotheses 15 and 16 were not supported.

Reading passage interest ratings. Obsessive-compulsive style scale scores were positively correlated with interest ratings for the "physics and society" reading passage, r (99) = .49, $p < .001$, supporting hypothesis 17. Hypothesis 18, which predicted a significant positive relationship between hysteric style scale scores and interest ratings for the "current fashion" reading passage, was not supported, (see Table 7), but hysteric style scale scores were positively correlated with interest ratings for the "love at first sight" reading passage, r (99) = .21, $p < .05$, supporting hypothesis 19.

Hudson School Attitudes Scale. In support of hypotheses 20 and 21, the Liam Hudson measure of school attitudes was positively correlated with obsessive-compulsive style scale scores, r (99) = .33, p <.001, and negatively correlated with hysteric style scale scores, r (99) = -.29, p < .01.

Factor Analysis Results

Factor Analysis of style and construct validation variables. The preceding sections describe the presence or absence of relationships between the style scales and the construct validation variables. In order to uncover possible patterns among both style and construct validation variables, a Varimax Factor Analysis was carried out using SPSS, PA2 (see Table 11 and Figure 1).

Four factors emerged from the analysis. The largest factor (Factor I) was an intellectual ability factor. All of the included performance measures loaded high on this factor.

The second largest factor (Factor II) appears to be an obsessive-compulsive cognitive style factor. The highest loading was the obsessive-compulsive style scale. All construct validation variables that were positively and significantly correlated with the obsessive-compulsive style scale loaded high on this factor, while the sole construct validation variable which was negatively and significantly correlated with the obsessive-compulsive scale (i.e., intended arts majors) loaded high in the negative direction. The hysteric style scale had a negligible loading on this factor, which would be expected, since obsessive-compulsive andhysteric style scale

Table 11

Varimax Factor Analysis of Style and Construct Validation Variables

Variable	Loading on Factor I	II	III	IV
Obsessive-Compulsive Style Scale	.13	.75	.05	-.11
Hysteric Style Scale	-.09	-.06	.96	.21
Reported High School Grades: Science	.64	.18	-.21	.11
Reported High chool Grades: Math	.56	.28	-.31	.30
Group Embedded Figures Test	.40	.30	-.15	-.31
WAIS Information Scale	.68	.11	-.13	-.25
Object-Uses Test	.51	-.15	.17	-.06
Hudson School Attitudes Scale	.23	.31	-.21	.09
Interest Ratings: romance passage	.12	-.07	.10	.57
Interest Ratings: fashion passage	-.14	-.01	-.02	.38
Interest Ratings: physics passage	-.09	.65	.02	-.19
Intended Arts Majors	-.05	-.43	.24	-.04
Intended Science Majors	.20	.41	-.34	.07

Note. Among the four factors, Factor I accounted for 49.2 percent of the variance, Factor II accounted for 20.5 percent of the variance, Factor III accounted for 16.6 percent of the variance, and Factor IV accounted for 13.7 percent of the variance.

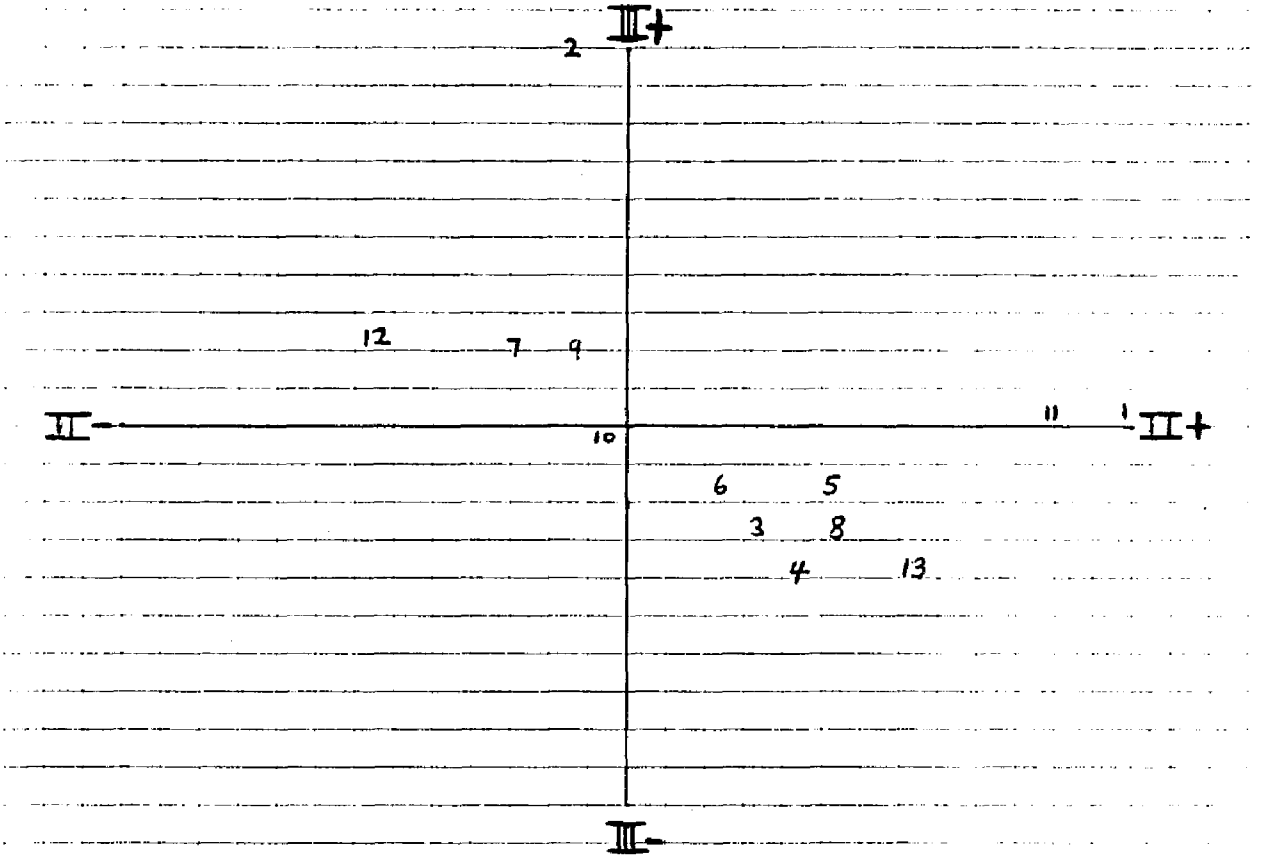

Figure 1

The Location of the Construct Validation Variables in the Space Defined by Factors II and III

Codes

1. Obsessive-Compulsive Style
2. Hysteric Style
3. Reported Science Grades
4. Reported Math Grades
5. Group Embedded Figures Test
6. WAIS Information Scale
7. Object-Uses Test
8. Hudson School Attitudes
9. Romance Passage
10. Fashion Passage
11. Physics Passage
12. Intended Arts Majors
13. Intended Science Majors

scores had been found to be relatively independent of each other.

The third largest factor (Factor III) appears to be an hysteric cognitive style factor. The highest loading was the hysteric style scale. Construct validation variables which were positively and significantly correlated with the hysteric style scale loaded positively on this factor, while the construct validation variables which were negatively and significantly correlated with the hysteric style scale loaded in the negative direction. The obsessive-compulsive style scale had a negligible loading on this factor, which would be expected, since obsessive-compulsive and hysteric style scale scores had been found to be relatively independent of each other.

Factor IV does not appear to be easily interpretable.

Factor Analyses of style items. Varimax Factor Analyses of the items of the obsessive-compulsive and the hysteric scales were carried out in order to uncover item patterns and to initiate the investigation of possible relationships between sub-groups of items and construct validation variables.

Seven factors resulted from a factor analysis of all 34 items of both obsessive-compulsive and hysteric scales (see Table 17 in Appendix D). The items of the obsessive-compulsive scale loaded on different factors than did the items of the hysteric scale. Because the seventh factor was small, with an eigenvalue of less than one, a second analysis specifying a six factor solution was carried out. In this analysis, the items of the two style scales loaded on separate factors for five of the six factors (see Table 18

in Appendix D).

Separate factor analyses of obsessive-compulsive scale items and of hysteric scale items were carried out (see Tables 19 and 20 in Appendix D). Three factors emerged from the factor analysis of each scale.

Obsessive-compulsive factor patterns. For the obsessive-compulsive scale analysis, Factor I, most specifically, appears to represent future plans and goals, Factor II appears to represent deliberate study, scheduling, and organization, while Factor III appears to represent technical orientation and attention to details. Of the variance accounted for by the three factors, Factor I accounts for 60%, Factor II accounts for 22%, and Factor III accounts for 18%.

Hysteric factor patterns. For the hysteric scale analysis, Factor I, most specifically, appears to represent artistic involvement and role-playing, Factor II appears to represent romanticism, impressionism, and concentration dependent upon emotional excitement, and Factor III appears to represent affect expression. Of the variance accounted for by the three preceding factors, Factor I accounts for 49%, Factor II accounts for 31%, and Factor III accounts for 19%.

Relationships among scales and subscales. Based upon the separate factor analyses of the obsessive-compulsive and of the hysteric items, subscales for both obsessive-compulsive and hysteric scales were created by grouping together items which loaded higher on one factor than on any other. The items for the three subscales of the obsessive-compulsive scale and for the three subscales of the

hysteric scale, and the reliabilities for each subscale are reported in Table 21 of Appendix E. It may be noted that the subscales derived from the factor analytic method are similar to those determined a priori on the basis of item content (see Appendix B).

Table 12 shows that the three obsessive-compulsive subscales were significantly intercorrelated, were significantly correlated with the total obsessive-compulsive style scale, and were not significantly correlated with the three hysteric subscales or the total hysteric style scale. The intercorrelations among the three hysteric subscales were positive, but the correlations were less strong than those among the obsessive-compulsive subscales. All hysteric subscales were significantly correlated with the total hysteric style scale, and were not significantly correlated with the three obsessive-compulsive subscales or the total obsessive-compulsive style scale. The preceding correlational patterns show that there are partially independent subscales within each total scale, but the two style scales are nevertheless independent, demonstrating evidence of discriminant validity.

Relationships between subscales and criterion variables. (Table 13 presents the correlations between the subscales and the construct validation variables.) Scores from the Obsessive-Compulsive Factor I subscale (future plans and goals) were positively and significantly correlated with reported SAT Quantitative scores (exact report), reported SAT Verbal scores (exact report), reported SAT total scores (exact report), physics passage interest ratings,

Table 12

Intercorrelations Among Obsessive-Compulsive and Hysteric Style Scales and Subscales

	OC I	OC II	OC III	HY I	HY II	HY III	OC TOTAL	HY TOTAL
Obsessive-Compulsive Sub-Scale I (OC I)	--	.45 ***	.41 ***	.01	.11	-.13	.74 ***	.02
Obsessive-Compulsive Sub-Scale II (OC II)		--	.34 ***	.05	.15	.10	.74 ***	.15
Obsessive-Compulsive Sub-Scale III (OC III)			--	-.13	-.09	.02	.83 ***	-.13
Hysteric Sub-Scale I (HY I)				--	.17 *	.14	-.06	.73 ***
Hysteric Sub-Scale II (HY II)					--	.12	.03	.71 ***
Hysteric Sub-Scale III (HY III)						--	.02	.46 ***
Obsessive-Compulsive Total Scale (OC TOTAL)							--	-.02
Hysteric Total Scale (HY TOTAL)								--

Note: Two-tailed tests of significance (n = 100)

*$p < .05$

***$p < .001$

Table 13

Correlations between Obsessive-Compulsive and Hysteric Sub-Scales and Construct Validation Variables

Construct Validation Measures	OC I	OC II	OC III	HY I	HY II	HY III	n
Group Embedded Figures Test	.14	.06	.34	-.07	-.36**	-.16	100
WAIS Information Scale	.12	-.04	.20*	-.26**	-.08	.04	100
Grades in Science (SC) a	.03	-.07	.33**	-.24*	-.08	-.09	96
Grades in Mathematics (M) a	.18	.00	.41**	-.34**	-.14	-.07	96
Grades in Social Studies (SS) a	-.03	-.18	.05	-.16	-.06	-.10	94
Grades in English (E) a	-.03	-.04	.02	-.05	.05	-.02	96
Grades in Foreign Language (L) a	.16	.15	.16	.07	.05	.02	94
Grades:(SC+M+SS+E+L) a	.09	-.05	.26*	-.21*	-.06	-.06	96
Grades: (SC+M)-(E+L) a	.02	-.13	.37**	-.38**	-.20*	-.05	96
SAT Quantitative (Q):(exact) b	.34*	.17	.34*	-.18	-.22	.17	34
SAT Verbal (V):(exact) b	.51**	.40*	.23	.15	.12	.25	34
SAT (Q+V):(exact) b	.51**	.35*	.33*	.00	-.04	.25	34
SAT (Q-V):(exact) b	-.22	-.24	.06	-.29	-.30	-.09	34
SAT Quantitative(Q):(approx.) b	-.05	-.19	.32	-.45*	.13	-.21	30
SAT Verbal (V):(approx.) b	-.17	-.33	-.07	.01	.32	-.12	30
SAT (Q+V):(approx.) b	-.10	-.36*	.15	-.29	.14	-.24	30
SAT (Q-V):(approx.) b	.09	-.09	.42*	-.45*	-.30	-.31	30
Recall of SAT scores c	.00	-.18	.08	-.37**	-.43**	-.15	78
Object-Uses Test	.00	-.04	.04	-.02	.15	.13	100
Interest Ratings: physics passage	.37**	.36**	.42**	.06	-.11	-.04	100
Interest Ratings: fashion passage	-.11	-.03	.01	.11	-.10	.14	100
Interest Ratings: romance passage	-.09	-.17	-.13	.17	.12	.08	100
Hudson School Attitudes Scale	.18	.23*	.32**	-.14	-.26**	-.12	100
Intended College Majors in the Sciences	.21*	.10	.38**	-.31**	-.23*	-.18	100
Intended College Majors in the Arts	-.17	-.13	-.37**	.36**	.14	-.02	100

Variable Codes:
OCI-Obsessive-Compulsive Sub-Scale I
OCII-Obsessive-Compulsive Sub-Scale II
OCIII-Obsessive-Compulsive Sub-Scale III
HYI-Hysteric Sub-Scale I
HYII-Hysteric Sub-Scale II
HYIII-Hysteric Sub-Scale III

[a]Reported high school grades.

