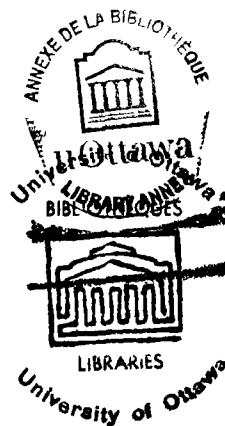


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CONSTRUCT VALIDITY OF RORSCHACH
ANIMAL AND POPULAR HYPOTHESES

by Paul de Lotbinière Harwood

Thesis presented to the Faculty
of Psychology of the University
of Ottawa in partial fulfillment
of the requirements for the
Degree of Master of Arts.



Ottawa, Ontario, 1973

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ACKNOWLEDGMENTS

This thesis was prepared under the supervision of Professor Gilles Chagnon, of the Faculty of Psychology, University of Ottawa. The writer gratefully acknowledges his advice and continual encouragement.

Appreciation is also fully expressed to Professor Charles McGinnis, Faculty of Psychology, University of Ottawa, and Mr. Russell Baker, for their technical assistance, and to Mr. Daniel Crocco, Mr. John Gillman, and Mr. John Kozsan for their aid in obtaining subjects for the study.

CURRICULUM STUDIORUM

Paul de L. Harwood was born on August 17, 1946 in Montreal, Quebec. In 1967, he received the Bachelor of Arts degree in Biology-Chemistry (Pre-Medical) from Loyola College, Montreal. In 1968, he completed a qualifying year in Genetics at McGill University, Montreal, and in 1969, a qualifying year in Psychology at Loyola College, Montreal.

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INTRODUCTION

This study will explore the relation between operationally-defined and quantified levels of Rorschach animal and popular responses and scores on four attitude scales measuring social conformity and stereotyped thinking. This will be done in an effort to establish the construct validity of the Rorschach factors.

Since the introduction of the Rorschach technique, thousands of investigations have attempted to meet statistical criteria in defining the validity, especially construct validity of the many hypotheses linked to Rorschach scores. Many followers of Hermann Rorschach have elaborated their interpretations of their scores, including animal and popular responses. Recent studies have concluded that the vast preponderance of studies either do not support or only partially support construct validity of the major scores, although success has been relatively greater in terms of content scores.

Zubin has been foremost in evaluating Rorschach indices from a psychometric, "single factor" approach, as differing from the clinician's "configural" method. This study is inspired by such a viewpoint. It is the author's belief that such a method as Zubin's merits further attention and investigation, especially in the case of more easily definable and measurable responses such as animal and popular. As the

numerous inconclusive studies attest, the Rorschacher's dilemma has been the consistently varied criteria and sample characteristics, including methodological idiosyncracies such as scoring. Both quantitative and qualitative approaches have produced different results, often depending upon the theory of perception to which the investigator adheres.

On the other hand, quantitative, content-oriented methods of evaluating Rorschach construct validity appear to be attaining prominence, despite the fact that Zubin's exhaustive analysis has by no means been completely embraced by the psychological community.

The present study is a step in this direction, seeking to subject two Rorschach indices to a fairly rigorous analysis. It may be idealistic to consider that one study can solve what many others, varying in method, have failed to solve. But the author's intention is solely to clarify these elusive measures of behavior, using a relatively different set of criteria (attitude scales) within a hopefully more stringent statistical framework. Underlying this attempt is the understanding that conclusive findings can only be formulated in this area of research after a number of similar studies agree in their positive results. In this light, the many limitations and several arbitrary methods adopted in this study can only serve to highlight the need for broader, more controlled and intensive research.

The first chapter contains a review of the literature, used to develop and formulate the hypotheses to be tested in the present investigation. Rorschach validity and content approaches are discussed, leading to a discussion of the purposes of the study. The phenomena of social conformity and stereotyped thinking are elaborated upon before an analysis of research findings on the validity of animal and popular responses is presented. Chapter one concludes with a synopsis of research, evolving into a statement of the hypotheses to be tested.

Chapter two consists of a description of the sample employed, the tools used, the design and statistical analyses of results.

These results are then presented in chapter three and are interpreted primarily in relation to the theoretical framework, methodology and design of the study, with some reference to the theoretical implications of chapter one. Suggestions for future research in this as yet insoluble area conclude the final chapter.

CHAPTER I

REVIEW OF THE LITERATURE

In order to describe and delineate the specific field in which this research exploration into Rorschach validity belongs, some general theoretical considerations concerning the Rorschach will be outlined. In addition, content-oriented approaches and construct validity of the Rorschach will be elaborated upon. Following this line of discussion, the phenomenon of stereotypy will be reviewed, after which an appraisal of the reported findings of research most closely related to the validity of A% hypotheses will be considered specifically.

The second part of this investigation will comprise a review of the phenomenon of social conformity, followed by a consideration of research most closely approximating the construct validity of Rorschach P hypotheses.

A synopsis of the state of the problem in its present framework will then lead into the general preliminary hypotheses underlying this thesis.

1. Preliminary Theoretical Considerations.

It has long been recognized by workers in the field of psychodiagnostics that the Rorschach¹ can function as a clinical tool or as a psychometric instrument, the latter function usually reserved for research. There are two approaches to Rorschach interpretation concomitant with these functions: the global (molar, gestalt, holistic), usually associated with the first; and the molecular or atomistic, most often identified with the second. Typically, validation studies can be divided by means of this dichotomy: clinical validation, using clinical groups and qualitative judgments, and psychometric validation, using criterion tests within the framework of a quantitative analysis.

The approach taken in this study is one which, for research purposes, considers the Rorschach projective technique as a psychometric tool (although not a test), which is to be subjected only in part to an empirical validation process. The criticisms which apply to a molecular analysis of the Rorschach in the clinic have not seemed to apply equally to its use in research. The reasoning for this lies in part in the fact that no generally accepted method of Rorschach

¹ Hermann Rorschach, Psychodiagnostics, W. Morgenthaler, editor; translated by Paul Lemkau and Bernard Kronenberg, New York, Grune and Stratton, 1942, 226 p.

validation which is scientifically irreproachable has been found to date. An enduring controversy in Rorschach literature has concerned the alternative of devising an approach to validity which is unique to the Rorschach. That is, some workers, among them Beck,^{2,3,4} have stated that the standard validation techniques do not and cannot apply to this projective technique. Others, notably Zubin,⁵ have proposed modifications of the Rorschach, enabling accepted validation practices to be applied to it.

It is in line with Zubin's thinking that the present study is conceived. Besides the fact that this approach can be argued as theoretically defensible, a global psychometric analysis of Rorschach protocols, or even one in which all possible signs related to a certain hypothesis are integrated, is beyond the scope of the present paper. Time and economy primarily prevent this strategy, which is suggested by many

2 Samuel Beck, Rorschach's Test, New York, Grune and Stratton, Vol. I, Basic Processes, 1944, vii-223 p.

3 Ibid., Vol. II, A Variety of Personality Pictures. 1945, vii-402 p.

4 Ibid., Vol. III, Advances in Interpretation, 1952, vii-301 p.

5 Joseph Zubin, L. D. Eron, and F. Schumer, An Experimental Approach to Projective Techniques, New York, Wiley, 1965, xxi-645 p.

Rorschach workers, including Hertz.⁶

Whatever side one chooses, it becomes evident that the tenuous statistical or empirical validity of the Rorschach has often been dispensed with by clinicians. It is consequently generally known that the Rorschach "works" better in the clinic than in research. Here, it has been more often right than wrong, but possibly for the wrong reasons. Its use may have been perpetuated because, being "right" some of the time, this intermittent reinforcement has been stronger than the continuous reinforcement of inevitably successful diagnosis.

Many molecular validation attempts have neglected to take account of certain unique properties of the Rorschach, which may have accounted for the poor research picture it has presented. One of these properties is that the Rorschach, being primarily a technique to qualitatively uncover the underlying dynamics of the individual, to describe and understand him, rather than measure his personality, has its own unique frame of reference. Methodologically, this has generally been a sort of analogous reasoning of the type most often found in psychoanalytic theory. In this sense, each particular Rorschach score has its own theoretical rationale.

⁶ Marguerite Hertz, Personal correspondence with the author, letter dated October 6, 1971.

In this connection, Levy⁷ has distinguished between semantic and propositional levels of interpretation. The first of these refers to the coding of the responses into a scoring system, the second to the actual inferential processes which the clinician uses in assigning meaning to the scores, whether qualitatively or quantitatively. This level may be based on a perceptual or psychological rationale; i.e., some workers have preferred to base their predictions on the physical stimulus properties of the blots, while others have used a more intuitive approach, incorporating psychoanalytic theory within the framework of projection. It is this latter approach which leads to experiential, secondary or inferential hypotheses, and which is considered in the present investigation.

Another major qualification of the present research concerns its decidedly quantitative orientation. In attempting to validate various hypotheses underlying certain Rorschach responses, the numerical levels of these responses will be examined. This is an alternative to an approach which takes into account the form level, context, and symbolic significance of a Rorschach response, such as animal percepts. The controversy involved in this issue has culminated in a dilemma for the researcher which, although unfortunate insofar as it

7 Leon H. Levy, Psychological Interpretation, New York, Holt, Rinehart and Winston, 1963, 368 p.

has not reached a balanced resolution, does have its realistic bases.

It appears that neither a qualitative nor quantitative viewpoint has had universal application. In an excellent study, Potkay⁸ has borne out this conclusion. He found that the most accurate clinical usage of the Rorschach involved both approaches in conjunction with each other. Although he conceded that one approach may be differentially weighted over the other, in clinical usage, "The task of determining the specific nature of such a weighting [...] to date has been an impossible one".⁹ Furthermore, "Separation encourages an approach to interpretation which is unrepresentative of actual Rorschach practice, while inclusion of both data forms results in contamination".¹⁰

Yet Potkay reiterated a traditional stand on this problem:

Currently in question is the function of "traditional" objective scoring, along with "traditional" assumptions as to how such quantitative data is put to use. Reliance on a strictly objective Rorschach approach to interpretation frequently has resulted in outcomes which have been disappointing.¹¹

8 Charles R. Potkay, The Rorschach Clinician, New York, Grune and Stratton, 1971, v-223 p.

9 Ibid., p. 27.

10 Ibid., p. 27-28.

11 Ibid., p. 28.

Up to this point, the use of the Rorschach with the individual subject in the clinic has been considered. Potkay's view is that here the influence of the Rorschach clinician, which is more important than the instrument, is ignored, especially with a quantitative approach. However, the situation is different in a research framework involving normative methods. Here, the choice is made more easily, as the researcher is often dealing with quantitative comparisons of test scores with a large sample. Accordingly, the influence of the clinician here may be relatively less important. The time and effort involved in using both data forms on a large population is prohibitive within the research situation, even if only one Rorschach factor is analyzed. Potkay conceded this generally accepted viewpoint: "Quantitative scores lend themselves more naturally to the experimenter's methodological goals of maximum definition and control of the variables he selects."¹²

Thus, it appears that if one data form is used, conclusions must be qualified and generalizations are limited. This is built into a methodology governed by necessity. Quantitative scores should primarily serve in a secondary, supportive capacity, as a means of checking out tentative clinical hypotheses. Hence, if some degree of validity is found

12 C. R. Potkay, Op. Cit., p. 80.

in the present study, this may not necessarily mean that the indices are to be considered definitive in any global interpretative sense.

A final view is that the quantitative framework "[...] may prove more successful for some clinical questions than others".¹³ Can it be, therefore, that the validity of the meanings attached to high levels of animal and popular responses may be more viably analyzed by comparing quantitative levels? Certainly, the relative lack of a clear perceptual rationale behind these two indices has predisposed the researcher towards an affirmative reply. At the very least, the choice of approach towards validating the behavioral constructs associated with A% and P% has been determined by the given researcher's orientation.

The present study, then, will relate to the quantitative alternative and, of necessity, embrace the limitations and shortcomings emanating thereof.

