

AN INVESTIGATION OF RELATIONSHIPS BETWEEN NEUROTIC STYLES
AND CONCEPTUAL DYNAMICS

A Thesis

Presented to
the Faculty of the Department of Psychology
University of Houston

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

By
Reinhard W. Rönnebeck
December, 1971

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ABSTRACT

Some of the relationships between neurotic styles and conceptual dynamics were investigated. The neurotic styles studied were: obsessive, hysteric, and impulsive. Conceptual variables were divided into formal and content characteristics. The formal characteristics were permeability, impermeability, propositionality, preemption, cognitive complexity, and self-identification with contrast. The content characteristics were classified as attitudes, behavior, facts, repetitions, and self-references.

The results of the investigation are as follows:

- 1.) Significant correlations were established between permeability and impermeability, as well as between propositionality and preemption, thus supporting the view that these are two unitary dimensions.
- 2.) Hysterics use significantly more permeable constructs than either impulsives or obsessives.
- 3.) Hysterics use significantly more propositional constructs than obsessives.
- 4.) Obsessives use significantly more constructs consisting of attitudes than either hysterics or impulsives.
- 5.) Obsessives use significantly fewer constructs consisting of facts than impulsives.

These significant findings pertaining to content variables were discussed in terms of an abstract-concrete continuum, with attitudes being the most abstract and facts the most concrete, thus confirming the experimental expectations.

6.) Obsessives use significantly fewer repetitions than either hysterics or impulsives, which was seen as a reflection of a relative absence of naivete.

TABLE OF CONTENTS

CHAPTER		PAGE
I.	INTRODUCTION.....	1
II.	METHOD.....	12
III.	RESULTS.....	17
IV.	DISCUSSION.....	26
V.	SUMMARY.....	36
	BIBLIOGRAPHY.....	39

LIST OF TABLES

TABLE		PAGE
1.	Means and Variances of Three Groups on Six Measures of Formal Characteristics of Constructs.....	18
2.	Comparisons by t-tests of Three Styles on Six Formal Characteristics of Personal Constructs.....	19
3.	Means and Variances of Three Groups on Five Measures of Content Characteristics of Constructs.....	21
4.	Comparisons by t-tests of Three Styles on Five Content Characteristics of Personal Constructs.....	22
5.	Comparisons by t-tests of Three Styles on Indexes of Permeability and Preemption.....	25

CHAPTER I

INTRODUCTION

David Shapiro's (1965) work on neurotic styles has been widely recognized by clinicians to be of outstanding clinical value because of its great sensitivity and its stress on human consistency over broad areas of functioning. Shapiro integrates in an almost phenomenological fashion for each neurotic style various aspects of personality, such as cognition, perception, emotion, and modes of activity. On the other hand, it must be noted that Shapiro's contributions are not empirical in the usual laboratory sense. Shapiro is clinically oriented, and his work is predominantly based on clinical experience. Thus, there is no possibility of critically evaluating his methodology, since he does not present any. The aim of the present study was to help close this gap between some of Shapiro's clinical descriptions and the controlled investigation of conceptual dynamics.

Shapiro has discussed four neurotic styles, the hysteric, obsessive, impulsive and paranoid. He postulates three styles of adaptation as a means of accounting for different modes of behavior in the face of identical environmental conditions. He states:

The same mental content will have different significance to different individuals, and different contents will have closely similar significance. Without this understanding, we run the risk - and it holds for therapists and testers alike - of seeing only textbook meanings, possibly correct but far removed from the sense and tone of an individual's experience. (Shapiro 1965, p.18)

The present study was aimed at investigating aspects of the conceptual behavior of three of Shapiro's neurotic styles, the obsessive, hysteric, and impulsive. While initial planning called for examining a paranoid group as well, pilot investigation revealed too few paranoids to form meaningful comparisons in the population available.

According to Shapiro, the obsessive style of adaptation involves amassing factual, discrete knowledge and bits of information, but reflects comparatively little understanding and integrative ability (pp. 23-53). The obsessive has difficulty making a decision; he is ambivalent. One aspect of this is that the obsessive is reflecting instead of acting. A part of this reflective attitude is the primary defense of intellectualization. The obsessive deals with the external, but only with the abstract side of it. Despite his emphasis on the abstract, his ability to conceptualize,

i.e. to integrate these bits of knowledge into a general understanding of processes and interrelations is low when compared to his knowledge. In addition, the obsessive lacks spontaneity. He tries hard to be logical, but may use any logic he likes. He is continually trying to gain mastery without ever experiencing it. Thus, he feels comfortable with the mechanical and the methodological since these are predictable. He has difficulty being tender since it is not "logical". To play is difficult for the obsessive since it is not purposive. This difficulty is compounded because he is not oriented towards the here and now. The aim of the obsessive is to make divisions and classifications in order to reduce uncertainty and evolve rules to live by. His guiding theme in life is essentially: "One ought, but how does one know which?"