[b]Subjects who reported their exact SAT scores are considered separately from those who reported their approximate scores.

[c]Scored: 2-exact recall; 1-approximate recall; 0-no recall.

*p <.05; **p <.01; (two tailed tests of significance)

and intended college majors in the sciences. Scores from the Obsessive-Compulsive Factor II subscale (deliberate study, scheduling, and organization) were positively and significantly correlated with reported SAT Verbal scores (exact report), reported SAT total scores (exact report), physics passage interest ratings, and Hudson School Attitudes Scale scores. Scores on the preceding subscale were negatively and significantly correlated with reported SAT total scores among subjects who reported their approximate scores. Scores from the Obsessive-Compulsive Factor III subscale (technical orientation and attention to details) were positively and significantly correlated with Group Embedded Figures Test performance, WAIS Information Scale scores, reported high school grades in science and mathematics, reported total high school grades, reported SAT Quantitative scores (exact report), reported SAT total scores (exact report), relatively better reported SAT Quantitative than SAT Verbal scores (approximate report), physics passage interest ratings, Hudson School Attitudes Scale scores, and intended college majors in the sciences. Scores on the preceding subscale were negatively and significantly correlated with intended college majors in the arts.

While all three obsessive-compulsive subscales appear to be contributing to the prediction of scientific orientation variables, the main predictor appears to be subscale III. In order to provide additional determination regarding which subscales are independently contributing to the prediction of scientific orientations, partial correlations were calculated. The interested reader can refer to

Table 22 in Appendix E to see the effects of partialling out individual subscales from the relationships involving the other subscales. In general, the analyses suggest that Obsessive-Compulsive subscale III is contributing most strongly to the prediction of scientific orientation.

Scores from the Hysteric Factor I subscale (artistic involvement and role-playing) were negatively and significantly correlated with WAIS Information Scale scores, reported high school grades in science and mathematics, reported total high school grades, better reported high school grades in the sciences than in the language arts, SAT Quantitative scores (approximate report), relatively better reported SAT Quantitative than SAT Verbal scores (approximate report), recall of one's SAT scores, and intended college majors in the sciences. Scores on the preceding subscale were positively and significantly correlated with intended college majors in the arts. Scores from the Hysteric Factor II subscale (romanticism, impressionism, and concentration dependent upon emotional excitement) were negatively and significantly correlated with Group Embedded Figures Test performance, better reported high school grades in the sciences than in the language arts, recall of one's SAT scores, Hudson School Attitudes Scale scores, and intended college majors in the sciences. Scores from the Hysteric Factor III subscale (affect expression) were not significantly correlated with any construct validation variables.

In the partial correlation analysis (see Table 22 in Appendix E), the negative correlation between Hysteric Factor II subscale scores and intended college majors in the sciences remained significant with Hysteric Factor I subscale scores partialled out.

In summary, the preceding subscale analyses, demonstrate, in a more refined way, the pattern of relationships which exist between the style scales and the construct validation variables.

Chapter IV

Discussion

Psychometric Properties of the Inventory of Obsessive-Compulsive and Hysteric Styles

Before we can determine whether or not the present scales are adequately assessing the obsessive-compulsive and hysteric styles, through the examination of the construct validation predictions, it must be determined that the scales are tapping some response consistency, and that the consistency does not primarily reflect social desirability or acquiescence responding.

Internal consistency and item construction. Since an alpha coefficient of .81 was obtained for the 17 item obsessive-compulsive style scale, and all items were significantly correlated with the total scale, there is a large degree of internal consistency among the items of the obsessive-compulsive scale.

With regard to the 17 item hysteric style scale, an alpha coefficient of .66 was obtained, and all items but one were significantly correlated with the total scale. The alpha coefficient is somewhat lower than had been expected, but still appears to be acceptable.

In a related study involving the administration of the present obsessive-compulsive and hysteric style scales in a sample of both males and females (n = 200), an alpha coefficient of .83 was obtained for the obsessive-compulsive scale and an alpha of .77 was obtained for the hysteric style scale (Jacovsky, 1982).

In the present study, the three obsessive-compulsive style subscales, which were constructed in conjunction with factor analytic

methods, were positively and significantly intercorrelated. The three hysteric style subscales, which were constructed in a similar manner, were positively but not strongly intercorrelated (see Table 12).

Social desirability and neuroticism. Although it had been hoped that style scale scores would be relatively independent of social desirability scale scores, obsessive-compulsive style scale scores were significantly correlated with the Personality Research Form Social Desirability Scale, and hysteric style scale scores were significantly correlated with the Edwards and Personality Research Form Social Desirability Scales, in the negative direction. However, these correlations may to a large extent reflect general perceptions of obsessive-compulsive style characteristics as somewhat socially desirable, and of hysteric style characteristics as somewhat socially undesirable.

Intensive concentration, concern with remembering facts and details, orderly planning and scheduling, and an objective technical orientation are qualities which college students are often expected to have, particularly if they are expected to fit in with the business world's current emphasis on computerization and technology, or the strict objectivity and rule-following required in professions such as medicine and law (Cammer, 1976; Kanter, 1977). These qualities are particularly admired in males, who are usually expected to go on from college to the business or professional world.

Romanticism, emotional expressiveness, and social sensitivity are hysteric-related qualities which are often considered somewhat desirable for females to display (Wolowitz, 1969; Broverman, Broverman, Clarkson, Rosenkrantz, & Vogel, 1970). However, these

qualities may often be considered somewhat undesirable for a male college student to have, if he wishes to orient himself towards becoming a 'practical businessman' or 'objective professional'.

In line with the preceding considerations, obsessive-compulsive style scale items were rated as more socially desirable for male college students to endorse than for female students to endorse, while the opposite pattern was obtained for hysteric style items (see Table 6). These results are consistent with the idea that significant correlations between social desirability and cognitive style scales reflect general perceptions regarding the social desirability of obsessive-compulsive and hysteric characteristics, and do not indicate that the present obsessive-compulsive and hysteric style items are not adequately representing cognitive style content.

Additional research is needed to investigate correlations between social desirability and style scales among college females, and to evaluate possible relationships between obsessive-compulsive and hysteric styles and male and female sex role expectations. Since some of the variance shared by the Edwards Social Desirability Scale and the hysteric style scale may reflect neuroticism content in addition to social desirability content, additional study is needed to investigate possible relationships between neuroticism and the present hysteric style scale.

Acquiescence. A significant positive correlation of .37 was obtained between the Couch-Keniston Acquiescence Scale and the hysteric style scale (see Table 3). This result may reflect trait variance shared between the hysteric style and an acquiescence response style, and does not necessarily indicate that acquiescence

response sets are confounding the adequate measurement of hysteric characteristics among hysteric scale items.

Individuals who typically manifest an acquiescence response style (i.e., "yea-sayers") display characteristics such as spontaneous emotional expression, lack of detailed or deliberate critical thinking, and openness towards environmental stimulation (Couch & Keniston, 1960; Damarin & Messick, 1965) which are similar to facets of an hysteric style such as emotional expressiveness, concentration dependent upon emotional excitement, impressionism, and suggestibility (Shapiro, 1965). Therefore, much of the variance shared by the Couch-Keniston and the hysteric style scale may reflect personality characteristics common to a yea-saying response style and an hysteric style. Since this variance may be trait related rather than error variance, it did not appear appropriate to partial out acquescence variance from correlations involving the hysteric style scale.

Independence of the Obsessive-Compulsive and Hysteric Style Scales. As was expected, obsessive-compulsive style scale scores were not correlated with hysteric style scale scores ($r = -.02$). Factor analyses of the 34 style items show that obsessive-compulsive and hysteric items generally load on different factors (see Appendix E). These results indicate that construct validation hypotheses involving the obsessive-compulsive style scale and those involving the hysteric style scale can be evaluated independently.

Despite their statistical independence, the obsessive-compulsive and hysteric style scales were significantly related to many variables in opposite directions. There was a significant positive correlation between obsessive-compulsive style scale scores and Group Embedded

Figures Test performance, reported high school grades in mathematics, intended college majors in the sciences, conventional school attitudes, and Personality Research Form Social Desirability Scale scores, while hysteric style scale scores were significantly correlated with these variables in the negative direction. Hysteric style scale scores were significantly correlated with intended college majors in the arts, while obsessive-compulsive style scale scores were significantly correlated to intended arts majors in the negative direction.

For other variables, either obsessive-compulsive or hysteric style scale scores were significantly related to a particular variable, but not both. Hysteric style scale scores were positively and significantly related to preference ratings for the romance reading passage, Couch-Keniston Acquiescence Scale scores, relatively better high school grades in English and foreign language than in science and mathematics, and relatively better SAT Verbal than SAT Quantitative scores. Hysteric style scale scores were negatively and significantly related to Wechsler Adult Intelligence Scale Information Scale scores, reported high school grades in science, Edwards Social Desirability Scale scores, and memory for one's Scholastic Aptitude Test scores. Obsessive-compulsive style scale scores were not significantly related to any of the above variables.

Obsessive-compulsive style scale scores were positively and significantly related to reading preference ratings for the "physics and society" reading passage, and reported SAT Quantitative scores

(among subjects who reported exact SAT scores), while hysteric style scores were not significantly related to these variables.

Since obsessive-compulsive and hysteric style scale scores were found to be relatively independent of each other, it may initially appear somewhat surprising that so many variables were significantly related to both scales in opposite directions, whereas no variable was significantly related to both style scales in the same direction (see Table 7).

These particular patterns appear to be attributable to the types of construct validation variables that were selected in the present study. Many of the construct validation variables were selected, in part, because it was anticipated that these variables would be significantly related to two styles in opposite directions, and would accentuate differences between the two styles. Other variables, not selected in the present study, may relate to both styles in the same direction. For example, some occupational groups, such as psychologists and architects, may combine the thinking patterns of both styles.

The Factor Analysis of style and construct validation variables (see Table 11 and Figure 1) may help illustrate the preceding contentions. The obsessive-compulsive style scale loaded very strongly on Factor II, and appeared to define this factor. The hysteric style scale loaded very strongly on Factor III, and appeared to define this factor. The obsessive-compulsive style scale had a negligible loading on Factor III, and the hysteric style scale had a negligible loading on Factor II, which would be expected from the relative independence of the two scales.

When Factor II (the obsessive-compulsive style factor) was plotted against Factor III (the hysteric style factor), most of the construct validation variables appeared in the lower right quadrant, indicating a positive loading on the obsessive-compulsive style factor (i.e., Factor II) and a negative loading on the hysteric style factor (i.e., Factor III), or appeared in the upper left quadrant, indicating a positive loading on the hysteric style factor and a negative loading on the obsessive-compulsive style factor (see Figure 1). No construct validation variable manifested a more than marginal placement in the upper right or lower left quadrants, indicating that no variable was strongly related to both style scales in the same direction. However, it is clear from an observation of the large blank areas in the upper right and lower left quadrants, that variables which relate strongly to both obsessive-compulsive and hysteric style scales in the same direction, although not apparent in the present study, are theoretically possible.