A. The Importance of Content.

The content dimension has thus far been one of the underdeveloped areas of Rorschach research, and has only figured minimally in the total interpretative activity stimulated by the instrument. Yet, some workers have realized

13 C. R. Potkay, Op. Cit., p. 81.

its importance:

If it can be assumed that the major content of the Rorschach test reflects the modes of responses to the most vital objects of the human behavioral environment everywhere, this in itself is a psychological fact of importance in relation to which variations, patterns, and qualitative differences in such responses should be of interpretative significance on a comparative basis.¹⁴

Rorschach content may be the only aspect of the instrument which has stability and relates consistently to outside criteria. The analysis of content has the advantage of being easy to score, in addition to being far more objectively scored than the formal categories, or determinants. Phillips and Smith have gone as far as stating that "Content analysis is no different from the analysis of any other Rorschach factor; on the basis of normative data on the content he develops, the subject is ordered to a behavioral group".¹⁵

Content involves a far more limited number of attitudes, and may be said to involve less of the more substantial personality dynamics. Thus, it has been relatively devalued even by Rorschach and neglected by his followers. However, whether or not the personality correlates of

14 A. Irving Hallowell, "The Rorschach Technique in Personality and Culture Studies", in B. Klopfer, et al., Developments in the Rorschach Technique, Vol. II, Fields of Application, New York, World Book, 1956, p. 495.

15 L. Phillips and J. Smith, Rorschach Interpretation: Advanced Technique, New York, Grune and Stratton, 1953, p. 109.

Rorschach content are expressed behaviorally depends on the individual's level of social adjustment, awareness of conflict, and so on. And this is gleaned from the various non-contentual aspects of the Rorschach. Thus, suggested Phillips and Smith, "[...] the absence of any direct relationship between content and overt behavior may very well have been the reason for Rorschach's emphasis on formal factors and for the (consequent) noncontentual tradition in Rorschach analysis".¹⁶ Yet others have suggested that "[...] one can utilize a content approach to the inkblot test and still be consistent with Rorschach's most basic views concerning apperception".¹⁷ The contention has been that

Following Rorschach's view of perception, the position taken is that past experience determines in part an individual's present interpretative proclivity, and that certain personality types will report certain contents in common when asked to view an amorphous inkblot stimulus.¹⁸

This rationale has been the basis for many contentual Rorschach investigations, and will serve in this capacity for the present study.

16 L. Phillips and J. Smith, Op. Cit., p. 113.

17 J. F. Rychlak and D. Guinouard, "Rorschach Content, Personality and Popularity", in the Journal of Projective Techniques, Vol. 24, 1960, p. 322.

18 Ibid., p. 323.

Interpretatively, the analytic system used with content has been considered as

[...] the most primitive of the whole test. [...] For the most part, the interpretations made of content scores are fairly elementary and similar to those that would be made if under other circumstances the individual seemed to be overly concerned with one type of object or event to the relative exclusion of others [...]¹⁹

There has been no analytic system to which content material is submitted prior to interpretation. Many authors have proposed various systems of content scoring which have been simply attempts at systematization of interpretations. Certainly, there does not seem to have been any well developed perceptual rationale for content interpretations, as in the case of determinants. Quantitative analysis has usually sufficed, although some workers, using a psychoanalytic rationale, have used qualitative, symbolic analyses.

Levy again has contended that

Many content interpretations are quite involved and ingenious, clearly reflecting the theoretical biases of the interpreter, yet aside from the differences in language used, these do not rely on any principles of interpretation unique to the Rorschach.²⁰

In the clinic, it seems that maximum accuracy in interpretation has depended on the joint usage of determinant and content categories, both qualitatively and quantitatively.

19 Leon H. Levy, Op. Cit., p. 222.

20 Ibid., p. 224.

The understanding of content has been linked with comprehension of determinants, and vice versa. Within the research framework, however, there may be purposeful qualifications. To quote Shapiro, "[...] perfectly legitimate differences of interest, natural inclination or background will tend to cause each [investigator] to give more weight to one side than to the other".²¹

The point is that all aspects of the Rorschach method need continuing validation, and the indices chosen and methods used may often be said to reflect the theoretical orientation of the researcher.

B. Rorschach Validity.

Many eminent psychologists have, for some time, called for an urgent review of the clinical aspects of objectivity and validity on the Rorschach. Some have rectified its present precarious position by inventing more objective alternatives, for example, the Holtzman Inkblot Test.²² However, the vast literature on Rorschach validation should not be permitted to be laid aside, despite its often ambiguous

21 D. Shapiro, "The Integration of Determinants and Content in Rorschach Interpretation", in the Journal of Projective Techniques, Vol. 23, 1959, p. 368.

22 W. H. Holtzman, et al., Inkblot Perception and Personality: Holtzman Inkblot Technique, Austin, Texas, University of Texas Press, 1961, v-417 p.

state. The interpretations, which have sometimes been symbolic and analogy-based in nature, must be submitted to constant checking by complex, well-planned studies.

It has been suggested that

[...] reasons for past Rorschach validation failures may lie less with the Rorschach and more with ambiguities present in experimental situations related to (a) defining the question (b) specifying the criteria (c) selecting the Rorschach variables, and (d) applying the technique.²³

Another viewpoint which has been often voiced is that projective techniques, including the Rorschach, are not personality "tests", i.e., do not have the same construction and function, and as such deserve radically different validation strategies.²⁴ The multiplicity of interdependent and inter-related variables has represented possibly the greatest challenge to the problem of Rorschach validation. And yet this challenge has been continually faced. To quote Klopfer,

The clinical psychologist may insist that the very fact that the Rorschach technique "works" (that it is helpful) is a testimonial of validity. On the contrary, the fact that the method has seemed helpful enough to gain such widespread use should point to the value of extensive validation research to ascertain how it "works" as well as it does, what its errors and limitations are, and generally to refine and improve it as a tool.²⁵

23 C. R. Potkay, Op. Cit., p. 82.

24 B. Klopfer, et al., Developments in the Rorschach Technique, Vol. I, Technique and Theory, New York, World Book, 1954, p. 409.

25 Ibid., p. 407 (present author's underlining).

Over four thousand studies to date testify to the value of validation attempts at the very least.²⁶ But among the many pitfalls involved in these attempts, one finds the following to have been most prevalent:

The research author states an oversimplified or incomplete interpretative hypothesis, tests it out, finds it oversimplified or incomplete, and proceeds to restate it in much the same terms as had been used all along in clinical work. Thus the research, instead of indicating the invalidity of the hypotheses in question, in fact is a testimonial to their validity.²⁷

Ideally, as was contended by Cronbach and Meehl,²⁸ each increased correspondence between a Rorschach sign and its criteria supports its rationale further. Other constructs are interlaced at other levels, including the behavioral, and specific inference-making chains in the system are brought forth.

For example, to say that an individual conforms excessively, perhaps as an interpretative correlate of many popular responses on the Rorschach, is of little value until we know how this will manifest itself, whether in the expression of verbal or other modes. This luxury may be tolerated in construct validity research; for purposes of testing a

26 Oscar K. Buros, editor, Personality Tests and Reviews, Highland Park, New Jersey, The Gryphon Press, 1971, 1690 p.

27 B. Klopfer, Op. Cit., p. 424.

28 Lee J. Cronbach and Paul E. Meehl, "Construct Validity in Psychological Tests", in the Psychological Bulletin, Vol. 52, 1955, p. 281-302; and in M. Hirt, editor, Rorschach Science, Readings in Theory and Method, New York, The Free Press of Glencoe, 1962, p. 264-292.

construct, it is often sufficient to treat all these referents as equal manifestations of social conformity.

Perhaps the most relevant and appropriate type of validity used in Rorschach investigations has been construct or trait validity. The construct in this framework has been a given Rorschach interpretative hypothesis, in which "theory", if any, has been limited to indicating a hypothetical trait or personality dimension. The pattern of this branch of research has followed that outlined by Anastasi.²⁹ Usually, there is a new test which may be regarded at best as an approximation, wholly or in part, of an earlier, more objective test. The "new" test, (representable by the Rorschach), purports to be a shorter or simpler or more accurate substitute for the old; otherwise, its use is indefensible. Correlations computed on group data should be moderately high, although not too high, as the researcher in this case is left with a test which is too similar to the old to replace it.

In this sense, research has been done comparing classical psychometric instruments of personality evaluation with a supposedly new projective tool - at least, in the clinical framework. The aim has been to demonstrate the construct validity of interpretative hypotheses.

²⁹ Anne Anastasi, Psychological Testing, third edition, London, Macmillan, 1968, p. 110.

As the present study will attempt a similar objective, with a similar theoretical rationale, the authoritative remarks on this type of validity by Cronbach and Meehl are highly relevant. Construct validation is involved "[...] whenever a test is to be interpreted as a measure of some attribute or quality which is not 'operationally defined'".³⁰ It is defined more by the orientation of the researcher than by the methods employed, as correlations can be used to derive any type of validity coefficient. Furthermore,

When an investigator believes that no criterion available to him is fully valid, he perforce becomes interested in construct validity, because this is the only way to avoid the "infinite frustration" of relating every criterion to some more ultimate standard.³¹

In addition, "Construct validity must be investigated whenever no criterion or universe of content is accepted as entirely adequate to define the quality to be measured".³²

The concept of an adequate criterion, as will be carefully discussed later, has been the subject of much criticism of Rorschach validation. It is the central axis around which successful validation revolves. No a priori defining criterion is usually available as a perfect measure or defining operation against which to check the fallible test

30 L. J. Cronbach and P. E. Meehl, Op. Cit., p. 265.

31 Ibid., p. 266.

32 Ibid., p. 266.

construct(s). Instead, the validator seeks out some independent way of getting at the "same" trait, for example, specially-designed ratings, etc.

Validation, when it occurs, is symmetrical and equalitarian. The presumptive validity of both measures is increased by agreement. [...] the validating measure is selected or devised on the joint criteria of independence of method and relevance to the trait.³³

In some cases, the criterion often has been no more valid than the test, for example, ratings on the constructs by psychologists acting as judges. Indeed,

The psychologist interested in construct validity for clinical devices is concerned with making an estimate of a hypothetical internal process, factor, system, structure, or state and cannot expect to find a clear unitary behavioral criterion. An attempt to identify any one criterion measure or any composite as the criterion aimed at is, however, usually unwarranted.³⁴

In any case, a claim that a test or test construct measures anything over and above its criterion is speculative at best. Thus, it behooves the researcher to accumulate evidence from many different sources, in order to build up adequate construct validity. Criteria may not be adequate, even if significant correlations are obtained; however, lack of

³³ Donald T. Campbell, "Recommendations for APA Test Standards Regarding Construct, Trait or Discriminant Validity", in the American Psychologist, Vol. 15, 1960, p. 548 (present author's underlining).

³⁴ American Psychological Association, Committee on Psychological Tests, Technical Recommendations for Psychological Tests and Diagnostic Techniques, Washington, D.C., A.P.A., 1954, and in the Psychological Bulletin Supplement, Vol. 51, No. 2, 1954, p. 138, p. 14-15.

significance is construed as placing the burden of blame on the criteria.