The hysteric style of adaptation involves a global, quite undifferentiated approach to the world. The hysterics have difficulty reflecting; they want to act. Acting, also in the sense of a theatrical quality, and with the need for an audience. Repression is the primary defense. Because of the tendency to repress conflictual material, the hysteric is likely to be conventional and is often naive. The hysteric person tends to overrate others since the source of strength is perceived to be outside of him. He has a high ability to trust, often to such an extent that he becomes dependent on

others. He can be close and intimate with people. The hysteric also deals with the external, but with the concrete side of it. His guiding theme in life is essentially: "I should, but you should too."

The impulsive style of adaptation involves an emphasis on the here and now. Logic and rules, moral and otherwise are of little concern since the main occupation is the immediate satisfaction of wants. The impulsive person is very perceptive of the strengths and weaknesses of others and usually manipulates them almost instantly. He is characterized by the relative absence of defenses; he acts out. The impulsive person usually does not profit from past mistakes. In order to capitalize on the strengths and weaknesses of others, the impulsive appears malleable, so that he can blend into the surroundings in a manner he considers advantageous to him. One aspect of this malleability is that he usually seems like a charming, likeable person who gains the confidence and trust of others but which he exploits and manipulates for his own ends. His guiding theme in life is essentially: "I want, but you are not going to give unless I manipulate."

In order to systematically investigate the conceptual dynamics of these styles of adaptation the present study relied on some aspects of George Kelly's (1955) work. Kelly shares with Shapiro the assumption that "Persons differ from

each other in their construction of events" (p. 55). But unlike Shapiro, Kelly provides a specific framework and the necessary operations for assessing conceptual dynamics. Shapiro's work is largely descriptive and does not specify operations for the assessment of cognitive processes. Kelly's work is more theoretical, yet provides explicit operations for explicating interpersonal cognitive processes. Nevertheless, important basic assumptions are shared in that both subscribe to the consistency model of personality. Shapiro (1965) notes: "The simple fact of human consistency over broad areas of functioning argues for such concept (styles of functioning)" (p. 3). Kelly also contends that a person seeks to reduce anxiety created by inconsistencies (Kelly, 1955, p. 498).

In the present study the constructs used by subjects were distinguished as to five content characteristics and four formal characteristics. The five content characteristics were: "attitudes", i.e. constructs which pertained to attitudes, moods, and capacities, as for example, idealistic, creative, prejudiced; "behavior", i.e. constructs which pertained to observable behavior, as for example, gossips, drinks, withdrawn; "facts", i.e. constructs which denoted objective facts, as for example, male, student, blond; "self-references", i.e. constructs implying self-references, as for example, likes me, are close to me; and "repetitions",

i.e. constructs which are repetitions of those which have been previously used by the subject.

The four formal characteristics were: the permeability-impermeability and the propositionality-preemption dimensions of construction, the level of cognitive complexity present, and the degree of self-identification with contrasts.

The permeability of a personal construct indicates the degree of flexibility with which new elements, e.g. supervisor, brother, fellow-worker, may be subsumed under that construct. Impermeability of a construct refers to those which fall at the opposite pole of the dimension. Thus, subjects can be differentiated according to their relative degree of flexibility in admitting new types of people under a particular construct. Propositionality refers to the degree of flexibility with which various constructs are applied to a particular element (i.e. types of people). Conversely, preemption refers to the degree of constriction with which constructs are applied to an element.

Cognitive complexity refers to the functional number of constructs a person uses. Functional, because the mere use of different words in describing events may not necessarily mean a greater number of personal constructs. It is possible that a person may use a number of different labels for the

same construct. A person with a large number of personal constructs is cognitively complex and will perceive his world in a more differentiated manner.

The formal characteristics of self-identification with contrasts rests on Kelly's dichotomy corollary (p.59), which states that "A person's construction system is composed of a finite number of dichotomous constructs". Without Kelly explicitly stating so, the emphasis on the dichotomous nature of constructs is analogous to the figure-and-ground concept, with the figure being the construct and the ground being the contrast. He states (p. 62) that "much of our language, as well as of our everyday thinking, implies contrast which it does not explicitly state. Our speech would be meaningless otherwise." Yet, when a person does not identify himself with the construct he uses but applies them to other people he is in effect asserting his being different, unique.