The relative statistical independence of the two style scales, as manifested in both correlational and factor analytic results, supports the idea that the obsessive-compulsive and hysteric styles constitute independent dimensions rather than opposite ends of a single dimension. These results support the contention that a single individual can manifest both obsessive-compulsive and hysteric characteristics. For example, an individual can be both romantic and orderly, or involved in acting or role-playing and in accounting for details. An individual could also display

both impressionistic and technical tendencies in the same situation, if these tendencies developed from independent sources.

In line with the possibility that the styles may develop from independent sources, psychoanalytic theory (Freud, 1926) hypothesizes that obsessive-compulsive characteristics develop in accordance with conflicts associated with the anal stage of development, and hysteric characteristics develop in accordance with conflicts associated with the Oedipal stage of development. Smokler and Shevrin (1979) contend that an obsessive-compulsive style of thought and perception is closely related to the development and functioning of the left cerebral hemisphere, while an hysteric style is closely related to the development and functioning of the right hemisphere. The possibility of independent development of the obsessive-compulsive and hysteric styles needs to be investigated further.

Construct Validation Patterns

Seven of ten construct validation hypotheses involving the obsessive-compulsive style scale, and eight of eleven hypotheses involving the hysteric style scale received confirmation at an .05 or lower level of statistical significance. Results obtained for 20 of the 21 hypotheses were in the predicted direction. The only result that was not in the predicted direction (i.e., the correlation between obsessive-compulsive style scale scores and Object-Uses Test scores) involved a negligible correlation. Many of the obtained results involve connections between cognitive style as measured by self-report and cognitive, perceptual, and intellectual

test performance.

Aptitudes, interests, and aspirations in the sciences and the arts. The obtained results indicate that an obsessive-compulsive style, as measured by the present scale, is closely related to mathematical, scientific, and technical interest, aspiration, and aptitude, as predicted. On the other hand, an hysteric style, as measured by the present scale, is negatively related to mathematical, technical, and scientific aptitude and aspiration, as was predicted. Since hysteric style scale scores were strongly related to relatively better reported grades and Scholastic Aptitude Test scores in verbal and artistic areas than in quantitative and scientific areas, and strongly related to intended majors in the arts, it appears that the hysteric style is more congruent with verbal and artistic expression than with mathematical, scientific, and technical involvement.

Field-Independence and Field-Dependence. In order to perform well on the Embedded Figures Test, one must separate out or disembed parts of a field from the whole field, and concentrate on the individual parts. According to Witkin, et al. (1962), individuals who perform well on the Embedded Figures Test, and on other tests of spatial analysis such as the Rod-and-Frame Test, generally perceive the world in terms of clearly differentiated parts rather than global wholes, and perceive themselves as separate from and independent of the external human and non-human environment. These individuals,

who are thought to be displaying a general "field-independent cognitive style" (Witkin & Goodenough, 1981), have a general analytic, impersonal, and objective approach to problems, are usually guided by their own standards rather than those of others, frequently impose structure on ambiguous situations, have work-oriented values such as competence, efficiency, and control, are often insensitive to and uninterested in subtle social cues, and have scientific interests and aspirations. A field-independent style is more common in males than in females.

According to Shapiro (1965), individuals who display an obsessive-compulsive style perceive the world in terms of discrete parts rather than global wholes, approach many situations in an impersonal, objective, and technical manner, frequently impose rules, standards, schedules, and plans on situations, often involve themselves in labored effort and work, are often insensitive to the tone of social situations, and are technically and quantitatively oriented. An obsessive-compulsive style is believed to be more common in males than in females (Freud, 1926; Shapiro, 1965).

The preceding material reveals important similarities between the characteristics of the field-independent individual and the characteristics of the obsessive-compulsive style. In the present study, a significant positive correlation was obtained between the obsessive-compulsive style, as measured by self-report, and Group Embedded Figures Test performance. Since the field-independent cognitive style is normally measured through a combination of

scores on the Embedded Figures Test, the Rod-and-Frame Test, and the Body-Adjustment Test (Witkin, et al., 1962), in order to fully assess the relationships between the obsessive-compulsive and field-independent styles, it would be most desirable to assess the obsessive-compulsive style in conjunction with Rod-and-Frame Test and Body-Adjustment Test as well as Embedded Figures Test performance.

Individuals who perform poorly on the Embedded Figures Test typically perceive the given geometric figures as global wholes, and do not separate out the appropriate parts of the field from the whole. According to Witkin, et al. (1962), many individuals who perform poorly on the Embedded Figures Test, and on other tests of spatial analysis, generally perceive the world in terms of global wholes rather than clearly differentiated parts, and do not perceive themselves as separate from and independent of the external human and non-human environment. These individuals, who are thought to be displaying a general "field-dependent cognitive style" (Witkin & Goodenough, 1981), are frequently guided by feelings and personal impressions, are very interested in and dependent upon other people, are aware of subtle social cues, and typically work in professions involving a large amount of interpersonal interaction such as social work or teaching. A field-dependent cognitive style is more common in females than in males.

According to Shapiro (1965), individuals who display an hysteric style perceive the world in terms of global wholes rather than discrete parts, are guided by feelings, impressions, and romantic

ideals, are suggestible to the dictates of people whom they are attracted to, and are interested in professions in which there is considerable room for social interaction and emotional expression, such as acting. An hysteric style is believed to be more common in females than in males (Freud, 1926; Shapiro, 1965; Wolowitz, 1969).

There appear to be important similarities between descriptions of the characteristics of field-dependent individuals provided by Witkin and Goodenough (1981), and Shapiro's (1965) descriptions of the characteristics of the hysteric style. In the present study a significant negative correlation was obtained between the hysteric style, as measured by self-report, and Group Embedded Figures Test performance. Since the field-dependent cognitive style is operationally defined by poor Rod-and-Frame Test, Body-Adjustment Test, and Embedded Figures Test performance, in order to more fully evaluate relationships between the hysteric and the field-dependent styles, the hysteric style should be assessed in conjunction with performance on the preceding tests.

Despite the apparent similarities between the field-independence/dependence dimension and the present styles, the obtained correlations between field-independence/dependence, as measured by the Group Embedded Figures Test, and the two style scales are relatively low (see Table 7). This may be because Embedded Figures Test performance often requires "restructuring" (Witkin, Goodenough, and Oltman, 1979) in addition to selective attention to relevant cues, isolation of parts, and memory for the simple figure (Gardner, Jackson, and Messick, 1960), and restructuring capacities might not have as direct a theoretical relationship to obsessive-compulsive and hysteric

styles as do the latter processes.

Information knowledge and memory. Although obsessive-compulsive style scale scores were positively related to Wechsler Adult Intelligence Scale Information Scale scores, the correlation was not statistically significant. This result indicates that, contrary to expectation, an obsessive-compulsive style is not strongly related to general informational knowledge.

Hysteric style scale scores were negatively and significantly related to general factual knowledge on the Wechsler Adult Intelligence Scale Information Scale, and to recall of one's Scholastic Aptitude Test scores. Both of these results indicate a lack of knowledge of or memory for facts.

The strong negative correlation with recall of one's Scholastic Aptitude Test (SAT) scores may partially reflect a general hysteric style tendency not to learn, store and remember facts, but may more specifically reflect a tendency not to remember facts that could be both personally meaningful and threatening. SAT scores often have a large impact on acceptance to college, and low SAT scores can be disturbing to an individual because they may reduce one's chances of getting accepted into desired colleges, as well as reducing one's self-esteem.

One might have speculated that individuals who manifest an hysteric style forgot their SAT scores because they did so poorly on the SAT, and anyone who does poorly would forget his scores. However, this speculation appears incorrect on both counts. Hysteric style scale scores were negatively related to SAT Quantitative

scores, but were positively (although not significantly) related to SAT Verbal scores. In addition, not everyone who does poorly on the SAT would necessarily forget his (her) scores. Upon receiving a low score, individuals who manifest an obsessive-compulsive style might try to analyze every section of the test to figure out why they did poorly, and plan how they will study harder when they take the test over (c.f., Shapiro, 1965; Salzman, 1968; Fenichel, 1945). Individuals who manifest a paranoid style might decide that the test-makers were conspiring to exclude people like themselves from college, and would remember their scores as "evidence" of their persecution by the test-makers (c.f., Shapiro, 1965; Meissner, 1978). It is specifically with the hysteric style that one should expect the forgetting of low SAT scores, because of both a general defensive tendency to forget or repress disturbing facts and ideas (Breuer & Freud, 1893-95; Fenichel, 1945; Shafer, 1954; Shapiro, 1965), and a typical romantic, impressionistic mode of perception which is not compatible, in general, with the learning, storage, and retrieval of factual information (Shapiro, 1965; Rapaport, et al., 1946).

School attitudes and reading preferences. Obsessive-compulsive style scale scores were significantly related to scores on the Hudson School Attitudes Scale, as predicted. High scores on this scale indicate a preferences for well-structured, standardized curriculums, determined by teachers, without student input. Hudson (1968) has suggested that people who score high on this scale

are often generally dogmatic in their thinking. However, it is not clear from the pattern of results obtained in the present study whether individuals who score high on the obsessive-compulsive style scale score high on the Hudson School Attitudes Scale because they prefer rules and structure, because they are dogmatic and fear ambiguity and uncertainty, or both.

As hypothesized, hysteric style scale scores were negatively and significantly related to scores on the Hudson School Attitudes Scale, indicating a dissatisfaction with the organization of traditional academic curriculums. Individuals who obtain low scores on the Hudson scale want to "do their own thing," and do not like to be forced to follow set rules or a clearly defined curriculum. Since individuals who manifest an hysteric style are believed to concentrate intensely only when they are excited about what they are doing, it is understandable that they would want to follow their own feelings, and not be forced to learn subjects which don't excite them. In addition, the hysteric qualities of impressionism, romanticism, and emotional expressiveness do not normally fit in with the traditional academic emphasis on intensive concentration, precise analysis, rules, structure, order, and concise communication.

Obsessive-compulsive style scale scores were significantly correlated with interest ratings for the "physics and society" reading passage. This result was predicted, and is consistent with the idea that the obsessive-compulsive style is closely

related to interest in science.

As predicted, hysteric style scale scores were significantly related to interest ratings for the "love at first sight" reading passage. Since this passage was taken from a sentimental romantic novel, this result is consistent with the idea that romanticism is a central aspect of the hysteric style. The relationship of the hysteric style scale to the fashion passage was also in the expected direction, but did not attain significance.

Creativity. The obtained results indicate that the obsessive-compulsive and hysteric styles, as measured by the present scales, are not related to creativity, as measured by the Object-Uses Test. Since only one measure of creativity was used, it is not clear whether these results were obtained because there is no relationship between obsessive-compulsive and hysteric styles and creativity, or because the Object-Uses Test is not the most appropriate measure for testing the present hypotheses.

Convergers and divergers. According to Hudson (1966), individuals who perform relatively better in standardized intelligence or aptitude tests than in open-ended or creativity tests (i.e., "convergers") often specialize in scientific areas in college, frequently isolate their thoughts from their feelings, often close themselves off from intense emotional experience and expression, have conventional and authoritarian attitudes, and excel in technical analysis.[1]

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[1]Hudson's (1966) work on "convergers" and "divergers" is based, in part, upon the research of Guilford (1967), Getzels and Jackson (1962), and Wallach and Kogan (1965).

These characteristics appear similar to those of an obsessive-compulsive style (Shapiro, 1965).

Hudson also found that individuals who perform relatively better on open-ended or creativity tests than on standardized intelligence or aptitude tests (i.e., "divergers") usually specialize in the arts rather than the sciences, often express feelings and emotions to other people, are labile in their attention and in their experience of emotion, dislike rules and conventions, and are weak in technical analysis. These characteristics appear similar to those of an hysteric style (Shapiro, 1965).

Based upon the preceding considerations, it appears possible that individuals who manifest an obsessive-compulsive style may not be non-creative, but perform relatively better on standardized intelligence and aptitude measures than on open-ended or creativity measures (i.e., they may tend to be "convergers"). Similarly, individuals who manifest an hysteric style may not be particularly creative, but may perform relatively better on open-ended and creativity measures than on standardized intelligence and aptitude measures (i.e., they may tend to be "divergers"). Further study of these possible relationships may be merited.