Aside from defects in choice of criteria, many Rorschach studies have failed to realize the full rationale for construct validity. This includes situations where "[...] the construct is highly systematized or loose, used in ramified theory or a few simple propositions or probability statements".³⁵ The meanings attached to given test constructs should generate specific testable hypotheses. Constructs are related to other constructs, and finally to observables. The construct is at best adopted in the end, never demonstrated to be "correct". According to Cronbach and Meehl,

The proper goals in reporting construct validity are to make clear (a) what interpretation is proposed, (b) how adequately the writer believes this interpretation is substantiated, and (c) what evidence and reasoning led him to this belief.³⁶

This involves stating what construct the writer has in mind and what meaning he gives to it. A summary of references to previous theoretical discussions may be adequate with a fairly well-established construct. Yet, the distinction between speculations, extrapolations, and unstable conclusions must be made - in general, between the construct and all other

35 L. J. Cronbach and P. E. Meehl, Op. Cit., p. 268.

36 Ibid., p. 284.

meanings previously given to it. This is especially important because of the chance that correlations for construct validity may possibly be the result of, or contaminated by, a third factor, the effect of which may have been mitigated had the third alternative interpretation been taken into account at the outset. Correlation does not imply direct causation, but external uncontrolled variables may always be involved in an indirect causal chain, which heightens the importance of the above-mentioned procedures. In line with this is the fact that "significant correlation" is not equivalent to "identity". Campbell³⁷ has mentioned this assumptive lapse, which can certainly be said to have occurred in many Rorschach investigations. If the criteria are tests with stated construct purity and validity, intersubstitutability of constructs, operations, etc., is usually implied. The glaring fault has been in inference sequences such as: A correlates with B, B with C, thus A equals C, when it may, in some instances, have been far more accurate to measure the last relationship directly. However, in this connection, it may be re-emphasized that all types of relevant criteria should be employed in construct validation - including criterion tests, and the criteria on which they have been validated. No criterion is alone definitive and sufficient;

37 D. T. Campbell, Op. Cit., p. 552.

there are degrees, which the investigator always tries to ultimately account for within the limitations of his design.

C. The Purpose of the Study.

The present study seeks to embody the previously-discussed principles and objectives. In the past, the evidence justifying the historical introduction of projectives was negative, i.e., based on the attested failure of structured devices, rather than based on evidence of superior validity. The theoretical significance of the present investigation lies in the fact that it will contribute to resolving the somewhat tenuous state of research concerning the construct validity of two Rorschach indices, through objective means. Behavior has been said to never occur by chance; this can include Rorschach behavior. To what extent is this true, in terms of other methods where chance is expressed numerically, and more stringently controlled?

The practical importance of the present attempt can be found in the rationale behind construct validation itself. If one indicator of behavior can be found to measure essentially what is operationally defined in other measures more economically and just as accurately, it follows that the latter measures need not be used. This holds especially if the first indicator - here, the Rorschach - is to be used in the clinic for a total personality picture, where the component

factors (A and P) are but a part of the assessment the clinician wishes to make. Thus, if the correlations are adequate (significant) enough to permit the valid use of the traditional interpretations of A% and P%, satisfying greater economy in addition, the importance of the project will have been justified. Even if negative results ensue (assuming the procedures are above criticism), the clinician will be served by viewing the negative balance of literature against A% and P%, and acting accordingly, i.e., using more objective indicators of social conformity and stereotyped thinking. The contention is that these personality traits can be very useful and important in evaluating certain subjects with particular syndromes of disorder.

The primary objective should be to obtain a statistically-supported statement of the validity of selected Rorschach constructs - animal and popular responses - through more scientifically-acceptable means. It has been remarked that "Just one finding contrary to expectation, based on sound research, is sufficient to wash a whole theoretical structure away".³⁸ In the literature to be reviewed, this would seem to have occurred frequently enough in the case of A and P responses. However, the phrase "sound research" is a key one. As has been mentioned, in many, perhaps most

38 L. J. Cronbach and P. E. Meehl, Op. Cit., p. 287.

cases, requirements for suitably accurate construct validation have been weak or lacking. Consequently, the wealth of non-significant studies in this area has to be evaluated from a broader perspective. Adequacy of criteria and specificity of constructs being validated appear to have been the most outstanding sources of deficiency. It follows that preliminary examination of the meanings attached to the perception of many animal and popular responses on the Rorschach would serve to portray, and perhaps clarify the ambiguous state of the literature surrounding these associations. (The sources presented in the following discussion are not generally in chronological order, as an attempt is made to separate and synthesize the various bodies of theory in this area.)

2. A%: Hypotheses and Rationale.

There has been, and continues to be, a lack of research interest in animal, or A responses on the Rorschach. This may have been due in part to the fact that the blots generally lend themselves to much A-perception. This content category is highly common, mundane, and appears so regularly and monotonously in protocols that it has often been dismissed as probably lacking in differential significance.³⁹ Yet

³⁹ Robert A. Ferguson, An Investigation of The Animal Response with Particular Reference to its Appearance on the Rorschach Inkblot Test, unpublished doctoral dissertation, University of Kentucky, 1951, v-138 p.

Goldfarb was of the opinion that

Certainly little has been done in the way of analyzing the psychological significance to the individual of the A responses in the Rorschach examination. This is strange inasmuch as A responses form the largest body of responses in most Rorschach records of both children and adults.⁴⁰

It is well-known that Rorschach himself placed relatively greater diagnostic importance on the formal categories of his perceptual experiment. The controversy still rages as to the degree of emphasis which content in general deserves. But in the case of A responses, Rorschach's tradition has been followed: far less emphasis exists in the literature.

Rorschach's brief interpretation of a preponderance of A percepts stems from a basic rationale which has been closely adhered to by the majority of workers. A responses are but a reflection of the subject's ability to perceive the most easily seen, obvious, stereotyped percepts stimulated by the blots. Thus, Rorschach spoke of an "[...] associative acceptance of animal engrams which exerts a stereotyping influence on the interpretations".⁴¹ His normative data included the following: artists, 10 - 20%; intelligent people, 20 - 35%; common people, 30 - 55%; dull people, 50 - 70%;

40 W. Goldfarb, "The Animal Symbol in the Rorschach Test and an Animal Association Test", in Rorschach Research Exchange, Vol. 9, 1945, p. 9.

41 H. Rorschach, Op. Cit., p. 62.

depressives, 60 - 80%; manic-euphoric people, 40 - 50%; debiles, 60 - 80%; imbeciles, 70 - 100%.⁴² Generally, the normal range was 25 - 50% A responses; A% above 50% was indicative of a paucity of associative (cognitive) material and restricted interests. "In consequence, the percent animal responses becomes the indicator of the tendency to produce stereotyped associations,"⁴³ and thus an indicator of stereotypy in the subject.

In one of the first definitive texts on Rorschach interpretation, Klopfer and Kelley stated:

The importance of A% is based on the fact that the animal kingdom, with its endless variety of forms and shapes, offers itself more readily as a concept than any other content area. [It] [...] is within the experience of virtually every subject. For this reason it has become customary to expect that a considerable percentage of the total number of responses of every subject will fall into the two categories of A and Ad. The extent to which this is the case thus gains a new interpretative significance. The more a subject is able to choose his concepts outside this most obvious area, the less likely he is to be confined to the obvious, the stereotyped, or a narrow range of interests.⁴⁴

Klopfer et al., in a later text, considered the optimum range to be 20 - 35%, and an A% above 50% as associated with low intellectual capacity or disturbed adjustment:

42 H. Rorschach, Op. Cit., p. 46.

43 Ibid., p. 62.

44 Bruno Klopfer and D. McG. Kelley, The Rorschach Technique. A Manual for a Projective Method of Personality Diagnosis, Yonkers-on-Hudson, New York, World Book, 1942, p. 214-215.

"The hypothesis is that this high an A% indicates a stereotyped view of the world that is, too narrow a range of interests."⁴⁵ A% was found to increase with age, and was elevated in hysteric, depressive, and schizophrenic subjects.

Beck viewed high A% as indicating a lack of ability "[...] to free the perceptual activity from this easiest kind of reaction".⁴⁶ Consequently, it is seen as an index of "[...] adaptivity, in the sense that the subject recognizes intellectually the common, mundane stimuli and events of existence. His mind easily follows these everyday channels".⁴⁷ In terms of norms, Beck cited the mean A% in his control group as 46.87%, with a standard deviation of 17.58%. High average intelligence subjects had approximately 30% A whereas low, 65% A. In addition, Beck contended that high A% uncovered the ego's defences in various ways:

A too cautious adaptation and thus a too fearful clinging to most familiar stimuli [...] raises this percentage. It may also show loss of spontaneity or dullness in responding to the events of one's world. [...] It is one of the most sensitive of the test's variables in shifting its quantity with the patient's emotional vicissitudes.⁴⁸

Low A% also showed that "[...] a nonadaptive inadequacy in

45 Bruno Klopfer et al., Vol. I, Op. Cit., p. 314.

46 Samuel Beck, Vol. II, Op. Cit., p. 15.

47 Ibid., p. 16.

48 Ibid., Vol. III, p. 24.

knowing one's environmental stimuli is at work. It means that the subject's mind is preoccupied with the very original. But the condition is going beyond the normal limits".⁴⁹ Thus, in the individual with superior intelligence, low A% "[...] tells of an originality spread out among diversified interests, such as are understood by others, and can be shared by them".⁵⁰

Beck was one of three authors who stressed the overlapping of hypotheses underlying A% and P%.⁵¹ He suggested that these are both indices of adaptive intellectual thinking at a peripheral level. Popular responses are an indication of the degree to which the subject knows the more common percepts of his field, the extent of sharing his community's broader ideas (see later). This may be prevented by stereotypy (high A%), or the individual may be prevented by his individuality (low A%). However, Beck contended that the P association was much more specific in its significance, whereas A% was supposedly a reflection of a broader, more general attitude. Protocols may contain low A%, high P% or low P%, high A%. This was taken to mean that those subjects whose perceptions were entirely liberated and least stereotyped

49 Samuel Beck, Vol. III, Op. Cit., p. 24.

50 Ibid., p. 24.

51 Including Allen and Rapaport. See p. 84-87.

"[...] can still be, and most often are, socially quite adaptive in their outward behavior".⁵²

Piotrowski understood Rorschach's interpretation of A% as meaning a lack of imagination, which applied equally for normal and abnormal subjects. He stated that "Imaginative, bright normals who feel well and happy produce 20 to 35 a%. The normal adult of average intelligence produces from 40 to 50 a%".⁵³ Piotrowski felt that A% "[...] increases when there is an unwillingness to exert oneself intellectually and a tendency to intellectual comfort either because of a neurosis or [...] a lack of training in intellectual discipline".⁵⁴

Schachtel, in a similar vein, saw the neurotically constricted Rorschach performance (which includes high A%), as

[...] the result of an attitude which restricted the testee to a superficial, rigidly controlled, or otherwise largely intellectual, often quite stereotyped approach. Such an attitude precludes a more meaningful perception of the blot, the full exercise of the testee's sensibilities, and his access to associations and images stemming from more central layers of his personality.⁵⁵

52 Samuel Beck, Vol. II, Op. Cit., p. 17.

53 Zygmunt Piotrowski, Perceptanalysis, New York, Macmillan, 1957, p. 341.

54 Ibid., p. 341.

55 Ernest G. Schachtel, Experiential Foundations of Rorschach's Test, New York, Basic Books, 1966, p. 56.

Accordingly, elevated A% seems to represent superficial perception and repressiveness, akin to what Rorschach called "stereotyped associations". This hypothesis refers to a predominance of this type of response, as opposed to a wider range of responses. Perseveration, on the other hand, is but another characteristic of the coartated record of the clinically rigid individual. Perseveration may mean that another response category (e.g. H) may be taking over the role of the general stereotypy indicator (A%).

In Bohm's analysis, Rorschach content may indicate various "stereotypies".⁵⁶ Perseveration is seen in terms of difficulty in shifting response set, while stereotypy is seen as a preference for a particular theme, evident in one content category (animal) and manifested in several responses throughout the protocol. "Stereotypy as such has nothing to do with true perseveration, i.e., with the recurrence of the same responses to different blots, nevertheless, a stereotypy may sometimes occur in combination with perseveration [...]".⁵⁷

Schachtel's rationale for interpreting high A%, and stereotyped associations in general, incorporated the early

⁵⁶ Ewald Bohm, A Textbook in Rorschach Test Diagnosis for Psychologists, Physicians, and Teachers, Translated by Anne G. Beck and Samuel J. Beck, New York, Grune and Stratton, 1959, p. 118.