Finally, the relationships between permeability and impermeability, propositionality and preemption, as well as cognitive complexity and the number of repetitions were investigated. Logically, all three sets of variables should be negatively correlated. According to Kelly, permeability and impermeability represent the opposite poles of a single dimension. Similarly, propositionality and preemption pertain

to antithetical ends of one continuum. However, for the present investigation this assumption was not accepted at face value. It was deemed possible that an individual may apply some of his constructs in - for example - a highly permeable way, and others highly impermeable. Another individual may apply all his constructs with an intermediate degree of permeability. These individuals use their constructs in a distinctly different manner; yet, when permeability-impermeability is viewed as a single dimension they will be indistinguishable. The same reasoning applies to the propositionality-preemption dimension. Slightly different reasoning was applied to cognitive complexity and repetitions. Since the former is a formal characteristic and the latter a content characteristic it was deemed important to examine them separately. Whether these characteristics can be treated as poles on a single dimension depends on the degree of their negative correlation.

Several hypotheses concerning the formal aspects of the personal constructs of Shapiro's neurotic styles were developed. In case of the obsessive, who makes endless distinctions and classifications in order to reduce uncertainty and evolve rules to live by, it can be expected that he should be more cognitively complex than any of the other neurotic styles. Moreover, his attempts to reduce confusion and "capture" precise meaning should manifest itself in

highly impermeable constructs. Yet, despite this "precision", the obsessive only rarely experiences certainty and control; his constructs never quite "capture" the meaning. Consequently, it is expected that the obsessive, because of his ambivalence, should use significantly fewer preemptive constructs than the other styles of adaptation. The obsessive typically does not consider himself exceedingly unique nor does he identify especially strongly with prevalent social norms. Therefore, he should identify with contrasts at an intermediate level.

Since the hysteric style of adaptation involves a global, quite undifferentiated approach to the world, he should be the least cognitively complex. Another aspect of his global approach should be evident in a high degree of permeability, significantly higher than the other two styles of adaptation. Because of the hysteric's ability to trust and his conventionality he should show few identifications with contrasts. The hysteric "believes" in the rules and social conventions and is able to give clear answers as to what is "right and wrong". Therefore, it was expected that he should use significantly more preemption constructs than either the obsessive or the impulsive.

One of the most outstanding characteristics of the impulsive is his ability to quickly adapt. Therefore, it

was expected that the formal characteristics of his personal constructs should not show extreme, but only intermediate degrees. The impulsive's behavior has an almost chameleon-like quality, permitting the blending into social situations in order to manipulate them to his advantage. This quality should manifest itself in many permeable constructs, but probably not as many as those of the hysteric. For the same reason, it was expected that few preemptive constructs should be found. It is unlikely that the impulsive would be as cognitively complex as the obsessive, since the process of constructs selection would make it difficult to decide quickly. Probably the impulsive should be at an intermediate position between the hysteric and obsessive. The same applies to identification with contrasts.

Three tentative hypotheses with regard to content of personal constructs were established. (1) The categories of "attitude", "behavior", "facts" were seen as falling along an abstract-concrete continuum, with "attitude" being the most abstract and interpretative, "facts" being the most concrete and "behavior" in the intermediate position. It was expected that individuals showing the obsessive adjustment style should score highest on "attitude" and lowest on "facts", while the hysteric should perform in the opposite direction. The impulsive style was expected to fall at the intermediate level. (2) The "repetitions" category was

expected to be related to cognitive complexity, since many repetitions would reduce the actual number of constructs. Therefore, Ss showing the obsessive style should score lowest on "repetitions", hysterics highest, and impulsives at the intermediate position. (3) "Self-references" were seen as an index of naivete. Ss showing the obsessive style were expected to score lowest, impulsive somewhat higher, and hysterics the highest.

CHAPTER II

METHOD

The experimental group consisted of 39 Ss (26 females and 13 males), enrolled in junior or senior level psychology courses at the University of Houston who participated anonymously and on a volunteer basis. Two untimed tests were used, the MMPI and the Role Repertory Test, the order of which was counter-balanced. The Ss were tested either individually in testing rooms or in small groups in empty class rooms. Most of the Ss took both tests at one time. The Ss were tested with the understanding that subsequent to their participation, the purpose of the study and testing materials would be explained to them.

Since Shapiro (1965) did not discuss the methodology for classifying Ss according to style of adaptation, a method needed to be adopted. The Interpersonal Diagnosis of Personality (Leary, 1957) was deemed well suited for this task. Guided by Leary's overall rationale, the eight octants of the interpersonal circle were collapsed into four. Octants 1 and 2 were assumed to reflect the impulsive style, octants 5 and 6 the obsessive style, and octants 7 and 8 the hysteric style. Octants 3 and 4 were assumed to reflect the paranoid style. Although an insufficient number of Ss of this style volunteered to warrant inclusion in the sample.