Cerebral hemispheric functioning. The left cerebral hemisphere in human beings is believed to be specialized for a discrete, linear, logio-deductive, analytic mode of processing, separate from the experience of emotion, while the right cerebral hemisphere is believed to be specialized for a global, wholistic, synthetic mode of

processing, and for the experience of emotion (Galin, 1974). According to Allen (1977) and Smokler and Shevrin (1979), left hemispheric functioning is generally congruent with the discrete delineation of ideas, the technical analysis, and the avoidance of affect typical of an obsessive-compulsive style of thinking and perceiving, while right hemispheric functioning is generally congruent with the global perception, repression of discrete ideas, and the general experience of emotion typical of an hysteric style of thinking and perceiving.

Galin (1974) and Stern (1977) have reported that unilateral conversion symptoms are more often found on the left side of the body than on the right side. Since the left side of the body is controlled by the right cerebral hemisphere, and conversion symptoms frequently appear in individuals who manifest hysteric neuroses or personalities (Breuer & Freud, 1893-95; Fenichel, 1945), these results suggest a possible connection between an hysteric style and right hemispheric functioning.

Smokler and Shevrin (1979) separated individuals into obsessive-compulsive personality, hysteric personality, and control groups based upon ratings of verbalizations on the Rorschach Test and the WAIS (c.f., Shafer, 1954), and assessed the lateral eye movements of these individuals during various non-motoric mental tasks. Lateral eye movements to the left are thought to indicate the functioning of the cerebral right hemisphere, while lateral eye movements to the right are thought to indicate the functioning of the cerebral left hemisphere (Smoker & Shevrin, 1979; Galin, 1974). Individuals characterized by an obsessive-compulsive personality demonstrated

more eye movements to the right and fewer eye movements to the left than the control group, while individuals characterized by an hysteric personality demonstrated more eye movements to the left and fewer eye movements to the right than the control group. Since these personality differences were apparent regardless of the type of mental activity that was engaged in, Smokler and Shevrin (1979) state that these results indicate a general predominance of left hemispheric activity over right hemispheric activity in individuals characterized by an obsessive-compulsive personality, and a general predominance of right hemispheric activity over left hemispheric activity in individuals characterized by an hysteric personality.

Based upon the results obtained by Smokler and Shevrin, and those obtained in the present study, it appears particularly worthwhile to investigate possible relationships between the present obsessive-compulsive and hysteric style scales and measures of cerebral hemispheric activity.[1]

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[1]Since not all researchers are convinced that lateral eye movements adequately represent the functioning of the cerebral hemispheres (Ehrlichman and Weinberger, 1978), in future studies it may be worthwhile to measure the activity of the cerebral hemispheres through assessment of brain wave activity, in addition to lateral eye movements.

Alternative Explanations for the Present Results

Instrumentality and expressiveness. The social desirability ratings of the items from the two style scales revealed that the obsessive-compulsive style is seen as more socially desirable for males and the hysteric style is seen as more socially desirable for females (see Table 6). Sex differences in actual scale scores parallel these findings. Jacovsky (1982) found that males have higher obsessive-compulsive style scale scores than females ($r\ (198) = .25$, $p < .001$), and females have higher hysteric style scale scores than males ($r\ (198) = .33$ $p < .001$).

These results suggest the possibility that the two style scales are really measuring masculinity vs. femininity, or "instrumentality" vs. "expressiveness" instead of cognitive styles. According to Spence and Helmreich (1980), the emergence of an instrumental orientation is often an important aspect of male development, while the emergence of an expressive orientation is often an important aspect of female development. They contend that instrumental and expressive orientations actually represent the major content of many sex-role inventories (such as the Bem Sex-Role Inventory).

Some data recently obtained by Ehrlichman (1982) bear directly on this issue. He examined the relationship between the two style scales and the masculinity and femininity scores obtained from the Bem Sex Role Inventory in a group of 35 female college students. He found that the obsessive-compulsive style scale was correlated .47 with masculinity and .34 with femininity, and that the hysteric style

scale was correlated .26 with masculinity and .20 with femininity.[1]

While there may be some common variance between the two style scales and "instrumentality" and "expressiveness," these correlations do not suggest that the latter are the true underlying dimensions being measured by the two style scales. In addition, the constructs of instrumentality and expressiveness do not adequately explain all the obtained relationships between the style scales and the various construct validation variables. For example, the construct of instrumentality does not lead one to expect the relationship between the obsessive-compulsive style scale and conventional or authoritarian attitudes. Nor does the construct of expressiveness account for the negative correlations between the hysteric style scale and recall of SAT scores, WAIS Information Scale scores, Group Embedded Figures Test Scores, or reported high school grades in science and mathematics.

Scientific and artistic item content. Another alternative interpretation is that the style scales are not measuring cognitive styles but simply interest in science versus interest in art. Since some of the obsessive-compulsive style items do deal with interest in science (e.g., "I like to engage in technical and

---

[1] These data should not be taken as the final word on this issue because they were atypical in one respect. For the 35 women the two Bem scales were correlated .55 when they were expected to be independent. Further study of the relationship between the two sets of scales should be conducted with another sample which includes both males and females.

scientific pursuits.") and some of the hysteric scale items deal with interest in art (e.g., "I sometimes think about what it would be like to be an actor or an actress and to play a lot of different roles or parts."), it might not be surprising to find that they have "concurrent" validity, i.e., that those who say they are interested in science have better grades in science and math and plan to have careers in science.

To investigate this possibility the items of each of the style scales were factor analyzed yielding three factors within each scale. (See Tables 19 and 20 in Appendix D). The items best representing these factors make up the following subscales:

Obsessive-Compulsive Subscale I

I often think about what I plan to be doing 5 or 10 years from now, and organize many of my present activities according to these plans.

I have very specific, well-defined future plans, and work hard in attempting to attain my goal.

I prefer work which involves intense concentration.

I have very clear professional goals, and carefully plan appropriate action which will lead to the attainment of my goals.

Obsessive-Compulsive Subscale II

I frequently work hard in developing carefully organized plans for action.

I usually attempt to organize things according to a schedule, and try to carry them out at a steady pace.

In reviewing work that I have done, I always try to concentrate very hard in order to detect and correct possible mistakes.

I often try to study all of the facts before choosing a course of action.

I usually try to carefully plan my activities in accordance with a steady, systematic schedule.

I enjoy the planning of things I am going to do.

Obsessive-Compulsive Subscale III

Before making a decision, I usually try to take into consideration all of the details involved.

I like to engage in technical and scientific pursuits.

I like to attempt problems involving technical details.

I like to assemble and fix gadgets.

Mathematics has always been one of my favorite subjects in school.

I like problems in which one is required to pay close attention to details.

I would enjoy working with computers.

Hysteric Subscale I

I sometimes think about what it would be like to be an actor or an actress and to play a lot of different roles or parts.

I can sometimes lose myself in the lives and experiences of characters portrayed in a novel, play, or movie.

The theater enraptures and excites me.

I enjoy reading or reciting poetry.

I love theater and art.

Hysteric Subscale II

Certain people who have a charisma about them capture my attention.

Thinking about the excitement of a romantic fling often stimulates me.

When I am happy, I tend to bubbly, spontaneous, and flowing with energy.

Romantic daydreams or fantasies excite me.

I consider myself an emotionally expressive person.

I sometimes get so carried away by romantic feelings that I completely forget about every day activities.

I concentrate best when I find something exciting and become emotionally involved with it.

When I feel good, I am lively and emotionally expressive.

I perform best when I have a strong emotional involvement in what I am doing.

Hysteric Subscale III

Buying new clothes or trying on the latest fashions often excites me.

Large insects often frighten me.

A sad movie often makes me feel like crying.

As reported earlier in Table 12, the intercorrelations among the subscales show evidence of discriminant validity, that is, the obsessive-

compulsive subscales are more highly correlated with each other than with the hysteric subscales and vice versa. We might also note that in the joint factor analysis of all 34 obsessive-compulsive and hysteric style items, the technical and artistic items do not load on the same factor. In other words, they do not form opposite ends of a single bipolar dimension representing preference for science versus art.

Next we may examine the relationship between the subscales and the dependent variables pertaining to science and art. (See Table 13). For the obsessive-compulsive style we find that subscale III does indeed include most of the science items and that this subscale is more closely related to the science dependent variables than any of the other subscales. Similarly, for the hysteric style, subscale I includes most of the items pertaining to art, and that subscale is more closely related to the science and art dependent variables than the other subscales. Thus, there appears to be some truth to the notion that the items with science content are predicting the science dependent variables and the artistic content items are predicting the dependent variables that concern art. This remains the case, for the most part, even when the contributions of other subscales are partialled out (see Table 22 in Appendix E).

However, these relationships alone do not tell the whole story, and taken out of context are somewhat misleading. If we look, for example, at the two other obsessive-compulsive subscales, we find that they are also related to some of the science variables (see Table 13). It is also important to note that obsessive-compulsive subscale III

is not related only to science dependent variables, but to other dependent variables as well (see Table 13). Similarly, one of the two hysteric subscales involving content other than arts item content was related to science and arts variables, while the hysteric subscale primarily involving arts content was related to variables not involving science or art (see Table 13). The preceding patterns are consistent with the present cognitive style framework, and cannot be explained by the notion that the present results primarily represent correlations between different methods of assessing scientific and artistic orientation.

Although science and arts item content probably, to some extent, inflated the relationships involving the present scales and the sciences and arts dependent variables, it appears, at present, that both the internal structuring of the two scales and the structuring of the obtained construct validation relationships can be best understood by concepts of obsessive-compulsive and hysteric cognitive style, and cannot be adequately accounted for by exclusive reference to scientific and artistic item content.

Conculsion

The results of the study indicate that both obsessive-compulsive and hysteric style scales manifest at least moderate internal consistency, are significantly related to many of the presented aptitude, interest, and aspiration variables, and are not seriously confounded by social desirability or acquiescence responding.

Extensions of the construct validation process.

Because of the large number of construct validation confirmations in the present study, it appears worthwhile to extend the construct validation process further, through the investigation of a sample which includes both males and females, and through the independent assessment of obsessive-compulsive and hysteric personalities and defense mechanisms.

The use of samples involving both males and females, and the assessment of instrumentality and expressiveness, would help increase the generalizability of the results, and should also shed additional light upon possible relationships between the obsessive-compulsive and hysteric styles and sex-related socialization process and social desirability perceptions.

Correlations between the present style scales and relevant personality measures could provide important additional evidence that the present scales are indeed measuring obsessive-compulsive and hysteric cognitive styles. The Rapaport-Shafer method of assessing obsessive-compulsive and hysteric personalities and their most characteristic defense mechanisms (Shafer, 1954; Gardner & Moriarty, 1968), which involves the rating of verbal responses to the Rorschach Test and to sections of the WAIS, appears particularly relevant, since researchers using variations of this method have found positive relationships between obsessive-compulsive and/or hysteric personalities and the cognitive controls of leveling and scanning (Gardner, Holzman, Klein, Linton, & Spence,

1959), Embedded Figures Test performance (Zukmann, 1957; Bertini, 1960), and cerebral hemispheric functioning (Smokler & Shevrin, 1979).

One of the more interesting findings of the present study was that hysteric style scale scores were negatively related to recall of one's SAT scores. This finding presents the possibility that some style-related defensive process such as selective forgetting or repression may have been functioning. In order to more directly tap possible style-congruent defensive processes of this sort, it may be worthwhile to attempt to manipulate relevant defense-related processes (see Miller & Swanson, 1960; Byrne, 1964).

Further research will also help determine to what extent results involving the present style scales and the sciences and arts orientation variables could be attributable to specific technical or artistic content as opposed to general obsessive-compulsive or hysteric styles. The construction of a few additional items, and the subsequent investigation of item patterns may help provide important information, in this regard.

Implications of study. It is often believed that academic and intellectual performance and aspiration is primarily influenced by one's abilities, one's motivation to succeed, one's interests, and psychopathological factors such as anxieties and neuroses. It is less often recognized that one's general style of cognitive and personality organization may be related to one's academic and intellectual performance and aspiration, as well as to one's patterns

of abilities and interests, motivation to succeed, style of defense, and form of neurosis.

Although the results obtained in the present study require some clarification, replication, and extension, the present study provides initial indications that general obsessive-compulsive and hysteric styles of cognition and perception can serve an important role in understanding academic and intellectual performance and aspiration, and that the present obsessive-compulsive and hysteric style scales could serve as useful tools in academic and professional counseling, and in personality assessment.

Appendix A

Tasks Used In Study

Report of Grades and Intended Major

1. NAME (PLEASE PRINT):

   ADDRESS:

   PHONE NUMBER:

2. What is your most likely area of concentration in college? Please check the best answer.

   If you are somewhat undecided, please try to indicate the most likely choice. If you are completely undecided, you may check, "undecided."