⁵⁷ Ibid., p. 118.

dynamics of the testee as well as the Rorschach situation itself. In his view, the individual may have been stifled by, and yielded to

[...] the stereotyped approach of everyday conventional logic and practicality. This implies both a repression or crippling of, and alienation from, a large part of the person's sensory-motor, emotional, and intellectual capacities and potentialities and a loss of touch with and blindness toward many aspects of the world (other people, nature and the cultural universe). In terms of the Rorschach test situation this means that the inkblots will be perceived in a rather stereotyped, clichélike, and shallow fashion and that the associations stimulated by them do not range freely but tend to be confined to what is acceptable to everyday conventional logic and will fit into the schemata of the everyday, closed, conventional world in which the thus-crippled person happens to live, without awareness of the wider potentialities in himself or of the wider and deeper world which transcends his preconceived schemata. On the other hand, where there is little repressiveness, and where the border preventing the repressed from coming to awareness is not an impenetrable, rigid wall but is loose and permeable, the testee will be able to give free play to all his capacities in the encounter with the inkblot before him, thereby making available a wide range of possible perceptions and associations.⁵⁸

According to Phillips and Smith, the high A% individual "[...] tends to express conventional attitudes, leads a routine existence, accepts the mores for [sic] his group, lacks introspective tendencies, is not excessively concerned with the future and in general, is the 'average man' in his socioeconomic group".⁵⁹ The authors have acknowledged A% as

58 E. G. Schachtel, Op. Cit., p. 57.

59 L. Phillips and J. Smith, Op. Cit., p. 115.

an index of stereotypy and posited an inverse relationship with M responses. However A% was viewed as signifying other factors. Among these are guardedness, anxiety, poor insight into behavior, low social adjustment and immaturity. These traits may, of course, be causally related to stereotyped behavior. The normal range was considered to be 25 to 50%, and the authors stipulated two widely-accepted correlates of A%. These were intelligence and number of responses; as these factors increase, there is a corresponding decrease in A%.

The rationale given held equally for A and P responses. Stimulus-determined subjects perceive frequently-seen content; these types of content are usually cultural stereotypes, i.e., popular responses. Phillips and Smith pointed to an overlapping relationship between A and P interpretations.

Ferguson has observed that 52% of P responses are also A responses.⁶⁰ This may tend to support the above contention.

Rapaport has conceptualized each animal response as the result of an associative process working its way through the realm of the concept "animal life", in a search for a response.⁶¹ The final tabulation of the animal percentage

60 R. Ferguson, Op. Cit., p. 8.

61 David Rapaport et al., Diagnostic Psychological Testing, Chicago, Year Book Publishers, Vol. II, 1946, p. 104-105.

[...] becomes indicative of the wealth, availability and flexibility of conceptual realms from which the subject chooses his responses. Perseveration and stereotype of the content chosen are just as characteristic a formal property of the content as its singularity or extravagance. [...] This approach to the content of the subject's productions should strike us as neither arbitrary nor strange. In a conversation in everyday life, the variety and color of references introduced by a participant indicate how free he is in use of his experiences and ideas, or, to put it in psychological terms, the range and availability of the conceptual realms of ideas from which he can draw.⁶²

A% above 40% indicates "[...] monotony and colorlessness of the associative processes".⁶³

Thus, Rapaport conceived of A% in terms of the wealth or stereotypy, vagueness or specificity of the associative process, an insightful enlargement upon Rorschach's classic interpretation. A% is correlated with weak, banal associations, where "[...] the symmetry of the ink-blot is one of the crucial factors. [...] we experience the greatest variety of non-geometrical forms, which nevertheless have some symmetry, in the world of animal life".⁶⁴ Hence, being easiest to conceive, A responses indicate the least originality and activity of the associative processes. Consequently, "[...] when the psychological conditions in the subject prohibit complex articulating or integrating achievements, the most easily "seen"

62 David Rapaport, Op. Cit., p. 104-105.

63 Ibid., p. 295.

64 Ibid., p. 295.

content becomes the most prevalent".⁶⁵

Again, in Rapaport's rationale there is overlapping of explanations of A and P responses. Also, it has been observed that certain Rorschach cards elicit A responses differentially.⁶⁶ In order, these are: VIII, I, V, X, II, III, IV, VII. These saturations support the contention that A associations are the most easily seen. Consequently, Rapaport spoke of A% as showing "[...] the extent to which the subject is no longer actively digging into the inkblot, but is rather responding to its grossest articulation".⁶⁷ Furthermore, "Stereotypy here means that personal, self-expressive material is no longer delivered by the subejct; he is dependent upon the most obvious conventionalities or platitudes in any situation".⁶⁸

Rapaport was of the opinion that high A% occurs

[...] where rigidity, inhibition, and a general retardation of the associative processes are outstanding in an otherwise coherent picture. [Low A%] [...] in conditions characterized by flightiness, great ideational mobility, or extensive disorganization and incoherence of thinking.⁶⁹

65 David Rapaport, Op. Cit., p. 295.

66 J. Sandler and B. Ackner, "Rorschach Content Analysis: An Experimental Investigation", in the British Journal of Medical Psychology, Vol. 24, 1951, p. 180-201.

67 D. Rapaport, Op. Cit., p. 295.

68 Ibid., p. 295.

69 Ibid., p. 305.

Finally, Rapaport presented the most detailed rationale yet for the interrelatedness of A and P hypotheses. He considered the subject's associative productivity as being on a continuum from one extreme of lacking all common sense considerations (low P%) to another of being completely dominated by ordinary triteness (high A%). This has tended to follow Beck's interpretation of protocols containing high A and low P%, and low A and high P%. In this sense then, "[...] both the animal and popular percentages indicate the extent to which the subject's productivity is conventional or variable, reflecting the wealth or shallowness of his personality".⁷⁰

Ferguson has cautioned against too strict an application of the stereotypy concept,⁷¹ on the basis that certain types of animal percepts seem to be more indicative of stereotypy than others, for example, bat versus rhinoceros. This caution is well accepted; however, it is within a qualitative, analytic framework, and as such is not directly relevant here.

Bochner and Halpern have made the same point, implying that A responses can be viewed qualitatively, quantitatively, and symbolically.⁷² High A% "[...] should not be

70 D. Rapaport, Op. Cit., p. 110.

71 R. Ferguson, Op. Cit., p. 105.

72 R. Bochner and F. Halpern, The Clinical Application of the Rorschach Test, second edition, New York, Grune and Stratton, 1945, p. 60-61.

expected in conjunction with creativity and originality of thought".⁷³ A% from 25 to 50% is normal; above this, the individual "[...] is considered stereotyped, the degree of stereotypy being in proportion to the excess of animal interpretations".⁷⁴ Below 25%, the subject's "[...] interests are quite variable, and his reactions will be unpredictable".⁷⁵

Again, the classic rationale has been employed:

Since the giving of an animal response requires little effort or originality, an excess of this type of interpretation will appear in those who for one reason or another are inclined to sterotypy [sic]. By stereotypy is meant a routinization or sameness of thought.⁷⁶

Bochner and Halpern were among the few writers who explored the nature of this phenomenon. A certain degree of stereotypy (moderate A%) was seen as essential for good daily performance; too much unrelatedness of ideas and variability of associations may be debilitating. Yet optimum variability (very low A%) may not be as useful for some activities or some personalities as for others; some demand low variability (high A%). Generally speaking, Bochner and Halpern have suggested that A% is linked with mental deficiency, neurosis, depression and anxiety, as this type of person cannot cope

73 R. Bochner and F. Halpern, Op. Cit., p. 41.

74 Ibid., p. 59.

75 Ibid., p. 60.

76 Ibid., p. 59.

with many and varied ideas, and tends to cling to sameness, the obvious and the familiar. Low A% occurs in imaginative and/or intelligent individuals, but may also "[...] stem from an unwillingness to conform and to accept routine[...]"⁷⁷ Here, overlapping relationships between A and P interpretations are implied, apparently just as loosely as in Rapaport's rationale.

Bohm has contended that A% is the general indicator of stereotypy and suggested that

This percentage shows how easy it is or how difficult for the person to free his associative processes from their dependence on a previously-established mental set. The lower the A percentage, the more mobile the thought processes; the higher [...] the more inert they are.⁷⁸

This mobility may be due to training, artistic endowment, or freedom from vocational biases. Among the causes for high A%, Bohm listed "[...] lack of intelligence, inertia, conventionality, a stiff adhesion to vocational thinking in persons of normal intelligence, [...] advanced age [...] depressive mood, anxiety, schizophrenic or organic deterioration".⁷⁹

77 R. Bochner and F. Halpern, Op. Cit., p. 60.

78 E. Bohm, Op. Cit., p. 80-81.

79 Ibid., p. 81.

Allen has contended that "The tendency to devote a great deal of energy to animal associations is one manifestation of intrapsychic sterility. It is as if the testee has become barren, constricted, and bereft of ideational diversity".⁸⁰ A responses are the easiest to have, offering "[...] a ready escape for the subject who feels threatened by stimuli having unacceptable portent".⁸¹ This explains high A% in retarded and brain-damaged persons. The cutoff percentage is 50%; however, "The absence of A concepts is not unhealthy since it underscores the testee's apparent freedom from rut-like banality".⁸²

Allen appears to have followed other workers by considering A% as "[...] the extent to which the individual is free from stereotypy in thinking".⁸³ It is an index of restriction in thought content, or wealth of association, with relatively higher freedom to turn to other than banal ideation. In addition, Allen supported a stimulus-oriented approach in considering the relatedness of A and P hypotheses; that is, he observed that of twenty-four Beck populars, ten are animal percepts.

80 R. M. Allen, Elements of Rorschach Interpretation, New York, International Universities Press, 1954, p. 150.

81 Ibid., p. 150.

82 Ibid., p. 151.

83 Ibid., p. 152.

Goldfarb was another researcher who subscribed to the common perceptual rationale underlying A responses:

Among animals may be found untold varieties of body shape and movement, which are found to be most quickly and obviously suitable to the perceptual demands of the ink blots. The size of the animal percentage is thus indicative of the extent to which the subject's intellectual reactions are limited to the simple, the obvious, and the stereotyped.⁸⁴

This line of reasoning was echoed in a somewhat poorly translated and largely incomprehensible paper by Kottenhoff:

Our time provides the healthy mind with a complexity of other things, human relations and technical devices; modern average man is human-centered and object-centered. The significance of Rorschach's score for animal apperception is, of course, both intellectual and temperamental. No simple evolutionary theory accounts for a "low animal percentage", taken as a representative sign for a person's power of imagination. Interest and motivation seem to be important variables which disturb any one-to-one correlation model.⁸⁵

Kottenhoff's study also seems to have supported evidence relating high A% to lower intelligence and increased depression. In the former case, this is due to a lack of "[...] engrammatic access to other imaginary varieties".⁸⁶ Positive correlations were also significant between A% and Spatial Reasoning, Neuroticism, and Extraversion (the latter two as defined by the Eysenck Personality Inventory). Kottenhoff suggested that these latter variables could be

⁸⁵ Heinrich Kottenhoff, "Reliability and Validity of the Animal Percentage in Rorschachs", in Acta Psychologica, Vol. 22, 1964, p. 387.

⁸⁶ Ibid., p. 394.

labelled as "[...] insecurity or immaturity of temperament".⁸⁷ A% was found to be low in subjects having "[...] flexible visu-perceptual ability [and] [...] apperceptive power".⁸⁸ A% is then said to measure a particular kind of intelligence, where "[...] stereotypical thought processes, immaturity of temperament or even lack of interest might all have their part [...]."⁸⁹

Murphy and Murphy have implied that the stereotypy supposedly measured by high A% is the result of consciously expressed emotional energy, involving will and learning.⁹⁰

Haan, however, stated that subjects who gave many A responses

[...] are generally characterized by coping functions and specifically by the cognitive mechanisms, objectivity, intellectuality, logical analysis, and by tolerance of ambiguity, empathy, free expressive coping, and suppression of impulse.⁹¹

Realizing the inconsistency this introduced into A interpretation, she continued

87 H. Kottenhoff, Op. Cit., p. 400.

88 Ibid., p. 400.

89 Ibid., p. 404.

90 Lois and Gardner Murphy, "Hermann Rorschach and Personality Research", p. 341-357, in Maria A. Rickers-Ovsiankina, Rorschach Psychology, New York, Wiley, 1965, p. 343.