For each S levels I and III_M were measured by means of the MMPI. Level I refers to public communication, that is overt behavior as rated by others along a sixteen point circular continuum. A S is rated for his interpersonal effect he has on others who share social situations with him. The data is objective or public - rather than private or subjective. Level III consists of symbolic, imaginative, indirect fantasy materials. It pertains to private perception, that is to the intentions and goals of an individual. Both of these levels can be assessed through the MMPI. All Ss scored consistently within octants 1 and 2 on level I, but varied considerably on level III_M . On the III_M level 15 Ss fell into octants 1 and 2, 18 Ss into octants 7 and 8, and 6 Ss into octants 5 and 6. Since Leary discusses level III_M as an expression of character patterns, the III_M classification of Ss was adopted for purposes of the present study. Thus, all Ss can be described as action-oriented at the behavioral level, and varied in their style of adjustment and conceptualization at the covert level. While this rather limited degree of variation among the experimental groups may potentially obscure differences that are present, it is also the case that differences found may be viewed with more confidence.

The construct characteristics were measured by the Role Construct Repertory Test (Kelly, 1955). The test involves

providing a S with categories of significant people in his life (e.g. mother, father, boy friend, girl friend, etc.). The S names an acquaintance or relative to whom each description could be applied. He was asked to compare triads of these individuals, and to provide a personal characteristic or trait in regard to which two of the persons were similar to one another (construct), but different from the third (contrast). The Ss checked the two like individuals. His next task was to see if the concept applied to any of the other individuals not in the original comparison, and to check any to whom the concept applied. Each role element could either apply or not apply to a particular construct.

For the present study a 20X20 Role Repertory Grid was used. The 20 sortings were arranged in such a manner that each role element was included in three sorts, determined on a random basis. This precaution constitutes a modification of Kelly's procedure. Also, the type of role elements selected and the number of sorts were slightly modified from Kelly's procedure.

Permeability was operationally defined as the case in which a construct was applied to thirteen or more role elements - out of a total of twenty role elements. Impermeability was defined as the case in which a construct was applied to only seven or fewer role elements. A count of the number of

permeable and impermeable constructs in the Grid was made for each S.

In contrast to permeability, where the focus of analysis is on the construct (i.e. the rows of the test), preemption focuses on the role element. Specifically, the question was how many constructs applied to a particular role element. It was decided that when only three or fewer constructs applied to a role element this was an indication of preemption. Conversely, when fifteen or more constructs applied to a particular role element this was defined as indication of propositionality. Thus, a count of preemptive and propositional constructs in the Grid was made for each S.

Self-identification with contrasts is conceptually related to preemption. However, in this case only the role element of self is analyzed. Self-identification with contrast is an example of the degree of preemption applied to the self. The application of contrasts was measured by counting the number of blank cells below the self role element. It was reasoned that a person who applied few constructs to himself considered himself rather unique; the more unique, the fewer constructs applied to himself. Therefore, no cut-off point was established, but each S's unchecked cells for the role element of self were counted and taken directly as a measure of perceived uniqueness.

Cognitive complexity can be measured by the number of constructs a person uses. The operations used by Bieri (1961) were adopted for the present study. This involved matching the checkmarked and void cells of every row with every other row of the Role Repertory Grid. A score of one was assigned for each match. The total score for complexity was obtained by summing matches throughout the Grid. Thus, higher numerical scores were associated with lower levels of cognitive complexity.

Content characteristics were grouped into five categories: attitude, behavior, fact, self-reference, repetition. The first three categories were seen along an abstract-concrete continuum. Attitude was the most abstract and also rather broadly conceptualized since it included references to a mood such as happy and also capacities such as creative. Behavior pertained to constructs which were observable such as withdrawn. Fact may include constructs such as married. Self-reference may include a construct such as likes me. Repetitions referred to repeated use of a previously employed construct.

The assessment of the five content characteristics was based on a scoring guide, giving examples of the type of constructs which fit the respective categories. Two scorers independently classified the constructs and achieved a reliability of 84.5 %. Each scorer was unaware to which style of adaptation the test material belonged.