   ____Accounting and Business ____Sciences

   ____Arts ____Education

   ____Humanities ____Social Sciences

   ____Other (Please State)_____

   ____Undecided

3. If you expect to major in a particular subject (e.g., Chemistry, English), please indicate the name of the subject, department, or discipline. If you are undecided, please write, "undecided."

4. In applying to college, students are often required to take the Scholastic Aptitude Test (SAT). This test consists of a verbal section and a quantitative (math) section.

   Did you take the Scholastic Aptitude Test (SAT) in high school?

   _____Yes _____No _____Uncertain

   Do you remember your SAT scores?

   _____Yes _____No _____Uncertain

If you remember your SAT scores, make a check mark (✓) on the line below to indicate your SAT Verbal score. If you are somewhat uncertain as to your score, put a (?) on the line below to indicate the best estimate of your SAT Verbal score.

---

200 250 300 350 400 450 500 550 600 650 700 750 800

If you remember your SAT scores, make a check mark (✓) on the line below to indicate your SAT Quantitative (math) score. If you are somewhat uncertain as to your score, put a (?) on the line below to indicate the best estimate of your SAT Quantitative score.

---

200 250 300 350 400 450 500 550 600 650 700 750 800

5. If you took Science in high school, make a check mark (✓) on the line below to indicate your overall high school average in Science. If you are somewhat uncertain as to your average, put a (?) on the line below to indicate the best estimate of your high school average in Science.

---

60 65 70 75 80 85 90 95 100

If you took Mathematics in high school, make a check mark (✓) on the line below to indicate your overall high school average in Mathematics. If you are somewhat uncertain as to your average, put a (?) on the line below to indicate the best estimate of your high school average in Mathematics.

---

60 65 70 75 80 85 90 95 100

If you took Social Studies in high school, make a check mark (✓) on the line below to indicate your overall high school average in Social Studies. If you are somewhat uncertain as to your average, put a (?) on the line below to indicate the best estimate of your high school average in Social Studies.

---

60 65 70 75 80 85 90 95 100

If you took English in high school, make a check mark (✓) on the line below to indicate your overall high school average in English. If you are somewhat uncertain as to your average, put a (?) on the line below to indicate the best estimate of your high school average in English.

---

60 65 70 75 80 85 90 95 100

If you took Foreign Languages in high school, make a check mark (✓) on the line below to indicate your overall high school average in Foreign Languages. If you are somewhat uncertain as to your average, put a (?) on the line below to indicate the best estimate of your high school average in Foreign Languages.

---

60 65 70 75 80 85 90 95 100

STOP

The Inventory of Obsessive-Compulsive and Hysteric Styles

The following statements represent possible descriptions of yourself, your feelings, your behavior, and your ideas. If you were asked to describe yourself, some of these statements may be closely related to the kinds of statements you might make about yourself. Please use the scale below to rate each item in terms of the extent to which it describes you.

The relationship of the statement to my self-description is:

1 - completely unrelated

2 - considerably unrelated

3 - somewhat unrelated

4 - slightly related

5 - somewhat related

6 - closely related

7 - very closely related

1----------2----------3----------4----------5----------6----------7
completely unrelated — slightly related — very closely related

Please try to use the entire range from 1 to 7 unless a number cannot be appropriately related to any of the statements.

1----------2----------3----------4----------5----------6----------7
completely unrelated — slightly related — very closely related

_____1. I sometimes think about what it would be like to be an actor or an actress and to play a lot of different roles or parts.

_____2. I often think about what I plan to be doing 5 or 10 years from now, and organize many of my present activities according to these plans.

_____3. Before making a decision, I usually try to take into consideration all of the details involved.

_____4. I can sometimes lose myself in the lives and experiences of characters portrayed in a novel, play, or movie.

_____5. I frequently work hard in developing carefully organized plans for action.

_____6. Certain people who have a charisma about them capture my attention.

_____7. Thinking about the excitement of a romantic fling often stimulates me.

_____8. I like to engage in technical and scientific pursuits.

_____9. I usually attempt to organize things according to a schedule, and try to carry them out at a steady pace.

_____10. I have very specific, well-defined future plans, and work hard in attempting to attain my goal.

_____11. The theater enraptures and excites me.

_____12. In reviewing work that I have done, I always try to concentrate very hard in order to detect and correct possible mistakes.

_____13. Buying new clothes or trying on the latest fashions often excites me.

_____14. I like to attempt problems involving technical details.

_____15. Large insects often frighten me.

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$$O_{K_4} = \left[1, \sqrt{m_1}\right] \oplus \left[\frac{1+\sqrt{m_3}}{2} + s+t\sqrt{m_1}, \frac{\sqrt{m_1} + \sqrt{m_1 m_3}}{2} + u+v\cdot\sqrt{m_1}\right].$$

Let

$$T = \left[\frac{1+\sqrt{m_3}}{2} + s + t\sqrt{m_1}, \frac{\sqrt{m_1} + \sqrt{m_1 m_3}}{2} + u + v\cdot\sqrt{m_1}\right]$$

$$T \tilde{=} \sqrt{m_1}\cdot T = \left[\frac{\sqrt{m_1} + \sqrt{m_1 m_3}}{2} + s\sqrt{m_1} + t\, m_1, \frac{m_1 + m_1\sqrt{m_3}}{2} + u\sqrt{m_1} + m_1 v\right].$$

As we had in (a), in this case we take $s = u = 0$

therefore: $v = t = 0$,

$$T = \left[\frac{1+\sqrt{m_2}}{2} + 0 + 0, \frac{\sqrt{m_1} + \sqrt{m_1\cdot m_3}}{2} + 0 + 0\right],$$

then

$$T = \frac{1+\sqrt{m_3}}{2}\left[1 + \sqrt{m_1}\right].$$

Then

$$O_{K_4} \tilde{=} O_{K_1} \oplus [1, \sqrt{m_1}] \text{ and } I = [1, \sqrt{m_1}] \tilde{=} O_{K_1}$$

and a relative integral basis exists.

(b): Part two.

$$O_{K_4} = \left[1, \frac{1+\sqrt{m_1}}{2}\right] \times \left[1, \frac{1+\sqrt{m_3}}{2}\right],$$

$$O_{K_4} = \left[1, \frac{1+\sqrt{m_1}}{2}, \frac{1+\sqrt{m_3}}{2}, \frac{1+\sqrt{m_1} + \sqrt{m_3} + \sqrt{m_1\cdot m_3}}{4}\right]\cdot Z,$$

$$O_{K_4} = \left[1, \frac{1+\sqrt{m_1}}{2}\right] \oplus \left[\frac{1+\sqrt{m_3}}{2} + s + t\cdot\frac{1+\sqrt{m_1}}{2}, \frac{1+\sqrt{m_1}+\sqrt{m_3}+\sqrt{m_1\cdot m_3}}{4} + u + v\cdot\frac{1+\sqrt{m_1}}{2}\right].$$

Let:

$$T = \left[\frac{1+\sqrt{m_3}}{2} + s + t\cdot\frac{1+\sqrt{m_1}}{2}, \frac{1+\sqrt{m_1}+\sqrt{m_3}+\sqrt{m_1\cdot m_3}}{4} + u + v\cdot\frac{1+\sqrt{m_1}}{2}\right]$$

$$T \tilde{=} \frac{1+\sqrt{m_1}}{2}\cdot T,$$

$$T \tilde{=} \left[\frac{1+\sqrt{m_1}+\sqrt{m_3}+\sqrt{m_1\cdot m_3}}{4} + s\,\frac{1+\sqrt{m_1}}{2} + t\cdot\frac{(1+\sqrt{m_1})^2}{4}, \right.$$

$$\left. \frac{(1+\sqrt{m_1})^2(1+\sqrt{m_3})}{8} + u\cdot\frac{1+\sqrt{m_1}}{2} + v\cdot\frac{(1+\sqrt{m_1})^2}{4}\right].$$

As we did in (a):

$$1 + \sqrt{m_1} + \sqrt{m_3} + \sqrt{m_1\cdot m_3} + 4u + 2v + 2v\sqrt{m_1} = 1+\sqrt{m_1} + \sqrt{m_3} + \sqrt{m_1\cdot m_3} + 2s + 2s\sqrt{m_1} + t + m_1 + 2t\sqrt{m_1},$$

$$\begin{cases} 4u + 2v = 2s + t\cdot(m+1) \\ 2v = 2s + 2t \end{cases}.$$

For $v = 0$, $s = -t$ and we take $t = 1$ so $s = -1$ and $u = \frac{m_1-1}{4}$, then

$$T \tilde{=} \left[\frac{1 + \sqrt{m_1} + \sqrt{m_3} + \sqrt{m_1 m_3}}{4} - \frac{1+\sqrt{m_1}}{2} + \frac{(1+\sqrt{m_1})^2}{4}, \right.$$

$$\left. \frac{(1+\sqrt{m_1})^2(1+\sqrt{m_3})}{8} + \frac{m_1-1}{4}\cdot\frac{1+\sqrt{m_1}}{2} + 0\cdot\frac{(1+\sqrt{m_1})^2}{4}\right]$$

$$T \tilde{=} \left[\frac{(\sqrt{m_1}+\sqrt{m_3})(1+\sqrt{m_1})}{4}, \frac{(1+\sqrt{m_1})^2(\sqrt{m_1}+\sqrt{m_3})}{8}\right],$$

$$T = \frac{(\sqrt{m_1}+\sqrt{m_3})(1+\sqrt{m_1})}{4}\left[1, \frac{1+\sqrt{m_1}}{2}\right],$$

so $O_{K_4} \tilde{=} O_{K_1} \oplus \left[1, \frac{1+\sqrt{m_1}}{2}\right]$, then $I = \left[1, \frac{1+\sqrt{m_1}}{2}\right] \tilde{=} O_{K_1}$, then a relative integral basis exists.

(c): Part one.

$$O_{K_4} = \left[1, \sqrt{m_2}\right] \times \left[1, \frac{1+\sqrt{m_3}}{2}\right] \cdot Z \ ,$$

$$O_{K_4} = \left[1, \sqrt{m_2}, \frac{1+\sqrt{m_3}}{2}, \frac{\sqrt{m_2} + \sqrt{m_2 \cdot m_3}}{2}\right] \cdot Z \ ,$$

$m_3 = \frac{m_1 \cdot m_2}{s'^2} \in Z$, then

$$O_{K_4} = \left[1, \sqrt{m_2}, \frac{s' + \sqrt{m_1 \cdot m_2}}{2s'}, \frac{s' \cdot \sqrt{m_2} + m_2 \cdot \sqrt{m_1}}{2s'}\right] \cdot Z \ ,$$

$$O_{K_4} = \left[1, s'\sqrt{m_2}, \frac{s' + \sqrt{m_1 \cdot m_2}}{2s'}, \frac{s'\sqrt{m_2} + m_2\sqrt{m_1}}{2s'}\right] \cdot Z \ ,$$

$$O_{K_4} = \left[1, s'\sqrt{m_2} - 2s'\left(\frac{s'\sqrt{m_2} + m_2\sqrt{m_1}}{2s'}\right), \frac{s' + \sqrt{m_1 \cdot m_2}}{2s'}, \frac{s'\sqrt{m_2} + m_2\sqrt{m_1}}{2s'}\right] \cdot Z \ ,$$

$$O_{K_4} = \left[1, \sqrt{m_1}, \frac{s' + \sqrt{m_1 \cdot m_2}}{2s'}, \frac{s'\sqrt{m_2} + m_2\sqrt{m_1}}{2s'}\right] \cdot Z \ ,$$

$$O_{K_4} = \left[1, \sqrt{m_1}\right] \oplus \left[\frac{s' + \sqrt{m_1 \cdot m_2}}{2s'} + s + t \cdot \sqrt{m_1}, \frac{s'\sqrt{m_2} + m_2\sqrt{m_1}}{2s'} + u + v \cdot \sqrt{m_1}\right] .$$

Let :

$$T = \left[\frac{s' + \sqrt{m_1 \cdot m_2}}{2s'} + s + t \cdot \sqrt{m_1}, \frac{s'\sqrt{m_2} + m_2\sqrt{m_1}}{2s'} + u + v \cdot \sqrt{m_1}\right],$$

$$T \cong \sqrt{m_1} \ T = \left[\frac{s'\sqrt{m_1} + m_1 \cdot \sqrt{m_2}}{2s'} + s\sqrt{m_1} + m_1 t, \frac{s'\sqrt{m_1 \cdot m_2} + m_1 \cdot m_2}{2s'} + u\sqrt{m_1} + v \cdot m_1\right].$$

As we did in (a), (b),

$$s' \cdot \sqrt{m_1 \cdot m_2} + m_1 \cdot m_2 + 2s'\sqrt{m_1}\, u + 2s' v \cdot m_1 = s'^2 + s'\sqrt{m_1 \cdot m_2} + s'\sqrt{m_1 \cdot m_2} + 2s'^2 \cdot s + 2s'^2 t\sqrt{m_1},$$

1----------2----------3----------4----------5----------6----------7
completely unrelated — slightly related — very closely related

_____16. I like to assemble and fix gadgets.

_____17. A sad movie often makes me feel like crying.

_____18. When I am happy, I tend to be bubbly, spontaneous, and flowing with energy.

_____19. I often try to study all the facts before choosing a course of action.

_____20. I prefer work which involves intense concentration.

_____21. Romantic daydreams or fantasies excite me.

_____22. I consider myself an emotionally expressive person.

_____23. I sometimes get so carried away by romantic feelings that I completely forget about everyday activities.

_____24. I concentrate best when I find something exciting and become emotionally involved with it.

_____25. I usually try to carefully plan my activities in accordance with a steady, systematic schedule.

_____26. I have very clear professional goals, and carefully plan appropriate action which will lead to the attainment of my goals.