91 Norma Haan, "An Investigation of the Relationship of Rorschach Scores, Patterns and Behaviors to Coping and Defense Mechanisms", in the Journal of Projective Techniques and Personality Assessment, Vol. 28, 1964, p. 435.

We would hazard a guess as to the meaning of these findings which are at variance with common expectancies; it is probably quite accurate and easy to give animal responses to the Rorschach blots [...].⁹²

Sarason viewed high A% as indicative of suggestibility, and while accepting the classical interpretation(s), conceded that there was little acceptable evidence to support them.⁹³ He cited the correlation between A and FM responses as meaning that these categories cannot have very different interpretative significance (which may be a rare concession to the importance of A responses).

Silveira listed the following mean A percentages found by several workers in the field: Beck, 43.65%; Bohm and Klopfer, less than 50%; Endara, 43 to 47%; Loosli-Usteri, 36 to 53% for 100 males, and 30 to 50% for 70 females. Silveira's mean A% was 36.8% +/- 3.9%.⁹⁴ Beck et al.⁹⁵ reported 46.45% with a standard deviation of 13.12%, where N = 157.

92 Norma Haan, Op. Cit., p. 435 (present author's underlining).

93 S. B. Sarason, The Clinical Interaction; With Special Reference to the Rorschach, New York, Harper and Brothers, 1954, p. 256, 257, 282.

94 Anibal Silveira, "Un indice pour la relation intellectuelle avec le monde extérieur", in the Sixth International Rorschach Congress, [date unknown; after 1964], p. 143, 144.

95 Samuel J. Beck, et al., "The Normal Personality as Projected in the Rorschach Test", in the Journal of Psychology, Vol. 30, October 1950, p. 269.

Neff and Glaser⁹⁶ found 44.8%, standard deviation 11.9%; Wedemeyer,⁹⁷ 53.346%. Cass and McReynolds,⁹⁸ Brockway et al.,⁹⁹ and other researchers (below) "[...] are in agreement in reporting popular means and/or medians in A% between 38 and 48".¹⁰⁰

Draguns, Haley and Phillips have thus far produced the most definitive, comprehensive and exhaustive compendium of content research to date. A summary of research studies resulted in the following correlates of high A%: depression, schizophrenia, alcoholism, stuttering, low therapeutic readiness, lower intelligence, adjustment, and superego strength, high anxiety; objective, intellectualizing and suppressing subjects, and restrictive TAT content. In addition, high A%

96 W. S. Neff and N. M. Glaser, "Normative Data on the Rorschach", in the Journal of Psychology, Vol. 37, 1954, p. 95-104.

97 Barbara Wedemeyer, "Rorschach Statistics on a Group of 136 Normal Men", in the Journal of Psychology, Vol. 37, 1954, p. 51-58.

98 W. A. Cass, Jr., and P. McReynolds, "A Contribution to Rorschach Norms", in the Journal of Consulting Psychology, Vol. 15, 1951, p. 178-183.

99 Ann L. Brockway et al., "Rorschach Concepts of Normality", in the Journal of Consulting Psychology, Vol. 18, 1954, p. 259-265.

100 Juris G. Draguns, et al., "Studies of Rorschach Content: A Review of the Research Literature, Part 1: Traditional Content Categories", in the Journal of Projective Techniques and Personality Assessment, Vol. 31, issue of February 1967, p. 4.

was produced during colder test atmospheres, and when the Rorschach was described as an intelligence test. Low A% is related to higher intelligence, socio-economic status, age, drug states, elation, hostile examiners, and is brought about by negative conditioning.

An overemphasis on A "[...] may bespeak an impairment of emotional foundations for the efficient utilization of intellectual resources".¹⁰¹ Furthermore, the impression that emerges is that of "[...] ineffectuality of high A scorers in demonstrating their intelligence in competitive social settings".¹⁰²

From a large body of studies, the synopsis presented by Draguns et al. takes the following form:

101 Juris G. Draguns, et al., Op. Cit., p. 16.

102 Ibid., p. 16.

[...] we infer that A% represents an index of some of the more mundane aspects of adaptive control and is akin to a measure of reality-testing in its more concrete sense. To elaborate, it would appear that A% provides us with some information on a person's current stand on the axis from autism to stereotypy. [...] an exclusive or prominent reliance on A is a characteristic shared by constricted normal, and impoverished psychotic patients. In a positive sense, high scores in this category bespeak the ability to react in a predictable and appropriate fashion to the routine aspects of the environment. On the negative side, high A% might be expected to go together with a resistance to change, and a potential for confusion and disruption in the case of variations in one's environment. Low scorers in A [...] appear to share the trait of looking at the world in a somewhat different, personal, and unusual way. In the light of these considerations, our interpretation of A% accords well with that suggested by several Rorschach experts who view this measure principally as an index of stereotypy.¹⁰³

The immediate value of A% "[...] is that of an indicator of a stylistic outlook toward the world which regulates the utilization of available intellectual resources and regulates the choice of one's defense mechanisms".¹⁰⁴ It may be said that A scorers lack "[...] an ability to go beyond the trite and the obvious and to participate actively in the necessarily ambiguous world of social interaction".¹⁰⁵

To summarize, it seems that the interpretation of A% as an index of stereotypy is the most valid, widely-used and basic explanation. Many researchers, although positing a

103 Juris G. Draguns, et al., Op. Cit., p. 23 (present author's underlining).

104 Ibid., p. 23.

105 Ibid., p. 23.

variety of secondary hypotheses, have, as in the case of Draguns et al., eventually come back to the main one proposed by Rorschach himself. That is, with high A% the research has dealt with stereotyped associations usually in the framework of a personality that reflects cognitive rigidity.

Consequently, any validity study must have as its criterion a similar index through which the degree of this stereotypy is assessed. However, nowhere in the Rorschach literature is a complete definition of the word given; stereotypy has always been defined descriptively and somewhat loosely.

Rapaport appears to have been the only Rorschach analyst to have explored the central meaning of A% in some detail. The meaning, rationale for, and characterization of this phenomenon as given by Rapaport constitutes the best frame of reference for analysis in this paper. Briefly, in speaking of the validity of Rorschach interpretation, he stated that "[...] the wealth or stereotypy of the subject's responses corresponds to the wealth or stereotypy of his everyday thinking".¹⁰⁶

With regard to A%, Rapaport asked: "What conceptual realms did the subject's associative processes pass through, and how specific or vague was the available associative

106 D. Rapaport, et al., Op. Cit., p. 294.

material?"¹⁰⁷ It was his contention that "The greater the limitation of conceptual realms available and the more general and non-specific the response, the stronger are the indications for stereotypy of thinking".¹⁰⁸

Stereotypy may result from native limitations of endowment, strong anxiety, extreme inhibition, compulsive rigidity or an all-pervading preoccupation. However, (and this will become important for the present investigation), "A normal adjustment which derives its stability and safety from clinging to convention and the obvious, may also restrict the range of associative material".¹⁰⁹

Stereotypy may only be considered a negative characteristic when it becomes excessive.

Where stereotypy is too low, it shows a lack of stability in thinking; it indicates that the obvious channels of communication in everyday life have lost their due significance for the subject. In other words, we cannot be receptive or productive of new and unusual ideas only; we often must use the stock of well-worn ideas we have, in order to cope with a situation and to be organized and oriented in receiving or producing new ideas. With increasing flightiness, this principle is thrown away; too few of the old systematized ideas are available, or at least the reliance and emphasis on them is gone.¹¹⁰

107 D. Rapaport, et al., Op. Cit., p. 294.

108 Ibid., p. 294.

109 Ibid., p. 294.

110 Ibid., p. 294.

In conclusion, before the adequacy of the criteria in this study can be discussed, and before a sufficiently accurate operational definition of what is measured by A% is possible, it appears likely that the phenomenon itself must be examined more precisely.¹¹¹

A. The Phenomenon of Stereotypy.

Stereotypy may be studied from three angles: as a noun, in two senses, "stereotype" and "stereotypy" (implying a process); and as an adjective, "stereotyped". Accordingly, each of these could be examined more closely.

Definitions of stereotype abound, especially in social psychology, and in connection with the phenomenon of prejudice. Allport has suggested that a stereotype is an image "[...] within a category invoked by the individual to justify either love-prejudice or hate-prejudice".¹¹² It is "[...] an exaggerated belief associated with a category".¹¹³ He considered the process which sustains the stereotype (stereotypy) as being "[...] selective perception and

¹¹¹ As in the previous section, the presentation is not chronological in order to isolate several similar lines of thinking in the development of this concept.

¹¹² Gordon Allport, The Nature of Prejudice, Cambridge, Addison-Wesley, 1954, Anchor Books' Edition, 1958, p. 184.

¹¹³ Ibid., p. 187.

selective forgetting".¹¹⁴

Kerr has defined a stereotype as "[...] a rigid mental set usually expressed in catch phrases [...] directed towards persons or situations about which the subject has only limited experience [...] they [...] do not develop but remain ossified".¹¹⁵ Prejudice is considered a constellation of stereotypes.

Mace has described the stereotype as an idea that is

[...] fixed when fixity is inappropriate, or appropriate on other than purely intellectual grounds. It implies most frequently fixity of ideas or invariability of responses in circumstances which call for plasticity and adaptability. Its application is thus to actions and ideas which tend toward fixity in partial disregard of adequacy or truth.¹¹⁶

He included among the characteristics of the process of stereotypy a certain proneness to hasty generalization and liability to fixations. The fixity of the intellectual content of the stereotype "[...] reflects the fixity of conative trends".¹¹⁷ In other words, the stereotype contains all the main elements of stereotyped cognitions; stereotypy is the

114 Gordon Allport, Op. Cit., p. 191.

115 Madeline Kerr, "An Experimental Investigation of National Stereotypes", in the Sociological Review, Vol. 45, 1943, p. 37.

116 C. A. Mace, "National Stereotypes, Their Nature and Function", in the Sociological Review, Vol. 35, No. 1, Jan.-Apr. 1943, p. 30.

117 Ibid., p. 33 (present author's underlining).

process whereby associations are organized stereotypically. Mace's point is well-taken and will be seen to play a central role in the present study.

Stereotypes

[...] reflect the residual impression of many observations. As such they are not intended as simple generalizations, but are, as it were, the qualitative analogies of statistical parameters. They serve in ordinary thought the function which in scientific thought is served by an average, a media [sic] or mode. Their chief limitation is that they do not carry with them a suitable appendage corresponding to a measure of dispersion.¹¹⁸

In addition, they are "[...] the concrete correlates, and accordingly symptoms, of distinctive attitudes, and their fixity is the reflection of the fixity of these attitudes".¹¹⁹

Mace suggested the opposite of stereotype to be "plastotype". He stated that

[...] the intellectual integrity and practical efficiency in a changing environment depend upon the maintenance of vitality in our plastotypes [...] [which] [...] affords the cognitive basis of practical and emotional adjustment in social relations.¹²⁰

In terms of the rationale for this investigation, the substance of the following remarks cannot be overestimated:

118 C. A. Mace, Op. Cit., p. 35.

119 Ibid., p. 36.

120 Ibid., p. 31 (present author's underlining).

Images, and ideas generally, are the complement of attitudes, of purposes, of conscious and unconscious tendencies. Ideas are the medium and material through which conative tendencies are differentiated, specified and defined. The plastotype is the appropriate medium for an adaptable and fluid motivational life. Stereotypes are the medium of instincts, fixation, canalization, and sentiments which have assumed a settled and a determinate course.¹²¹

These comments seem to link the meager definitions (of a cognitive nature) given by Rorschach with regard to the process of stereotypy, with the noun stereotype, somewhat poorly conceptualized in the psychology of his time.