CHAPTER III

RESULTS

The data were analyzed by multiple one-tailed t-tests for each of the variables studied. This method was chosen since the sizes of the groups varied considerably, making the use of pooled error terms in comprehensive analysis somewhat misleading. TABLE 1 provides a summary of the results for the six formal characteristics of constructs employed, and TABLE 2 shows their analysis. It can be seen that the hysterics used significantly more permeable constructs when compared with either the impulsives and obsessives ($p's < .001$). The difference between impulsives and obsessives is in the predicted direction but does not reach statistical significance ($p > .10$). No significant differences were found for impermeability, although the pattern of difference is in the direction expected. For propositionality a significant difference was found which indicated that constructs used by hysterics are more propositional when compared to obsessives. For the formal characteristics of preemption, cognitive complexity, and identification with contrasts, the significance levels of differences were below the conventional standards. TABLE 2 summarizes these data as to the levels of significance.

TABLE 1

Means and Variances of Three Groups on Six Measures of
Formal Characteristics of Constructs

Styles	Formal Characteristics					
	Permeability	Impermeability	Propositionality	Preemption	Cognitive Complexity	Identification with Contrast
Obsessives	\bar{x} 1.00	11.50	0.00	2.50	2170	10.50
	s^2 0.26	1.61	0.00	1.58	6664	2.45
Impulsives	\bar{x} 2.80	11.53	0.53	2.26	2148	9.53
	s^2 0.97	1.36	0.10	0.46	2031	1.36
Hysterics	\bar{x} 4.50	9.38	0.94	2.66	2142	9.83
	s^2 0.63	1.67	0.25	0.77	3607	0.64

TABLE 2

Comparisons by t-tests of the Three Styles on Six Formal
Characteristics of Personal Constructs

Measures:	Comparisons:	t-values:	df
<hr/>			
Impermeability	hysterics and impulsives	1.27	31
	hysterics and obsessives	1.17	22
	obsessives and impulsives	0.05	19
Permeability	hysterics and impulsives	4.25***	31
	hysterics and obsessives	3.71***	21*
	obsessives and impulsives	1.62	19
Propositionality	hysterics and impulsives	0.79	31
	hysterics and obsessives	2.00**	21*
	obsessives and impulsives	1.65	19
Preemption	hysterics and impulsives	0.36	31
	hysterics and obsessives	0.10	22
	obsessives and impulsives	0.16	19
Cognitive Complexity	hysterics and impulsives	0.07	31
	hysterics and obsessives	0.27	22
	obsessives and impulsives	0.24	19
Identification with Contrast	hysterics and impulsives	0.21	31
	hysterics and obsessives	0.38	22
	obsessives and impulsives	0.49	19

* corrected for unequal N
 ** significant at .05 level
 *** significant at .001 level

NOTE: obsessives' N = 6
 impulsives' N = 15
 hysterics' N = 18

TABLE 3 provides a summary of the results for all five content variables, and TABLE 4 shows their analysis. For "attitudes" the results are in the expected direction. Obsessives use significantly more "attitudes" as constructs than impulsives and hysterics ($p < .05$). This result is consistent with the hypothesis. However, a significant difference in the use of "attitudes" as constructs did not occur between impulsives and hysterics ($p > .10$).

The extent of the use of "behavior" as constructs did not differ among the three styles of adaptation (p 's $> .10$). Concerning the use of "facts" as constructs it was predicted that obsessives would score lower than either hysterics or impulsives. A comparison between obsessives and impulsives confirm this hypothesis ($p < .05$). Although the difference between hysterics and impulsives, as well as between hysterics and obsessives are in the predicted direction, they do not reach statistical significance (p 's $> .10$).

The content category of "repetitions" was expected to be least relevant for persons with the obsessive style of adaptation, most important for hysterics, with the impulsives falling in the intermediate position. TABLE 4 shows that the results are in the expected direction when obsessives are compared with the other two styles of adaptation. These findings are statistically significant ($p < .05$). However,

TABLE 3

Means and Variances of Three Groups on Five Measures of
Content Characteristics of Constructs

Styles	Content Characteristic					
	Attitude	Behavior	Fact	Repetition	Self-Reference	
Obsessives	\bar{x}	12.33	6.83	0.50	0.33	0.00
	s^2	1.77	2.36	0.25	0.11	0.00
Impulsives	\bar{x}	8.73	7.00	2.20	2.06	0.50
	s^2	0.84	0.81	0.54	0.61	0.25
Hysterics	\bar{x}	8.77	7.83	1.50	1.77	0.00
	s^2	0.28	0.44	0.15	0.18	0.00

TABLE 4

Comparisons by t-tests of the Three Styles on Five Content
Characteristics of Personal Constructs

Measure:	Comparisons:	<u>t</u> -values:	df
Attitudes	hysterics and impulsives	0.04	31
	hysterics and obsessives	2.48**	10*
	obsessives and impulsives	2.23**	19*
Behavior	hysterics and impulsives	0.74	31
	hysterics and obsessives	0.60	22
	obsessives and impulsives	0.09	19
Facts	hysterics and impulsives	0.82	31
	hysterics and obsessives	1.60	22
	obsessives and impulsives	1.93**	19*
Repetitions	hysterics and impulsives	0.32	31
	hysterics and obsessives	2.66***	18*
	obsessives and impulsives	2.03**	20*
Self-References	hysterics and impulsives	} 1	
	hysterics and obsessives		
	obsessives and impulsives		

* df corrected for unequal N

** $p < .05$

*** $p < .01$

NOTE:¹ This variable was applicable to only 5 Ss of the total of 39 Ss.

no significant difference was found between hysterics and impulsives. Indeed, the difference was in the unexpected direction.