_____27. I enjoy reading or reciting poetry.

_____28. Mathematics has always been one of my favorite subjects in school.

_____29. I like problems in which one is required to pay close attention to details.

_____30. I love theater and art.

_____31. When I feel good, I am lively and emotionally expressive.

_____32. I perform best when I have a strong emotional involvement in what I am doing.

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1	2	3	4	5	6	7
completely unrelated			slightly related			very closely related

_____33. I would enjoy working with computers.

_____34. I enjoy the planning of things I am going to do.

STOP

Reading Passage Ratings

Please rate each reading passage in terms of its interest value to you, on a scale of 1 to 7.

1. extremely boring
2. very boring
3. moderately boring
4. slightly interesting
5. moderately interesting
6. very interesting
7. extremely interesting

Passage

_____"Love At First Sight?"

_____Current Fashion

_____Physics and Society

STOP

Object-Uses Test

The following five objects have common everyday uses. For example, a chair is normally used for sitting, a paper clip is normally used for attaching papers. However, these objects can be used for other purposes besides their most common everyday purpose. Think of as many different uses as you can for each object, and write down these uses in the spaces provided below.

1. A barrel-

2. A paper clip-

3. A chair-

4. A brick-

5. A blanket-

STOP

Information Scale of the Wechsler Adult Intelligence Scale

Please answer the following questions. If you are not sure about the answer to a particular question, please guess. In most cases, one or two word answers are enough.

EXAMPLE What is a thermometer? Answer: measures temperature

1. What does rubber come from? 1.
2. Name four men who have been presidents of the United States since 1900. 2.
3. Longfellow was a famous man. What was he? 3.
4. How many weeks are there in a year? 4.
5. In what direction would you travel if you went from Chicago to Panama? 5.
6. Where is Brazil? 6.
7. How tall is the average American woman? 7.
8. What is the capital of Italy? 8.
9. Why are dark clothes warmer than light-colored clothes? 9.
10. When is Washington's birthday? 10.
11. Who wrote Hamlet? 11.
12. What is the Vatican? 12.
13. How far is it from Paris to New York? 13.
14. Where is Egypt? 14.
15. How does yeast cause dough to to rise? 15.

TURN TO THE NEXT PAGE

16.	What is the population of the United States?	16.
17.	How many senators are there in the United States Senate?	17.
18.	What is the main theme of the book of Genesis?	18.
19.	At what temperature does water boil?	19.
20.	Who wrote the Iliad?	20.
21.	Name three kinds of blood vessels in the human body.	21.
22.	What is the Koran?	22.
23.	Who wrote Faust?	23.
24.	What is ethnology?	24.
25.	What is the Apocrypha?	25.

STOP

Hudson School Attitudes Scale

Please tell me if you agree or disagree with the following statements. Circle (T) for true or (F) for false.

T F 1. I tend to be erratic, sometimes working well, sometimes badly.

T F 2. I think that my schoolmarks are a fairly accurate reflection of my true ability.

T F 3. Interests out of school often make me neglect my work.

T F 4. I like teachers who stick to the syllabus, and do not digress.

T F 5. I find schoolwork restricting and would like to have more choice in what I study.

T F 6. I would rather pursue my own ideas than follow a syllabus.

T F 7. I wish schoolwork was less trivial.

T F 8. I often disagree with my teachers.

T F 9. I find that I work hard when I am interested, and slack when I am not.

Social Desirability Item Ratings

SEX: _____MALE _____FEMALE

Some items on personality tests involve characteristics that are generally considered socially desirable, while others involve characteristics that are generally considered to be socially undesirable. For example, the item, "I am a kind and helpful person" involves socially desirable characteristics, while the item, "I am always nervous and full of fear," involves socially undesirable characteristics.

Some qualities are considered more socially desirable in males, whereas other qualities are considered more socially desirable in females. Below is a list of 34 statements. Indicate how socially desirable you believe it would be for an average college student of your sex to endorse each item, through the use of the following scale:

It would be:

1 - very socially undesirable

2 - socially undesirable

3 -neither desirable nor undesirable

4 - socially desirable

5 - very socially desirable

for an average college student of my sex to endorse this item.

Keep in mind that you are not rating qualities in yourself, but are rating the social desirability of endorsing items for an average college student of your sex.

(The items of the obsessive-compulsive and hysteric style scales were then listed.)

$$\text{disc}(x) = \Big[3_1 \cdot (\rho^2 ab + \rho t_3 \sqrt[3]{ab^2} + t_2 \rho \sqrt[3]{a^2 b} + t_2 \cdot t_3 - \rho ab - \rho^2 t_2 \cdot \sqrt[3]{a^2 b} - t_3 \rho^2 \sqrt[3]{ab^2} - t_2 \cdot t_3)$$

$$+ 3_1' \cdot (\rho^2 ab + t_2 \sqrt[3]{a^2 b} + t_3 \rho^2 \sqrt[3]{ab^2} + t_2 \cdot t_3 - \rho ab - t_3 \sqrt[3]{ab^2} - t_2 \cdot \rho \sqrt[3]{a^2 b} - t_2 \cdot t_3)$$

$$+ 3_1'' \cdot (\rho^2 ab + t_3 \sqrt[3]{ab^2} + t_2 \rho^2 \sqrt[3]{a^2 b} + t_2 \cdot t_3 - \rho ab - t_2 \sqrt[3]{a^2 b} - \rho t_3 \sqrt[3]{ab^2} + t_2 \cdot t_3) \Big]^2 \cdot \frac{1}{3^2} .$$

$$\text{disc}(x) = \Big[\pm 3nab\rho^2 \mp 3nab\rho + 3ab\rho t_2 - 3ab\rho^2 t_2 \Big]^2 \cdot \frac{1}{3^2}$$

For $t_2 = +n - \sqrt{-3}$ we have

$$\text{disc}(x) = \Big[3nab(\rho^2 - \rho) - 3abt_2(\rho^2 - \rho) = 3ab(\rho^2 - \rho)(n - t_2)$$

$$= 3ab(\rho^2 - \rho)(n - n + \sqrt{-3}) \Big]^2 \cdot \frac{1}{3^2} .$$

$$\text{disc}(x) = 1/3^2 \cdot 3^2 \cdot a^2 b^2 \cdot 3^2 ,$$

$$\text{disc}(x) = 3^2 \cdot a^2 b^2 , \text{ since } d_{K_6/k_2} = f_0^2 = (3ab)^2$$

= disc(x), so by Theorem 8.1; then (17.7) is a relative integral basis for O_{K_6} over O_{k_2}. Also we have the same result for the case $t_2 = - n - \sqrt{-3}$.

Illustration 17.8. 1) For $k_3 = Q(\sqrt[3]{2})$, $3_1 = (\sqrt[3]{2} + 1)$ and then n = 1 and a = 3k+2, b = 3k+1, so $t_1 = 0$. Therefore:

$$O_{K_6} = \left[1, \frac{\sqrt[3]{2} + 1 - \sqrt{-3}}{3_1}, \frac{\sqrt[3]{2} + \sqrt[3]{4} + 0}{3_1} \right] \cdot O_{k_2} .$$

2) For $K_3 = Q(\sqrt[3]{5})$, $3_1 = (\sqrt[3]{5} - 2)$, then

$$O_{K_6} = \left[1, \frac{\sqrt[3]{3} - 2 - \sqrt{-3}}{3_1}, \frac{\sqrt[3]{5} + \sqrt[3]{25} + 0}{3_1}\right] \cdot O_{k_2},$$

for $n = -2$ and $t_1 = 0$.

For all Honda numbers 3_1 is necessarily P.I. so for such n we can construct a relative integral basis in (17.7) for O_{K_6}/O_{K_2}. See Theorem 13.3.

Theorem 17.9. The relative integral basis in "Type II" of O_{K_6} over O_{K_2} is:

$$O_{K_6} = \left[1, \frac{\sqrt[3]{ab^2} - 1}{\sqrt{-3}}, \frac{1 + \sqrt[3]{ab^2} + \sqrt[3]{a^2b}}{3}\right] \cdot O_{k_2}.$$

Proof. For "Type II" (i.e. $a \equiv \pm b \bmod 9$),

$\theta_0 = \frac{1+\sqrt[3]{ab^2} + \sqrt[3]{a^2b}}{3}$ satisfies in equation

$\theta_0^3 - \theta_0^2 + \theta_0 \cdot \frac{1-ab}{9} - \frac{1-a+a^2b+ab^2}{27} = 0$, so then it is an integral and also $(\sqrt[3]{ab^2} - 1)/\sqrt{-3}$ is an integral, because:

From $\sqrt[3]{ab^2} - 1 / \sqrt{-3} = t$, we have $(\sqrt[3]{ab^2})^3 = (\sqrt{-3}\,t + 1)^3$,

then $-3\sqrt{-3}(t^3 - t) = ab^2 - 1 + 9t^2$ and last we have equation:

$t^6 + t^4 + \frac{(ab^2-1)^2}{27} + t^2 \cdot \frac{(1+2ab^2)}{3} = 0$ that shows t is an integral. We take $x = [1, t, \theta_0]$, therefore

Appendix B

Informal Inventory Item Patterns

Obsessive-Compulsive Style Items

Technical Orientation

8. I like to engage in technical and scientific pursuits.

14. I like to attempt problems involving technical details.

16. I like to assemble and fix gadgets.

28. Mathematics has always been one of my favorite subjects in school.

33. I would enjoy working with computers.

Concern with Accounting for Facts and Details

3. Before making a decision, I usually try to take into consideration all of the details involved.

12. In reviewing work that I have done, I always try to concentrate very hard in order to detect and correct possible mistakes.

14. I like to attempt problems involving technical details.

19. I often try to study all the facts before choosing a course of action

29. I like problems in which one is required to pay close attention to details.

Concern with Deliberate Scheduling and Organization

5. I frequently work hard in developing carefully organized plans for action.

9. I usually attempt to organize things according to a schedule, and try to carry them out at a steady pace.

25. I usually try to carefully plan my activities in accordance with a steady, systematic schedule.

34. I enjoy the planning of things I am going to do.

Concern with Long-Range Goals and Plans

2. I often think about what I plan to be doing 5 or 10 years from now, and organize many of my present activities according to these plans.

10. I have very specific, well-defined future plans, and work hard in attempting to attain my goal.

26. I have very clear professional goals, and carefully plan appropriate action which will lead to the attainment of my goals.

Intensive Concentration

12. In reviewing work that I have done, I always try to concentrate very hard in order to detect and correct possible mistakes.

20. I prefer work which involves intense concentration.

Hysteric Style Items

Romanticism and Impressionism

4. I can sometimes lose myself in the lives and experiences of characters portrayed in a novel, play, or movie.

6. Certain people who have a charisma about them capture my attention.

7. Thinking about the excitement of a romantic fling often stimulates me.

17. A sad movie often makes me feel like crying.

21. Romantic daydreams or fantasies excite me.

23. I sometimes get so carried away by romantic feelings that I completely forget about everyday activities.

Role-Playing and Artistic Involvement

1. I sometimes think about what it would be like to be an actor or an actress and to play a lot of different roles or parts.