Schroeder asserted that the adjective has been applied to a variety of psychological settings, but that the term "stereotype" has rarely been operationally defined, which has seriously impaired its utility. Social psychologists have defined it as "[...] invariant verbal response patterns".¹²² Various writers have used it in connection with prejudice to mean "[...] a highly standardized perception of all members of a class [...] of people; [...] subjective and uncritically held ideas about social groups".¹²³ Schroeder observed that the term has almost as many meanings as contexts, and "[...] has come to stand for all that is

121 C. A. Mace, Op. Cit., p. 31.

122 S. S. Schroeder, "Usage of Stereotypy as a Descriptive Term", in The Psychological Record, Vol. 20, 1970, p. 340.

123 Ibid., p. 339.

deficient in popular thinking".¹²⁴ He arrived at the following definition: "[...] repetitious, invariant acts or action sequences whose reinforcement contingencies are unspecified or are non-contingent and whose performance is considered to be related to pathology".¹²⁵

Bogardus¹²⁶ has listed the attributes of both the process of stereotypy, and its result, the social stereotype. Stereotyping was described as an easier mental process, calling for little thought, requiring no research, exacting no inhibitions and listening to no one. It is spontaneous, functioning quickly and blindly; it is a dogmatizing and generalizing process in terms of the object of its content. The individual who is stereotyping accepts the superficial, and through a common-sense procedure, passes judgment on appearances. A stereotype is rigid; its possessor holds it tenaciously. It serves as a defense mechanism, as it becomes fixed in feelings and sentiments. It may be bi-polar, and is usually applied to outgroups, as it connotes the functioning of prejudice. The individual's scope of judgment is artificially and spuriously enlarged, "[...] concerning the

124 S. S. Schroeder, Op. Cit., p. 339-340.

125 Ibid., p. 341.

126 Emory S. Bogardus, "Stereotypes Versus Sociotypes", in Sociology and Social Research, Vol. 34, March-April, 1950, p. 287-289.

correlation between characteristics not known to be correlated".¹²⁷ The pathology often attributed to stereotypy is mitigated by realistic considerations, i.e., most individuals are under constant pressure to make stereotyped judgments and act unsoundly. However, this "pathological" factor must be related to the level at which the process occurs in any given individual.

The phenomenon was seen by Katz and Braly as arising from a process whereby the individual who is prone to stereotypy defines first and observes later.¹²⁸ This results in a product called a social stereotype, "[...] a fixed impression which conforms very little to the facts it pretends to represent [...]".¹²⁹ The authors have made the point that racial prejudice is "[...] part of a general set of stereotypes of a high degree of consistence",¹³⁰ which implies rigorous perfection (via habituation) of the process underlying the final stereotype. In terms of stereotype definiteness, those concerning Jews and Negroes appeared as the most crystallized.

127 E. S. Bogardus, Op. Cit., p. 290.

128 D. Katz and K. W. Braly, "Verbal Stereotypes and Racial Prejudice", in E. E. Maccoby et al., Readings in Social Psychology, New York, Holt, 1958, p. 40-46.

129 Ibid., p. 41.

130 Ibid., p. 45.

Allport supported the contention that prejudice is not merely an attitude but a whole habit of thinking about the world one lives in.¹³¹ These habits of thought are rigid; the individual "[...] does not change his mental set easily, but persists in old ways of reasoning [...]".¹³² He considered prejudice as having two essential components: conforming attitudes and stereotyped beliefs.

By far the most comprehensive and coherent treatise on the psychology of stereotypy was that of Rosemary Gordon.¹³³ She used the term "stereotyped mental constructs", which is more closely akin to what Rorschach theorists have had in common in interpreting A%. This phrase connoted rigid constructs, resisting change, and tending to

[...] persist in their original form in the face of all demands for modification. [...] the external world is complex and it is dynamic, that is, in continuous movement; stereotyped content, however, is simple and it is rigid, that is, it is static.¹³⁴

Furthermore, "Stereotyped constructs may be said to be linked to and dependent upon the cognitive processes. For they form

131 Gordon Allport, Op. Cit., p. 171.

132 Ibid., p. 171.

133 Rosemary Gordon, "Stereotypy of Imagery and Belief as an Ego Defence", in the British Journal of Psychology, Monograph Supplement No. 34, Cambridge, England, Cambridge University Press, 1962, vi-96 p.

134 Ibid., p. 2.

part of the attempt to understand the external environment".¹³⁵

In reviewing the descriptions of several authors, Gordon concluded that a stereotype

[...] connotes above all a form of percept and image which 'precedes the use of reason' [...] and is [...] essentially the product of an individual psychological process which would operate independently of any need to accept the views or opinions current in the social group to which the individual belongs.¹³⁶

Furthermore, it is a purposeful attitude which "[...] serves the purpose of all but the most sophisticated and careful forms of thought. Where no thought but only emotion is involved, the stereotypes are infinite labour-savers".¹³⁷

However, Gordon was of the opinion that there is a good deal of confusion and vagueness in terms of a lack of differentiation of the various processes underlying the stereotype phenomenon. When considering a stereotype, there seems to be a slurring over of differences between percepts, image, concepts, attitudes, prejudices and beliefs, which, if looked upon as identical may lead to a spurious consistency.

On the first level, a distinction must be made between the individual stereotype and the social or group stereotype. The latter conception is the more common, referring to one's possession of a stereotype only by virtue of one's group

135 Rosemary Gordon, Op. Cit., p. 2.

136 Ibid., p. 5 (present author's underlining).

137 Ibid., p. 5 and 6.

belongingness, i.e., the majority of the group holds the stereotype. On the other hand, the stereotype may be seen as the individual's "personal mental construct". The nature of this construct has not been analyzed as yet, possibly

[...] because the analysis of cognition into distinct phases or systems has been thought to be unnecessary and irrelevant or else because the stereotype has been regarded as another kind of mental content or perhaps even as a superstructure which embraces all the others.¹³⁸

Nevertheless, the differences between individual and social stereotypes are very real, having been largely obscured possibly because both types betray "[...] the tendency to rigidity, change-resistance and repetitiveness".¹³⁹ The distribution of a percept occurs over many human units in the case of the social stereotype, and over time units with the personal stereotype. Gordon has cautioned against the indiscriminate use of both types interchangeably: "[...] one might subsume under the same heading a great many processes whose aetiology differs markedly one from the other".¹⁴⁰ Stereotyped group constructs, like those of the individual "[...] are likely to exhibit rigidity, change-resistance and a high emotional tone, though they have been produced by a somewhat

138 R. Gordon, Op. Cit., p. 10.

139 Ibid., p. 8.

140 Ibid., p. 17.

different set of factors".¹⁴¹ It was concluded that, although differences are in terms of genesis primarily, and to some extent locus, in the last resort, all stereotyped ideas "[...] reside in the individual and result from the activity of his mental processes".¹⁴² This dichotomy may simply be an ideal division, for the purpose of clarifying analysis. In reality, however, the distinction may "[...] be a matter of degree rather than of kind, and in any particular instance it may not be easy to determine immediately which of the two one is dealing with".¹⁴³

In any case, the present investigation does not deal directly with either individual or social stereotypes; it is rather concerned exclusively with stereotypy and the factors that describe it most clearly. As previously mentioned, distinctions can be made between stereotypy as a noun (two senses), verb, and adjective. As an adjective, "stereotyped thinking, cognition or thought processes" conveys a sense of "habitual tendency" within the personality. This tendency, most often functioning in the prejudiced personality, is characterized by the process of stereotypy. This process culminates, through repeated use, in an individual or social

141 R. Gordon, Op. Cit., p. 18.

142 Ibid., p. 18.

143 Ibid., p. 19.

stereotype, most often measured by scales or questionnaires used in social psychology. Reasoning in reverse,

[...] the discovery in an individual of stereotyped mental contents might be shown to be important in assessing and estimating the trait pattern, structure, and functioning of his personality with which research may have found them to be closely associated.¹⁴⁴

In simple terms, this essentially means that an individual with a high score on a given scale measuring agreement with stereotypes, can be assumed to operate cognitively by a process of stereotypy (stereotyped thinking, and all that this comprises).

It is the purpose of this research to consider solely the term "stereotypy" or the adjectival form, "stereotyped" (as does Gordon). This is a semantic re-orientation which clarifies communication and avoids "[...] the implication of facts and theories [...] which it is still the task of future researchers to demonstrate".¹⁴⁵ The general process of stereotypy encompasses hypotheses relating to stereotypes, and narrows the present field of endeavor. This may have been Rorschach's dilemma, as he did not elaborate upon the phenomenon, preferring to use the term only as referring to a cognitive process.

It is postulated that this process may be explained by an analogy. The manner in which an individual behaves

144 R. Gordon, Op. Cit., p. 17.

145 Ibid., p. 19.

perceptually (high Rorschach A%) is of necessity related to his cognitive behavior (i.e., "having a limited number of cognitions" being defined as stereotyped thinking). This may be reasoned as follows. The function of cognition is to reduce the world of impressions to an order based on the needs of the individual. "Perception [...] provides, it may be argued, the raw material for the development of other cognitive contents such as images, concepts, attitudes, beliefs, etc."¹⁴⁶ Perception is both a physical and psychological phenomenon, linked with cognition. The total personality enters into the perceptual situation, manifesting its presence or function by selection, omission, etc. (This is the classical tenet of Rorschach interpretation.) Gestalt laws of organization "[...] describe the relationship between the nature of the stimulus complex on the one hand, and the characteristics of the perceptual (thus cognitive) processes on the other".¹⁴⁷ Among these laws, that of closure, can be viewed as contributing to an understanding of the stereotypy process. There is an analogy between the reductive function of stereotyped cognition (for example, using routine approaches to problem-solving, racial discrimination, etc.) and the reductive purpose of perceptual closure, manifested by an

146 R. Gordon, Op. Cit., p. 11.

147 Ibid., p. 11.

individual on a physical task. "Closure" is here used in a loose, figurative sense, referring to the selection, via experiential or other factors, of one type of Rorschach content, animal responses.

The point is that routine perceptual behavior on the Rorschach, in terms of content type selected, can serve as the basis of inference for analyzing the perceiver's cognitive behavior. If the proper criteria of stereotyped cognitive behavior are chosen, the validity of the perceptual-cognitive connection can be studied. Using these criteria, the nature of the relationship between stereotypy in the Rorschach and in the real world, can be clarified, throwing some light on the validity of the Rorschach index (A responses).

The central problem that begins to emerge is the method of measuring the process of stereotypy. As argued above, this can be done by measuring the individual's stated degree of agreement with stereotypes. Stereotypy can be said to exist on a continuum, its position "[...] depending on the degree of intrapsychic disturbance".¹⁴⁸ At the high end, it may be inferred that stereotypy is distributed more widely over the various mental functions. This would be shown then (at least to some extent) in elevated scores in stereotypy questionnaires. The items on these scales can be considered to

148 R. Gordon, Op. Cit., p. 20.

measure beliefs toward a particular group of people especially.

The examination of belief more than that of any other function might reveal the extent to which those conditions associated with and favoring the development of stereotypy are present and the capacity of such stereotypy to impress itself upon the general behavior pattern.¹⁴⁹

This implies that stereotypy scales measure the level or degree at which the process is operating.

Gordon has stated:

[...] It is the retention of a mental construct over a period of time and in the face of change and exposure to novel experience which characterizes stereotypy. There is no reason why social stereotypes [...] should not become stereotyped mental contents for a certain number of individuals, on the contrary, since the form in which they are propagated corresponds so neatly to the character of mental contents resulting from the process of stereotypy, it would seem that stereotypes would lend themselves to stereotyping by the individual better than most other stimuli.¹⁵⁰

A thorough search of the literature has uncovered only one scale purporting to measure the process of stereotypy directly. This is the Belief Stereotypy Test,¹⁵¹ consisting of a set of answers which the subject is asked to check off. The construction and scoring of this test does not by any means approximate the necessary standards. It is mainly a research tool used in Gordon's monograph, containing at best

149 R. Gordon, Op. Cit., p. 50.

150 Ibid., p. 92 (present author's underlining).

151 Ibid., p. 75-79.

only face validity, and poor in comparison to other methods to be discussed later.