Self-references were assumed to be an index of naivete, with hysterics scoring highest, obsessives lowest, and impulsives in the position between these two styles. However, of the total of 39 Ss only five used any self-reference at all, so that a statistical analysis was not warranted.

The product-moment correlation between permeability and impermeability was -0.65 , between propositionality and preemption -0.29 , and between cognitive complexity and repetitions -0.03 . For a variety of possible reasons the degree of correlation differed sharply among the measures compared. The degree of correlation between permeability and impermeability is quite satisfactory. The relatively low correlation between propositionality and preemption might be related to the limited range found in the sample (see TABLE 1). If the propositionality and preemption scores would have shown a wider spread more "room" for co-variation would have been available. In the case of cognitive complexity and repetitions Vannoy's (1965) investigation is relevant. Studying a large number of different measures of cognitive complexity he found no single unitary dimension but eight factors. Possibly the present absence of a correlation is a function of using two measures pertaining to

different factors: (1) performance and (2) verbal productivity. In other words, the counting of number of matches on the Grid might be analogous to Vannoy's performance factor, while the content measure of cognitive complexity would be similar to a factor of verbal productivity.

The correlation for the permeability-impermeability dimension, as well as for the propositionality-preemption dimension were considered promising enough to develop single indexes for each of these dimensions. Specifically, for each S a constant of 20 was assumed with the impermeability score subtracted, and the permeability score added. For the preemption index, the preemption score was subtracted from the constant of 20, and the propositionality score added. TABLE 5 represents a summary of the analysis. It is noteworthy that the combining of scores and the development of an index "blunted" the results to such an extent that no statistically significant difference remained. Apparently, this resulted from a moderate distortion inherent to the development of the index which reduced two imperfectly correlated measures into one. Thus, it is possible that a particular S with high preemption and propositionality scores is rated in the intermediate position on the index while rated on the extreme without the combining of scores.

TABLE 5

Comparisons by t-tests of Three Styles on Indexes of
Permeability and Preemption

Measures:	Comparisons:	t-values:	df
<hr/>			
Permeability Index			
	hysterics and impulsives	1.15	31
	hysterics and obsessives	1.55	21
	obsessives and impulsives	0.55	19
Preemption Index			
	hysterics and impulsives	0.00	31
	hysterics and obsessives	0.45	21
	obsessives and impulsives	0.50	19

CHAPTER IV

DISCUSSION

In the present study relatively similar experimental groups were used, thus resulting in a "restriction of range", so to speak, of the independent classification. The availability of a "captive" clinical population might have been advantageous. For example, the present population did not allow for measuring the paranoid style. These factors may adversely affect the generalizability of the results. At the same time it can be argued that differences found in small samples may reflect larger, more important differences in the population.

Probably, the most striking finding of the present study concerns the degree of correlation between the measure of permeability and impermeability, as well as between propositionality and preemption. Kelly (1955) assumes that each of these relationships refers to a single dimension. In the case of permeability and impermeability this assumption was substantially confirmed, and also to a considerable extent for the propositionality-preemption dimension. The fact that the correlations were not perfect is quite likely a reflection of the arbitrary cut-off point of the measure employed. Thus, for the permeability as well as the preemption dimensions

the correlations are deemed supportive of Kelly's assumption. Contrary to expectations cognitive complexity and repetitions did not correlate significantly. However, as Vannoy (1965) has demonstrated cognitive complexity does not constitute an unitary dimension. Therefore, it appears likely that the present measure of cognitive complexity and the number of repetitions may pertain to two different factors. Measures for content characteristics and formal characteristics of constructs appear to assess two independent factors of cognitive complexity.

Unambiguous findings pertain only to permeability. The possibility cannot be dismissed that with a greater range of experimental groups other formal characteristics would have co-varied. Permeability is most certainly one of the more important formal characteristics and that some of the experimental hypotheses in this area have been confirmed is noteworthy. Yet, cognitive complexity is another very important formal characteristic, but the results are to an almost amazing degree undifferentiated. The difference in cognitive complexity between styles is virtually non-existent. The Role Repertory Test would allow theoretically for maximally 4000 matches, but for all three groups the number of matches varies only by 27. Possibly, variations on level I, II or V among the groups might be correlated with different degrees in cognitive complexity.