4. I can sometimes lose myself in the lives and experiences of characters portrayed in a novel, play, or movie.

11. The theater enraptures and excites me.

13. Buying new clothes or trying on the latest fashions often excites me.

27. I enjoy reading or reciting poetry.

30. I love theater and art.

Emotional Expressiveness and Experience

15. Large insects often frighten me.

17. A sad movie often makes me feel like crying.

18. When I am happy, I tend to be bubbly, spontaneous, and flowing with energy.

22. I consider myself an emotionally expressive person.

31. When I feel good, I am lively and emotionally expressive.

Concentration Dependent Upon Emotional Excitement

24. I concentrate best when I find something exciting and become emotionally involved with it.

32. I perform best when I have a strong emotional involvement in what I am doing.

(Note: Items 4, 12, 14, and 17 are repeated in more than one category.)

Appendix C

Pilot Study Item Correlations

Table 14

Correlations between Obsessive-Compulsive Style Pilot Items and Pilot Study Variables

Items	O	H	G	R	F	P	SA
Pilot Items Not In Present Study							
I am more likely to be lost in my thoughts than to be carried away by my feelings	13	06	05	-17	-15	14	26
I usually think and act in accordance with specific moral rules and principles	26	-14	22	01	-01	-04	06
I try my hardest to accomplish the necessary objectives in whatever I do	54	03	03	-25	16	-25	-09
I usually prefer dealing with problems that involve specific details rather than with ideas which are very general, vague, or impressionistic	11	15	-10	00	-02	51	-01
When I am playing in games or sports, I usually become very intense or competitive	21	22	21	-01	09	-19	29
I usually get bored by romantic movies or books about love and romance	25	-14	-23	-32	-11	01	-24
Even though most of the central aspects of a project are completed, I usually do not feel satisfied until many of the details involved are adequately accounted for	46	01	10	-13	-21	03	-09

Table 14 (continued)

Items	O	H	G	R	F	P	SA
I prefer daily events to proceed in a systematic and orderly manner	17	-08	19	-19	-15	17	02
Pilot Items Used in Present Study							
I like to engage in technical and scientific pursuits (8)	60	-09	54	-31	03	46	38
I usually attempt to organize things according to a schedule, and try to carry them out at a steady pace (9)	72	-04	43	-17	27	02	30
I have very specific, well-defined future plans, and work hard in attempting to attain my goal (10)	79	-20	26	-34	-10	29	14
In reviewing work that I have done, I always try to concentrate very hard in order to detect and correct possible mistakes (12)	59	00	36	-15	-33	11	-10
I often try to study all the facts before choosing a course of action (19)	61	00	23	-17	-35	03	20

Variable Codes: O-Obsessive-Compulsive Scale
H-Hysteric Scale
G-Group Embedded Figures Test
R-Romance Passage Ratings
F-Fashion Passage Ratings
P-Physics Passage Ratings
SA-Intended Science versus Arts majors

Note: For pilot study correlations, r's of .40 and .51 are significant at the .05 and .01 levels, respectively, for two-tailed tests (n = 25). A number in parentheses following the verbal listing of an item refers that item's number in the present construct validation study.

Table 15

Correlations between Hysteric Style Pilot Items and Pilot Study Variables

Items	O	H	G	R	F	P	SA
Pilot Items Not In Present Study							
Reminiscing about past experiences often arouses such deep feelings within me that I sometimes forget where I am or what I was just doing	06	61	-18	04	33	-09	-30
I often find it hard to remember details unless they have some emotional significance to me	-20	22	-18	-13	08	04	-08
When somebody says something humorous, I sometimes burst into laughing binges and find it hard to stop laughing	29	18	27	11	-19	19	02
I like to go to parties because they make me feel so alive	12	57	-06	03	36	07	-06
My grace and poise in social situations is often admired by others	27	40	01	20	45	-12	-35
When other people admire the way I dress and the way I look it really makes me feel good	24	68	09	-04	46	-14	-20
I feel more excited when I am engaging in activities with others than when I am thinking or planning, by myself	36	57	02	-21	30	17	12
Pilot Items Used In Present Study							
I sometimes think about what it would be like to be an actor or an actress and to play a lot of different roles or parts (1)	-33	37	-43	54	00	-29	-42

Table 15 (continued)

Items	O	H	G	R	F	P	SA
Thinking about the excitement of a romantic fling often stimulates me (7)	-16	33	-18	16	-04	-11	-59
Large insects often frighten me (15)	-08	58	-28	-27	20	04	-16
A sad movie often makes me feel like crying (17)	-37	46	-22	54	13	-25	-40
When I am happy, I tend to be bubbly, spontaneous, and flowing with energy (18)	-22	67	-42	08	45	-31	-62
I concentrate best when I find something exciting and become emotionally involved with it (24)	-10	64	-35	14	45	-14	-61

Variable Codes: O-Obsessive-Compulsive Scale
H-Hysteric Scale
G-Group Embedded Figures Test
R-Romance Passage Ratings
F-Fashion Passage Ratings
P-Physics Passage Ratings
SA-Intended Science versus Arts majors

Note: For pilot study correlations, r's of .40 and .51 are significant at the .05 and .01 levels, respectively, for two-tailed tests (n = 25). A number in parentheses following the verbal listing of an item refers to that item's number in the present construct validation study.

Table 16

Correlations between Total Obsessive-Compulsive and Hysteric Style Pilot Scale Scores and Pilot Study Variables

Pilot Style Scale	O	H	G	R	F	P	SA
Obsessive-Compulsive Scale	--	-04	39	-35	-16	30	15
Hysteric Scale		--	-30	18	46	-14	-54

Variable Codes: O-Obsessive-Compulsive Scale
H-Hysteric Scale
G-Group Embedded Figures Test
R-Romance Passage Ratings
F-Fashion Passage Ratings
P-Physics Passage Ratings
SA-Intended Science versus Arts majors

Note: For pilot study correlations, r's of .40 and .51 are significant at the .05 and .01 levels, respectively, for two-tailed tests (n = 25).

Appendix D

Factor Analyses of Style Items

Table 17

Varimax Factor Analysis of Obsesssive-Compulsive and Hysteric Items: Seven Factor Solution

Item	Loading on Factor						
	I	II	III	IV	V	VI	VII
1	0.61	-0.20	-0.13	-0.04	0.03	0.07	0.04
2	-0.10	0.18	0.22	0.47	0.08	0.05	-0.04
3	0.00	0.31	0.25	0.24	-0.03	0.33	-0.18
4	0.45	-0.17	0.08	-0.13	0.18	0.04	0.22
5	0.00	0.35	0.46	0.21	-0.09	0.14	-0.05
6	-0.15	0.04	0.22	-0.23	0.18	-0.04	0.01
7	-0.08	-0.08	0.06	-0.01	0.07	0.69	0.03
8	-0.26	0.55	0.13	0.06	-0.05	-0.21	-0.07
9	-0.13	0.08	0.71	0.06	-0.02	0.03	0.21
10	0.00	0.03	0.14	0.85	0.11	-0.12	-0.14
11	0.81	0.17	-0.05	0.00	-0.01	0.11	0.08
12	0.30	0.18	0.40	0.22	0.00	-0.18	0.03
13	0.08	0.03	0.00	-0.06	0.02	0.14	0.12
14	-0.11	0.86	0.00	0.14	0.02	-0.04	0.10
15	-0.06	0.07	0.09	-0.12	0.02	-0.09	0.59
16	0.03	0.60	0.06	-0.13	0.01	-0.18	0.10
17	0.19	-0.02	0.07	-0.03	0.04	0.14	0.53
18	-0.07	0.04	-0.02	0.04	0.48	-0.03	0.05
19	0.05	0.17	0.54	0.35	0.04	0.06	0.08
20	0.21	0.37	0.27	0.41	-0.04	0.05	-0.10
21	0.07	-0.01	0.08	0.02	0.16	0.53	0.02
22	0.15	-0.09	0.08	0.36	0.41	0.14	0.23
23	0.11	0.02	-0.03	-0.07	0.32	0.16	0.27
24	0.19	-0.12	0.10	-0.05	0.52	0.21	-0.16
25	-0.05	0.02	0.79	0.10	0.00	0.14	0.14
26	-0.05	0.01	0.18	0.74	0.13	-0.08	-0.14
27	0.51	-0.09	0.13	0.12	0.09	-0.08	-0.18
28	-0.06	0.40	-0.09	0.35	-0.09	0.18	0.06
29	0.12	0.42	0.28	0.41	0.00	0.02	-0.10
30	0.84	0.06	0.00	0.02	0.00	-0.03	0.09
31	0.04	-0.07	-0.03	0.20	0.78	0.06	0.17
32	0.12	-0.21	0.15	0.04	0.60	0.16	-0.36
33	0.02	0.50	0.11	0.05	-0.13	0.16	0.03
34	0.13	-0.03	0.54	0.09	0.18	0.03	-0.22

Table 18

Varimax Factor Analysis of Obsessive-Compulsive and Hysteric Items: Six Factor Solution

Item	Loading on Factor					
	I	II	III	IV	V	VI
1	-0.11	-0.19	0.62	0.05	0.02	0.07
2	0.33	0.29	-0.09	0.19	-0.27	0.03
3	0.30	0.35	0.00	-0.02	-0.21	0.33
4	0.06	-0.20	0.44	0.17	0.26	0.04
5	0.49	0.36	0.00	-0.07	-0.06	0.12
6	0.14	-0.05	-0.17	0.07	0.21	0.00
7	0.05	-0.04	-0.08	0.08	0.04	0.69
8	0.13	0.50	-0.27	-0.09	0.00	-0.20
9	0.71	0.07	-0.16	-0.01	0.23	0.01
10	0.35	0.24	0.02	0.32	-0.60	-0.16
11	-0.02	0.17	0.81	0.00	0.09	0.09
12	0.45	0.19	0.29	0.03	-0.03	-0.20
13	-0.01	0.03	0.09	0.03	0.15	0.13
14	0.04	0.86	-0.11	0.02	0.10	-0.09
15	0.07	0.09	-0.05	0.06	0.49	-0.13
16	0.02	0.50	0.02	-0.06	0.25	-0.16
17	0.08	0.02	0.20	0.12	0.39	0.07
18	-0.02	0.02	-0.08	0.46	0.06	-0.02
19	0.61	0.23	0.04	0.11	-0.05	0.03
20	0.38	0.45	0.21	0.02	-0.24	0.01
21	0.08	0.01	0.07	0.16	0.03	0.55
22	0.18	0.01	0.16	0.54	-0.02	0.08
23	-0.04	0.02	0.11	0.33	0.29	0.14
24	0.07	-0.18	0.16	0.42	-0.01	0.25
25	0.80	0.01	-0.08	0.00	0.17	0.12
26	0.36	0.20	-0.02	0.30	-0.55	-0.10
27	0.17	-0.11	0.49	0.09	-0.18	-0.06
28	0.01	0.51	-0.03	0.02	-0.14	0.09
29	0.38	0.48	0.13	0.06	-0.23	-0.01
30	0.04	0.05	0.84	0.01	0.07	-0.05
31	0.00	-0.03	0.03	0.85	0.06	0.04
32	0.13	-0.26	0.09	0.47	-0.21	0.22
33	0.13	0.50	0.03	-0.13	0.07	0.14
34	0.52	-0.08	0.09	0.12	-0.11	0.08

Table 19

Varimax Factor Analysis of Obsessive-Compulsive Items

Item	Loading on Factor		
	I	II	III
2	0.51	0.19	0.17
3	0.25	0.29	0.31
5	0.20	0.47	0.35
8	0.10	0.07	0.52
9	0.01	0.73	0.09
10	0.84	0.11	0.04
12	0.24	0.36	0.17
14	0.10	0.01	0.89
16	-0.03	0.00	0.53
19	0.40	0.51	0.15
20	0.39	0.29	0.37
25	0.02	0.88	0.02
26	0.86	0.11	0.00
28	0.21	0.00	0.43
29	0.41	0.27	0.43
33	0.00	0.19	0.50
34	0.21	0.45	-0.05

Table 20

Varimax Factor Analysis of Hysteric Items

Item	Loading on Factor		
	I	II	III
1	0.61	0.07	0.05
4	0.40	0.19	0.29
6	-0.12	0.12	0.01
7	-0.06	0.27	0.16
11	0.77	0.00	0.14
13	0.09	0.03	0.11
15	-0.11	-0.06	0.63
17	0.12	0.09	0.63
18	-0.09	0.45	-0.01
21	0.04	0.30	0.16
22	0.16	0.47	0.12
23	0.11	0.33	0.27
24	0.17	0.58	-0.06
27	0.52	0.12	-0.19
30	0.90	-0.03	0.13
31	0.05	0.75	0.09
32	0.10	0.62	-0.20

Appendix E

Obsessive-Compulsive and Hysteric Style Sub-Scales

Table 21

Composition and Reliabilities of Obsessive-Compulsive and Hysteric Style Sub-Scales

Obsessive-Compulsive Factor Sub-Scale I: Future Plans and Goals (alpha reliability coefficient = .77)	
Item	
2.	I often think about what I plan to be doing 5 or 10 years from now, and organize many of my present activities according to these plans.
10.	I have very specific, well-defined future plans, and work hard in attempting to attain my goal.
20.	I prefer work which involves intense concentration.
26.	I have very clear professional goals, and carefully plan appropriate action which will lead to the attainment of my goals.