It seemed, therefore, that the writer must fall back to the relationship of stereotypy to prejudice: the latter is a correlative phenomenon of stereotypy, when stereotypy is considered as operating in the function of belief formation. Consequently, as the presence of stereotyped mental contents is likely to find a parallel in stereotyped forms of behavior, the test behavior of an individual (say, with regard to Negroes), shall be indicative of some degree of the process at work in the individual cognitive domain. Stereotypy, then, may be considered a measurable trait or function, insofar as its relation to prejudice is elicitable.

Of the many workers¹⁵² who have shown or implied a relationship between Anti-Semitism and stereotypy, Adorno et al.¹⁵³ are often considered to have explored this phenomenon most exhaustively. Others have attempted to elicit such a relationship, with various degrees of success, using Rorschach indicators of stereotypy, among these A%. The research to be discussed in this connection, however, underlines the fact

152 H. G. Gough, "Studies of Social Intolerance II. A Personality Scale for Anti-Semitism", in the Journal of Social Psychology, Vol. 33, No. 2, 1951, p. 247-255.

153 Theodor Adorno et al., The Authoritarian Personality, first edition, New York, Harper, 1950, xxxiii-990 p.

that the Rorschach indices were accepted a priori as valid ones. The illegitimacy of this approach is the raison d'être of the present project.

B. Validity Studies on A%.

There have been few indirect attempts to submit hypotheses attached to A% to either experimentation or non-experimental methods. But to date, almost no research has attempted to measure this validity directly.

Himelhoch¹⁵⁴ designed a study to relate attitudinal factors in prejudice with personality interpretations derived from seventy-five Rorschach signs, including A% and P%. Validation criteria used were extensive, comprising a battery of instruments including the Bogardus Social Distance Scale (Modified), Anti-Negro and Anti-Semitism Scales, California E and F Scale items, and three scales of the author's construction. Data from these criteria were obtained for one hundred and forty Jewish university students. Two groups, of twenty subjects each, were separated: high and low prejudice. The Group Rorschach Test was used to validate the California F Scale, the validity of the former being accepted

154 Jerome Himelhoch, "Tolerance and Personality Needs: A Study of the Liberalization of Ethnic Attitudes Among Minority Group College Students", in the American Sociological Review, Vol. 15, No. 1, Feb. 1950, p. 79-88.

a priori. t-tests were significant for fifteen of the seventy-five signs, excluding A% and P%. As the two samples were really at low and moderate levels of prejudice, a high prejudice sample of Nazi protocols was used for comparisons. (The legitimacy of this technique is open to question; at any rate non-significant differences were found.) The main weaknesses of this study appeared to be sampling: quality (Jewish subjects) and quantity (N was only forty subjects).

Perhaps the most comprehensive study of the phenomenon of rigidity was Fisher's monograph.¹⁵⁵ Aware of the fact that previous researchers had tended to measure rigidity in terms of very simple motor and perceptual factors, Fisher attempted to sample this construct at different levels of complexity and emotional involvement. It was assumed that there were distinctly different kinds of rigidity, which had in common the individual's inability to behaviorally utilize alternate modes of problem-solving responses. Fisher conceived of rigidity as affecting either perception of, subjective

155 Seymour Fisher, "Patterns of Personality Rigidity and Some of Their Determinants", in Psychological Monographs, Vol. 64, No. 1, Whole No. 307, issue of 1950, v-48 p.

reactions to, or overt behavioral reactions to situations.¹⁵⁶

However, he limited his field of endeavor to ten diverse but overt behavioral manifestations of rigidity, the scores on which were assigned arbitrary weightings. The author's purpose was to study the nature of rigidity, rather than its relationship to Rorschach measures. Selected Rorschach signs (based on Beck's scoring criteria) with assigned weights, were gathered into three groups: rigidity signs, maladjustment signs, and looseness signs. Among Rorschach rigidity signs was A%, three levels of which were assigned weighted scores: 60 - 70%, 71 - 80%, and 81 - 90%. Among the Rorschach maladjustment signs was number of P responses, categorized according to the number of responses (e.g., if P = 26 or more, less than 4 P was scored 5; less than 2 P, 8). In addition, A% greater than 60% was scored 3, less than 30%, 4. Fisher admitted the arbitrariness of

156 In the present investigation, the first type of rigidity is being considered in terms of "stereotyped cognitive processes". The "situation" in the present case is that of ethnic stereotypes (see later). Some researchers^{157,158} have postulated a relationship between generalized mental rigidity, which shows up on overt behavioral performances, and extreme social attitudes).

157 Milton Rokeach, "Generalized Mental Rigidity as a Factor in Ethnocentrism", in the Journal of Abnormal and Social Psychology, Vol. 43, 1948, p. 259-278.

158 L. D. Goodstein, "Intellectual Rigidity and Social Attitudes", in the Journal of Abnormal and Social Psychology, Vol. 48, 1953, p. 345-353.

these weights, stating that they were based on general clinical experience.

Sixty female subjects comprising three groups (normals, hysterics, and paranoids) were used. The normal group was composed of twenty-four females, ranging in age from 20 to 45 with a mean of 24 years. Of these, 9 were occupational therapy students, 5 student nurses, 2 student social workers, and 4 stenographers, all with a mean Wechsler-Bellevue I.Q. of 107.2.

Two of the ten rigidity criteria used deserve mention in the light of the present investigation. The first, "Trait Judgment", consisted of having each subject judge five traits on five series of pictures of persons, each series consisting of ten pictures. Fisher suggested that the "restrictiveness and criticalness of judgment" shown by the subjects would manifest rigidity trends. This measure of rigidity would seem to be theoretically compatible with the meaning assigned by Rorschach to high A%.

The second criterion, "Comparison of Self With Pictured Persons" involved the showing of thirty pictures to each subject and asking her whether or not she perceived that person as being like herself. A second series consisted of fourteen pictures of distinctly unpleasant females. The greater the total score (in series one, the number of pictures affirmed; in series two, weighted scores on a four-point

scale), the less rigidity was manifested. This criterion would appear to have some theoretical relevance to the meaning associated with a high degree of Rorschach popular responses.

Fisher evaluated his data from many complex angles; however, no mention was made of the possible significance of the parts of his Rorschach rigidity and maladjustment signs pertinent to the present analysis: A and P responses. Rather, correlations were computed in terms of total weighted scores on each of these groups of Rorschach signs. Only two of the ten rigidity criteria scores showed rho correlations of +0.40 and above with the total Rorschach rigidity score for the twenty-four normal females. Four of the criterion scores showed rho correlations of +0.40 and above with the total Rorschach maladjustment score for the same group.

It would be of paramount importance to ascertain whether the A and P components of the Rorschach scores were significantly correlated with any of the rigidity criteria scores, especially the two more relevant criteria discussed above. The closest Fisher came to this information was the relation of the total (criterion) rigidity score to the total Rorschach rigidity score. This tended to be moderately high: a rho correlation of +0.31, standard error +0.21.

Possible weaknesses of this otherwise extremely thorough study were the arbitrary weightings, and the small

sample which was also somewhat heterogeneous.

Frenkl-Brunswik and Sanford's investigation¹⁵⁹ furnished the main impetus for the present work. The authors attempted, in a style similar to that of Himelhoch, to validate an Anti-Semitism scale as part of a public opinion survey project. Quantitative data with Rorschach factors were obtained in order to ascertain the personal parameters of prejudice. Rorschach interpretations of A% and P% were accepted as valid. On the basis of these Rorschach indices for 33 introductory Psychology students (40 low, 19 high), the authors concluded that the anti-semitic personality contained elements of conventionality and stereotyped thinking. These contentions were presented as being "[...] quite tentative and based only on inspection, since an insufficient number of subjects were available at the time of writing to make a statistical analysis of the data worthwhile".¹⁶⁰

Although this appears to have been one of the few positive studies in the area, the lack of statistics and small sample size somewhat lessened its value. However, this may be compensated for by the numerous hypotheses which pointed the way for the present study.

159 Else Frenkl-Brunswik and R. Nevitt Sanford, "Some Personality Factors in Anti-Semitism", in Journal of Psychology, Vol. 20, 1945, p. 271 291.

160 Ibid., p. 284.

Concerning the three levels of prejudice the subjects displayed, Frenkl-Brunswik and Sanford wrote: "The lows exhibit [...] more direction by 'inner' rather than by 'outer' or conventional standards [...]"¹⁶¹ The middle group shared with the high the "[...] conventional moral standards and the sense for social stratification".¹⁶² The high group "[...] are overconformist; they adhere rigidly to the middle class values and are made anxious by the appearance, in themselves, or in others, of tendencies of an opposite character".¹⁶³

Essentially, the study by Frenkl-Brunswik and Sanford contained similar hypotheses, aims and methods as will be discussed in the present one. The rationale is similar up to a point: stereotypy on the Rorschach is related to the extent of stereotype agreement on prejudice scales; however, it is the Rorschach indices which are relatively more in question than the psychometric scales. Other methodological modifications, which prevent the present study from serving solely as a cross-validation will be discussed later.

Working from the same framework as Himelhoch, Frenkl-Brunswik and Sanford (i.e., assuming inherent validity of A%

161 E. Frenkl-Brunswik and R. N. Sanford, Op. Cit., p. 286.

162 Ibid., p. 288.

163 Ibid., p. 289.

and P%), Reichard¹⁶⁴ attempted to follow up the latter study. She used the responses of thirty college women on an unnamed prejudice scale to test the prediction that the high group would have a high number of A and P responses. Her t-test results were summarized as follows:

Some of our hypotheses as to what one might reasonably expect to find in the Rorschach were not, however, fulfilled. Prejudiced and unprejudiced subjects gave essentially the same mean number of popular responses, indicating no difference in degree of conformity to group thinking. [...] Despite the obvious stereotypy of their thinking, prejudiced subjects failed to show a significant trend to greater stereotypy in the Rorschach (A%).¹⁶⁵

The means for the prejudiced group were 4.8 P, 41.5% A; for the non-prejudiced group, 4.9 P and 38.5% A.

Although this study was hypothetically sound, methodological limitations (statistics, samples) may have left too much opportunity for speculation.

Three further studies operated on the basis of considering A% as a general measure of rigidity. The first, that of Zelen¹⁶⁶ was an experimental investigation in which a performance measure, the Rotter Level of Aspiration Board, was

164 Suzanne Reichard, "Rorschach Study of Prejudiced Personality", in the American Journal of Orthopsychiatry, Vol. 18, No. 2, 1948, p. 280-286.

165 Ibid., p. 285.

166 Seymour L. Zelen, "Behavioral Criteria and Rorschach Measures of Level of Aspiration and Rigidity, in the Journal of Personality, Vol. 23, No. 2, December 1954, p. 207-214.

used. Three criteria of behavioral rigidity on the Rotter were established: number of shifts, number of unusual shifts and responsiveness. No significant differences were found on data of sixteen college seniors between degree of A% (where A% above 50% was equivalent to rigidity) and behavioral rigidity. Partly as a result of the grossly insufficient sample size, statistics used were Spearman's rank-difference method and Snedecor's t-distribution of the independence of rho. But the main criticism seems to stem from the criterion of rigidity; it is questionable whether this measure adequately approximated Rorschach's conception of A%. The Rotter is a motor task, the validity of which is not adequate. The author recognized this shortcoming, but justifiably rationalized it:

One major problem in comparing Rorschach assumptions with operational tests is that they usually exist within different psychological frames of reference. This difficulty may be overcome if we use operational definitions.¹⁶⁷

He concluded that "[...] those measures like Stereotypy [...] which are derived by analogy (as are so many of the measures in projective techniques) agree least with the behavioral standards".¹⁶⁸ This may be because the Rorschach usually "measures" constructs on an implicit level, while behavioral

167 S. L. Zelen, Op. Cit., p. 207.

168 Ibid., p. 213.

criteria do so on a more explicit level. According to Zelen, it then follows that there may be different levels of rigidity.