The experimental hypotheses concerning permeability were substantially confirmed. Although, the direction of the difference between the obsessive and the impulsive style is as predicted, it does not reach statistical significance. There is a possibility, however, that this lack of statistical significance might be a function of the small sample for the obsessive style.

What are the implications of these findings on permeability and how are they congruent with styles of adaptation as conceptualized by Shapiro? In the case of the obsessive person, the lack of a relationship between low permeability and the degree of cognitive complexity is remarkable. It was predicted that the obsessive person would be cognitively more complex than persons of any of the other styles. It was expected that the obsessive's lack of permeability would be compensated by a higher level of cognitive complexity. In view of the results, this assumption does not appear to be warranted. Apparently, this assumption was too rational, namely that if the obsessive's constructs cover such extremely small conceptual area he would use more constructs to compensate and thus be able to include the total in his cognition. Perhaps, an analogy from printing pictures can illustrate this point. The picture is broken down into dots of different sizes in accordance with the dark and light effect as

required by the total picture. Of course, such a picture can be printed with many or few dots, fine or rough grained. If a single dot would represent a construct that is a part of an individual's total view of the world, it appears that the obsessive does not compensate by increasing the number of dots. That is, according to this analogy the obsessive does not compensate the low permeability of his constructs with increased cognitive complexity. The result is a lack of integration in his cognitive functioning. He would appear to focus so intensely but without compensation by means of increasing the number of constructs being focussed upon that whole patches of the total picture are missing. The concomitant unclarity may frustrate the need for prediction of obsessives. Therefore, some of them may resort to dogmatic and opinionated behavior possibly more designed to convince themselves than their social surroundings that they can explain and control things. Shapiro (1965) discusses at some length this "intense sharp focus" (p.27) and "lack of free mobility of attention, and a flexible cognitive mode" (p. 28). Shapiro (pp. 24-25) gives apt illustrations of this cognitive characteristic of persons with the obsessive style. In effect, not low permeability per se is associated with cognitive rigidity, but a concomitant absence of compensation through increase of cognitive complexity.

A person with the impulsive style uses constructs whose degree of permeability lies between the extremes of the obsessive and the hysteric person. While both the hysteric and the obsessive show permeability in a very different direction, they nevertheless give evidence of some form of cognitive rigidity. In the case of the person with the impulsive style, however, the range of applicability of the constructs (permeability) makes for flexibility. Shapiro (1965, p.152) comments on the flexibility of the impulsive and "their quick impression or 'sizing up' of just those aspects of a situation that are pertinent to their most immediate personal interests, (and) may function with a certain effectiveness". Furthermore, Shapiro (1965, p.153) emphasizes the impulsive person's "sensitive awareness". Constructs with a flexible range of applicability are most congruent with such sensitivity. Based on the results it is evident that the constructs of the impulsive person are significantly less permeable than those of the hysteric, but not as predicted significantly more permeable than those of the obsessive.

Despite the correction of unequal samples, necessary because of the small size of the obsessive group, the possibility remains that a significant difference between the impulsives and obsessives will be demonstrated once a more satisfactory sample of obsessives is found. Such a

finding would be important inasmuch as it could support the concept that there exists a continual increase in permeability from the obsessive over the impulsive to the hysteric style with significant differences between each of these three groups. The present findings on permeability indicate that the hysteric uses significantly more permeable constructs than either the impulsives and the obsessive persons; but the significance level for the difference between the impulsives and the obsessives falls just short of the conventional margin. Therefore, the concept of a successive increase in permeability cannot be accepted as yet.

Because of the substantial correlations for the permeability - impermeability, propositionality - preemption dimensions the two respective measures were combined into a single index for each dimension. It was reasoned that such an index would conform closer to Kelly's assumption of an unitary dimension, and might be also of value in clinical work. Yet, the combining of scores made the index far less sensitive to differences so that in its present form its usefulness is questionable. Possibly, by establishing more stringent cut-off points for the measures of the relevant formal characteristics is a fruitful future direction of research.

As the statistical analysis indicates, the hypothesized analogy of the abstract-concrete dimension with the attitude-behavior-fact dimension was confirmed when obsessives are compared with the other two styles of adaptation. In other words, persons with the obsessive style used significantly more abstract constructs than either the hysterics or the impulsives. This finding is consonant with Shapiro's (1965) description. He emphasized that the obsessive person uses principles, logic, rules - moral or otherwise - to determine the "right" choice. Therefore, it was inferred that such a mode of being in the world requires a predominant use of abstract constructs, an assumption which was confirmed.