	Obsessive-Compulsive Factor Sub-Scale II: Deliberate Study, Scheduling, and Organization (alpha reliability coefficient = .78)
Item	
5.	I frequently work hard in developing carefully organized plans for action.
9.	I usually attempt to organize things according to a schedule, and try to carry them out at a steady pace.
12.	In reviewing work that I have done, I always try to concentrate very hard in order to detect and correct possible mistakes.
19.	I often try to study all the facts before choosing a course of action.
25.	I usually try to carefully plan my activities in accordance with a steady, systematic schedule.
34.	I enjoy the planning of things I am going to do.

	Obsessive-Compulsive Factor Sub-Scale III: Technical Orientation and Detailed Concentration (alpha reliability coefficient = .75)
Item	
3.	Before making a decision, I usually try to take into consideration all of the details involved.
8.	I like to engage in technical and scientific pursuits.
14.	I like to attempt problems involving technical details.
16.	I like to assemble and fix gadgets.
28.	Mathematics has always been one of my favorite subjects in school.
29.	I like problems in which one is required to pay close attention to details.
33.	I would enjoy working with computers.

	Hysteric Factor Sub-Scale I: Artistic Involvement and Role-Playing (alpha reliability coefficient = .78)
Item	
1.	I sometimes think about what it would be like to be an actor or an actress and to play a lot of different roles or parts.
4.	I can sometimes lose myself in the lives and experiences of characters portrayed in a novel, play, or movie.
11.	The theater enraptures and excites me.
27.	I enjoy reading or reciting poetry.
30.	I love theater and art.

	Hysteric Factor Sub-Scale II: Romanticism, Impressionism, and Concentration Dependent Upon Emotional Excitement (alpha reliability coefficient = .68)
Item	
6.	Certain people who have a charisma about them capture my attention.
7.	Thinking about the excitement of a romantic fling often stimulates me.
18.	When I am happy, I tend to be bubbly, spontaneous, and flowing with energy.
21.	Romantic daydreams or fantasies excite me.
22.	I consider myself an emotionally expressive person.
23.	I sometimes get so carried away by romantic feelings that I completely forget about every day activities.
24.	I concentrate best when I find something exciting and become emotionally involved with it.
31.	When I feel good, I am lively and emotionally expressive.
32.	I perform best when I have a strong emotional involvement in what I am doing.

Hysteric Factor Sub-Scale III: Affect Expression
(alpha reliability coefficient = .38)

Item	
13.	Buying new clothes or trying on the latest fashions often excites me.
15.	Large insects often frighten me.
17.	A sad movie often makes me feel like crying.

Table 22

Partial Correlations Involving Obsessive-Compulsive and Hysteric Subscales and Scientific Orientation Variables

Correlation	r	Partialling Out	Partial r	n
OCI with Intended Science Majors	.21*	OCIII	.07	100
OCI with Interest in Physics Passage	.37**	OCII	.25**	100
OCI with Interest in Physics Passage	.37**	OCIII	.24*	100
OCI with SAT Quantitative a	.34*	OCIII	.23	34
OCII with Interest in Physics Passage	.36**	OCI	.23*	100
OCII with Interest in Physics Passage	.36**	OCIII	.25**	100
OCIII with Intended Science Majors	.38**	OCI	.32**	100
OCIII with Interest in Physics Passage	.42**	OCI	.32**	100
OCIII with Interest in Physics Passage	.42**	OCII	.34**	100
OCIII with SAT Quantitative a	.34*	OCI	.23	34
HYI with Intended Science Majors	-.31**	HYII	-.28**	100
HYII with Intended Science Majors	-.23*	HYI	-.19*	34

Note Partial correlations involving two subscales were reported only if the individual correlation between each of the two subscales and the particular construct validation variable was statistically significant.

[a]Subjects who reported their exact SAT scores.

Appendix F

Table 23

Correlations between Obsessive-Compulsive and Hysteric Style Scales and Construct Validation Variables Partialling Out Edwards and PRF Social Desirability Scale Variance

Constructive Validation Measures	Obsessive-Compulsive Scale	Hysteric Scale	n
Group Embedded Figures Test	.26**	-.32**	100
WAIS Information Scale	.12	-.14	100
Grades in Science (SC)[a]	.12	-.14	96
Grades in Mathematics (M)[a]	.24*	-.24*	96
Grades in Social Studes (SS)[a]	-.07	-.11	94
Grades in English (E)[a]	-.06	.02	96
Grades in Foreign Language (L)[a]	.19	.14	94
Grades: (SC+M+SS+E+L)[a]	.09	-.10	96
Grades: (SC+M)-(E+L)[a]	.15	-.34***	96
SAT Quantitative (Q):(exact)[b]	.29	-.16	34
SAT Verbal (V):(exact)[b]	.37*	.35*	34
SAT (Q+V):(exact)[b]	.40*	.10	34
SAT (Q-V):(exact)[b]	-.10	-.44**	34
SAT Quantitative (Q):(approx.)[b]	.15	-.19	30
SAT Verbal (V):(approx.)[b]	-.21	.23	30
SAT (Q+V):(approx.)[b]	.00	-.05	30
SAT (Q-V):(approx.)[b]	.39*	-.52**	30
Recall of SAT scores[c]	-.12	-.45***	78
Object-Uses Test	-.02	.12	100
Interest Ratings: physics passage	.49***	-.04	100
Interest Ratings: fashion passage	.02	.07	100
Interest Ratings: romance passage	-.21*	.25**	100
Hudson School Attitudes Scale	.26**	-.20*	100

[a]Reported high school grades.

[b]Subjects who reported their exact SAT scores are considered separately from those who reported their approximate scores.

[c]Scored: 2-exact recall; 1-approximate recall; 0-no recall.

*$p < .05$; **$p < .01$; ***$p < .001$ (two-tailed tests of significance).

Appendix G

Correlations between Present Study Style Items and Construct Validation Variables

Table 24

Correlations between Present Obsessive-Compulsive Style Items and Present Construct Validation Variables

Item	G	R	F	P	SA	I	U	SC	M	Q	HU
2	14	-29	-27	22	26	13	03	-01	00	41	13
3	16	-18	-15	17	15	25	04	09	11	12	11
5	14	-08	-08	43	29	04	-10	14	18	22	12
8	33	-18	-03	43	63	19	-11	16	15	35	21
9	00	-19	-10	17	05	-02	02	-07	-07	09	28
10	02	03	03	22	16	02	06	00	18	32	14
12	05	-11	02	30	10	-10	-01	-03	06	43	16
14	27	-09	13	30	58	20	15	33	43	35	28
16	19	-11	08	21	26	04	14	17	04	02	12
19	09	-07	19	26	29	01	-02	-02	-04	-03	04
20	23	-10	-08	47	39	15	-05	06	21	08	15
25	03	-16	-09	15	07	06	00	-06	-01	17	20
26	04	08	-10	19	08	06	-03	01	11	23	14
28	17	09	08	15	52	01	-05	19	62	27	19
29	28	-14	-12	35	34	25	11	20	28	33	27
33	13	-07	-01	27	31	03	-07	02	05	08	21
34	-05	-08	09	18	03	-17	-05	-25	-17	-21	14

Variable Codes:
- G-Group Embedded Figures Test
- R-Romance Passage Ratings
- F-Fashion Passage Ratings
- P-Physics Passage Ratings
- SA-Intended Science versus Arts majors
- I-WAIS Information Scale
- U-Object-Uses Test
- SC-Reported High School grades in science
- M-Reported High school grades in math
- Q-Reported SAT Quantitative scores (subjects who reported their exact score)
- HU-Hudson School Attitudes Scale

Note: For present construct validation correlations (except those involving SAT Quantitative scores) r's of .20 and .26 are significant at the .05 and .01 levels, respectively, for two-tailed tests (n = 100). For construct validation correlations involving SAT Quantitative scores (subjects who reported their exact scores) r's of .33 and .43 are significant at the .05 and .01 levels, respectively, for two-tailed tests (n = 34).

Table 25

Correlations between Present Hysteric Style Items and Present Construct Validation Variables

Item	G	R	F	P	SA	I	U	SC	M	Q	HU
1	-16	20	11	-14	-58	-23	07	-24	-37	-16	-24
4	03	09	05	-06	-51	04	-10	-13	-23	-09	-32
6	-08	05	-02	-16	-15	09	15	13	-09	-19	-04
7	-09	-07	-15	-09	-13	10	04	00	-06	-01	-08
11	-08	13	02	17	-30	-21	-06	-19	-21	-04	-05
13	-27	03	37	-20	-05	-30	-11	-26	-07	-28	-10
15	00	01	-02	-03	-04	24	19	11	04	42	-07
17	-07	13	-04	12	-14	11	16	-06	-11	15	-08
18	-18	-03	01	-10	05	-02	09	-08	-14	-23	-20
21	-22	00	-08	-04	-21	05	20	-03	06	-06	-04
22	-20	20	-05	00	-25	-11	07	-01	02	-06	03
23	-19	16	01	00	-28	-07	01	-04	-02	-22	-32
24	-26	13	-02	-12	-30	-17	-02	-11	-20	-26	-25
27	-02	08	07	11	-40	-22	-09	-15	-18	-29	14
30	-06	10	16	16	-41	-15	-16	-14	-21	-14	-03
31	-25	14	-07	-01	-12	-17	15	01	-06	02	-20
32	-28	-07	-14	-03	-09	-13	03	-29	-25	-14	-14

Variable Codes:
G-Group Embedded Figures Test
R-Romance Passage Ratings
F-Fashion Passage Ratings
P-Physics Passage Ratings
SA-Intended Science versus Arts majors
I-WAIS Information Scale
U-Object-Uses Test
SC-Reported High School grades in science
M-Reported High School grades in math
Q-Reported SAT Quantitative scores (subjects who reported their exact scores)
HU-Hudson School Attitudes Scale

Note: For present construct validation correlations (except those involving SAT Quantitative scores) r's of .20 and .26 are significant at the .05 and .01 levels, respectively, for two-tailed tests (n = 100). For construct validation correlations involving SAT Quantitative scores (subjects who reported their exact scores) r's of .33 and .43 are significant at the .05 and .01 levels, respectively, for two-tailed tests (n = 34).

Appendix H

Table 26

Correlations between Group Embedded Figures Test Performance, Intended College Majors in the Sciences and the Arts, and Construct Validation Variables

Construct Validation Measures	Group Embedded Figures Test (GEFT)	Intended Science Majors[e]	Intended Arts Majors[e]	n
GEFT	--	.31**	-.17	100
WAIS Information Scale	.28**	.14	-.10	100
Science (SC)[a]	.28**	.39***	-.08	96
Mathematics (M)[a]	.26**	.27**	-.31**	96
Social Studies (SS)[a]	.23*	.19	.14	94
English (E)[a]	.16	.13	.14	96
Foreign Language (L)[a]	.00	.13	-.18	92
Grades: (SC+M+SS+E+L)[a]	.25*	.28**	-.13	96
Grades: (SC+M)-(E+L)[a]	.24*	.23*	-.21*	96
SAT Quantitative (Q)[b]	.19	.38*	-.20	34
SAT Verbal (V)[b]	-.01	.06	-.11	34
SAT (Q+V)[b]	.10	.25	-.18	34
SAT (Q-V)[b]	.17	.26	.06	34
SAT Quantitative (Q)[c]	.24	.08	-.24	30
SAT Verbal (V)[c]	-.04	.06	.06	30
SAT (Q+V)[c]	.19	.19	-.18	30
SAT (Q-V)[c]	.44*	.27	-.39*	30
Recall of SAT scores[d]	.30**	.33**	-.22*	78
Object-Uses Test	.23*	-.03	.01	100
Physics passage[f]	.27**	.27**	-.28**	100
Fashion passage[f]	-.14	-.11	.02	100
Romance passage[f]	-.16	-.03	.02	100
School Attitudes Scale	.18	.27**	-.15	100

[a]Reported high school grades.
[b]Subjects who reported their exact scores.
[c]Subjects who reported approximate scores.
[d]Scored: 2-exact recall; 1-approximate recall; 0-no recall.
[e]Intended college majors in the sciences and aspired college majors in the arts are both dichotomously categorized.
[f]Interest ratings.
*$p < .05$; **$p < .01$; ***$p < .001$ (two-tailed tests of significance).

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