Although both the impulsives and the hysterics differ significantly from the obsessives in their use of "attitude" (i.e. abstractions) as constructs, impulsives and hysterics did not differ from each other on this variable. The description of "behavior" was seen as the intermediate level of the abstract-concrete dimension. Therefore, the fact that their variable revealed no significant differences between the three styles of adaptation is not surprising, but conforms to the expectations. The description of "facts" was seen as the use of the most concrete constructs and it was hypothesized that hysterics would score highest and obsessives the lowest. However, the findings differ from this expectation. The hypothesis that obsessives score lowest

on the use of "facts" as constructs was confirmed, but impulsives instead of hysterics used the most "facts".

In describing styles of adaptation, Shapiro (1965) points out that the hysteric lacks an abstract, analytical approach. Yet, this lack does not necessarily lead to a high degree of concreteness; it may lead to global impressions instead. Conceivably, it is the impulsive person with his extreme narcissism and subjectivity, his aim at quick satisfaction of his concrete wants, who might actually use the most concrete constructs. When describing the impulsive Shapiro points out that: "His awareness and his interest were probably limited essentially to what was immediately relevant to his own current requirements...." (p. 153). Therefore, although contrary to the hypotheses it may well be that the impulsive uses the most and the obsessive the fewest concrete constructs. Concerning abstract constructs, the obsessives use the most, and both the impulsives and the hysterics the fewest.

The number of repetitions of constructs were expected to be related to cognitive complexity. This expectation was based on the type of measures used. The measure of cognitive complexity depended on the number of constructs used. When repetitions were assessed it was done so purely on the basis of identical names of constructs. It was reasoned that as

more repetitions occur, fewer constructs are used. For example, theoretically, with space for twenty sortings provided, a S could use the same name for a construct for all twenty and thus in effect use only one construct. As predicted, obsessives use the fewest repetitions when compared to impulsives and hysterics. But against expectations, there was no significant difference between persons with the hysteric and impulsive styles. Whether this lack of difference between impulsive and hysteric persons is a reflection of a faulty hypothesis or due to chance can only be satisfactorily answered after replications have been established.

Self-references were expected to be an index of naivete and, therefore, most applicable to hysteric persons, least applicable to obsessives and impulsives. Yet, only five Ss used self-references, thus probably reflecting the higher degree of social sophistication of a college student population. Apparently, especially in the case of self-references the use of an extreme, near-clinical population might have shown some differences. Generally a profitable future direction of research might involve other populations than college students, as well as the probing of differential relevance of levels of awareness to the various characteristics of constructs.

Summarizing, six formal characteristics and five content characteristics of personal constructs have been investigated in relation to three styles of adaptation as conceptualized by Shapiro (1965). The expectations concerning the formal characteristic of permeability have been substantially confirmed. The results for the remaining formal characteristics have been inconclusive. The correlations between permeability and impermeability, as well as between propositionality and preemption were supportive of Kelly's (1955) assumption of unitary dimensions for permeability and preemption. Yet, the single indexes developed for these dimensions tended to "blunt" the differences between styles. The findings on content characteristics were interpreted along an abstract-concrete dimension. Possible promising future direction of research were seen in terms of a clinical population, and additional levels of awareness.

CHAPTER V

SUMMARY

The present study attempted to relate David Shapiro's (1965) work on cognitive styles to George Kelly's (1955) work on personal constructs. Shapiro's work is based on clinical experience while Kelly's is experimental in orientation. It was reasoned that to some extent the contributions of each are complementary. Several tentative hypotheses concerning the relationships between cognitive styles and characteristics of personal constructs were developed.

The respective cognitive styles were measured through the use of Leary's Interpersonal Diagnosis of Personality (1957), while the characteristics of constructs were assessed through the Role Repertory Test (Kelly, 1957). Personal constructs were classified into six formal and five content characteristics. The formal characteristics were permeability, impermeability, propositionality, pre-emption, cognitive complexity, and self-identification with contrast. The content characteristics were attitudes, behavior, facts, repetitions, and self-references. Thirty-nine undergraduate college students volunteered as experimental subjects.

Significant differences between cognitive styles were found and discussed for the formal characteristics of permeability, and propositionality, and the content characteristics of attitudes, facts, and repetitions. In addition, significant correlations were established and discussed between permeability and impermeability, as well as between propositionality and preemption, thus demonstrating Kelly's assumption that each of these two relationships refer to single dimensions.

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