Fabrikant¹⁶⁹ used as his validation criteria the degree to which Rorschach responses became more differentiated upon a second administration after a two week interval. Responses of 32 male psychoneurotic veterans were analyzed by the chi-square method. Of these, 17 were differentiated as rigid, 15 as non-rigid. Rorschach quantitative levels were P% over 30% and A% over 50%. Non-significant differences in the mean number of A and P responses were found between groups. Fabrikant was also unable to predict, on the basis of A and P levels, whether subjects would show changes in the second administration, measured in terms of change in M, color, and shading responses. He concluded that "The Rorschach factors used most frequently in the literature to evaluate rigidity and flexibility in an individual's personality are ineffective for this purpose".¹⁷⁰ Other factors may be, but research is needed.

It is noted that the results of this study should be qualified by the small, atypical sample, and by the highly specific yet vulnerable criteria of rigidity. Besides being

169 Benjamin Fabrikant, "Rigidity and Flexibility on the Rorschach", in the Journal of Clinical Psychology, Vol. 10, No. 3, 1954, p. 255-258.

170 Ibid., p. 258.

quite distant from the original concept of stereotypy that A% represents, it would appear that the criteria had loopholes for contaminating factors to enter, such as the time interval, reliability of the Rorschach, etc.

Johnson and Stern¹⁷¹ attempted to test a perceptual hypothesis that a subject responding to a set of stimuli in a rigid or flexible manner would do so in a similar manner to other stimuli, including the Rorschach. The criterion of perceptual rigidity or flexibility was the responses of subjects to intermittent photic stimulation, specifically in terms of categories of verbalizations to this stimulation, which were rated on a four point scale of confidence.

The authors postulated that rigidity in this situation would be on a level comparable to clinical rigidity, that is, dealing with the environment in an unusually guarded and stereotyped manner. This behavior was evaluated from the Rorschach in terms of Fisher's¹⁷² measure of personality rigidity, which was based on several Rorschach signs, including A and P responses.

The overall purpose of the study was to "[...] elicit new evidence that Rorschach responses reveal adaptive processes

171 Laverne C. Johnson and John A. Stern, "Rigidity on the Rorschach and Response to Intermittent Photic Stimulation", in the Journal of Consulting Psychology, Vol. 19, 1955, p. 311-317.

172 Seymour Fisher, Op. Cit.

which are not different in kind from those appearing in other situations".¹⁷³

Subjects were 117 male seminary students, ranging in age from 18 to 26, with a median of 20. Ratings made from photic stimulation responses, in order to group subjects as "rigid" or "flexible", reduced this number to 90, of whom 56 were rigid and 34 flexible.

Fisher's Rorschach rigidity score significantly differentiated between perceptually rigid and flexible groups ($p = .0001$). As all elements (Rorschach signs) in the Fisher score were not contributing equally to the total score, a simple plus or minus scoring procedure was utilized. When this was computed for A%, the percentage of the plus scores in the perceptually flexible group was 8.8%, rigid, 5.4%; the critical ratio was .51, which was not significant. As can be seen, the differences with regard to A% were not even in the expected direction.

Although this study utilized an adequate sample, with rigorous, although somewhat indirect scoring procedures, the criteria once again seemed to be far removed from Rorschach's conception of the meaning of high A%. The narrowness of the criterion of perceptual rigidity appeared to be the only limiting factor in a study which was otherwise methodologically

173 L. C. Johnson and J. A. Stern, Op. Cit., p. 312.

sound.

Wohl¹⁷⁴ attempted to measure the generality of the term "constriction" as used clinically, by performing inter-correlations between measures of this construct. Constriction on the Rorschach was viewed as an index comprising form responses, form level, number of responses, and A%. Constriction on the TAT was judged as short stories, measured as the mean number of words per card on six selected cards.

The subjects in the study were 31 undergraduates, of whom 21 were members of a sorority and 11 were male members of an athletic squad. A correlation of +0.34, significant at the .05 level, was found between the TAT criterion and the group of Rorschach signs mentioned above. No indication was given as to the possibility of the significance of A% alone.

However, if this was the case, the problem of the narrow and imprecise criteria (TAT verbalizations) would still have remained. In general, all studies using A% as a measure of rigidity or constriction rather than stereotyped thinking may be appreciated from this definitional viewpoint.

174 Julian Wohl, "A Note on the Generality of Constriction", in the Journal of Projective Techniques, Vol. 21, 1957, p. 410-413.

A similar project by Shatin,¹⁷⁵ with the same purposes and methods in mind, employed 90 subjects with various physical and psychological disorders. The median age of these male hospitalized patients at a general hospital was 29.5 years. The median Wechsler I.Q. for 68 subjects was 106.

Chi-square tests of independence were computed between Rorschach and TAT signs of constriction-dilation. A chi-square of 7.61 (significant at the .05 level) was found between A% (no quantitative level was given) and number of TAT pictures rejected, a high number being operationally indicative of constriction.

Besides the matter of the criterion quality, this study may have been vulnerable with regard to the sample used. It is disputable whether results from previous studies on A% can be compared to results from the type of (abnormal) subjects used in Shatin's attempt. In addition, the small sample limited its utility.

Belmont and Birch¹⁷⁶ have considered rigidity as a personality factor which is also influenced by situations. An individual will show rigidity in some problem-solving

175 Leo Shatin, "The Constriction-Dilation Dimension in Rorschach and TAT", in the Journal of Clinical Psychology, Vol. 14, 1958, p. 150-154.

176 Ira Belmont and Herbert G. Birch, "Personality and Situational Factors in the Production of Rigidity", in the Journal of General Psychology, Vol. 62, 1960, p. 3-17.

situations but not in others.¹⁷⁷ To test this hypothesis, four situations were used as criteria: the Luchins Water Jar Test of Einstellung Rigidity (twelve arithmetic problems); eleven Luchins Anagram problems; a Coin problem; and a (nine-dot) perceptual problem. Very specific and complex criteria were used to classify rigid and non-rigid behavior on these problems (a weighting system was employed with a critical cut-off score of 9). On the Group Rorschach, Klopfer's quantitative levels were used for A% and number of P responses, which were two of many Rorschach measures of rigidity.

Subjects used were 175 undergraduate psychology students, of whom there were 143 males and 32 females. Thirteen subjects were later dropped because of unclear data; 131 showed rigidity in all four situations.

Ten problem-solving criteria scores were compared for the Rorschach rigid (N = 16) and non-rigid (N = 16) groups. The rigid group reacted so in nine of ten criteria analyzed, and significantly more rigidly in one: the Arithmetic Break Problem. Essentially, problem nine of the twelve problems was considered a break at which point behavioral changes are permitted. This problem was analyzed in terms of time utilized

¹⁷⁷ Extrapolating, subjects with high A% may not have stereotyped thinking, but may show this type of rigidity in problem-solving situations. This contribution may be considered in the light of the outcome of the present study.

for solution in seconds. Subjects with high A% and number of P took significantly longer to arrive at a solution.

The authors concluded that

It appears then that the Rorschach method suggests the existence of a general factor contributing to rigidity in problem-solving behavior. However, this factor is apparently influential enough only to contribute a trend in functioning. It by no means is of sufficient effectiveness to overcome the effects of situational factors.¹⁷⁸

In addition, "This suggests that the Rorschach situation is congruent with a wider range of task situations than is any of the specific tasks".¹⁷⁹ Also, the Rorschach

[...] which is both an ambiguous and demanding situation shares these potential properties with all tasks and therefore provides information that permits good general prediction. Thus, the Rorschach generalization on rigidity does have relevance for general performance trends.¹⁸⁰

Criticisms of this study appear to be the extremely specific criterion, small sample, and apparent arbitrariness with which the ten performance tasks were selected. There was no mention as to whether this selection was random or with some principle in mind in relation to the Rorschach.

178 I. Belmont and H. G. Birch, Op. Cit., p. 14.

179 Ibid., p. 16.

180 Ibid., p. 16.

A final study by Claey's¹⁸¹ has some relevance to the hypotheses to be tested in this investigation (see later).

One of Claey's' suggestions was that conformists and independents differ significantly according to Rorschach indices suggested by Klopfer. His criteria of conformity was one of the few experimental methods used in the present review of studies: the classical Crutchfield procedure, with certain modifications. Subjects had to solve a series of simple perceptual problems, of the type used by Asch in his conformity experiments, consisting in matching accurately the length of a given line with one of three comparison lines.

These subjects were male freshmen at a university in the Congo, ranging in age from 19 to 32, with a median of 23. The experimental group consisted of 92 subjects, the control, 38. "Conformists" were defined as those having a score of 8 or above (N = 20); "independents", as those having a score of 0, 1, or 2 (N = 20). When these groups were compared with regard to A%, no differences to speak of were found.

Although the classical interpretation of A% may have little to do with conformity, especially the experimental variety, it has been theoretically related to popular responses in terms of "constriction" or "rigidity". Thus, one way of

181 Willem Claey's, "Conforming Behavior and Personality Variables in Congolese Students", in the International Journal of Psychology, Vol. 2, No. 1, 1967, p. 13-23.

testing the overlapping of A and P hypotheses is to compare A% with measures of conformity. However, Claeys' results have put this relationship into question.

Furthermore, it seems incongruous that the main Rorschach indicator of conformity - popular associations - was not tested. In addition to this anomaly, the study may be criticized for its small sample and possibly on the basis of somewhat arbitrary scoring criteria.

A further study, by Cowen and Thompson,¹⁸² attacked the validity problem of A and P responses by using criteria of rigidity. The performance of 34 eighth-grade pupils of a rural school (17 rigid, 17 flexible) was measured on the Luchins Water Jar Test of Einstellung Rigidity. After a complex statistical treatment, rigidity on the Rorschach was defined as over 50%.A. Non-significant differences were found between A and P among groups. In addition, results for P% were in the opposite direction from that hypothesized. The least the authors could say was that "[...] the type of conforming behavior of which the popular response is representative, is unrelated, or possibly negatively related, to the type of rigidity studied in this investigation".¹⁸³

182 E. L. Cowen and G. G. Thompson, "Problem-Solving Rigidity and Personality Structure", in the Journal of Abnormal and Social Psychology, Vol. 46, No. 2, 1951, p. 165-176.

183 Ibid., p. 172.

Again, in addition to the small sample, the criterion of rigidity appear fallible. The authors realized that other workers attempting validation may frequently have had different and more general behavioral phenomena in mind. Furthermore, it was questionable whether P responses were a suitable index of rigidity, and especially the type supposedly measured by the Water Jar Test.

It was the authors' opinion that the implications of their findings should extend through the area of social psychology and prejudice. (The present investigation will seek to test out this hypothesis in that area.)

In another validation attempt, McAndrew¹⁸⁴ used 50 adolescents of average intelligence between 10 and 15 years old, of whom 25 were deaf and 25 were normal. The hypothesis was that the more isolated the individual was (concomitant with deafness), the more indices of rigidity would be produced on the Rorschach. McAndrew considered A% as one of these indices; no quantitative limits were decided upon. His hypothesis was borne out inasmuch as deaf subjects produced 81% A as compared to 64% in normals. This difference was apparently significant, although no other statistical data were given.

184 Helton McAndrew, "Rigidity and Isolation: A Study of the Deaf and the Blind", in the Journal of Abnormal and Social Psychology, Vol. 43, 1948, p. 476-494.

Although this study would appear to have been one of the few offering some hope for the validity of A%, weaknesses were inherent. The likelihood of a third factor producing the significant difference appears to have been particularly strong here. This may have put into question the comparability of deaf and normal Rorschach protocols, which may have been further complicated by the age range of the samples. Besides the fact that there may have been inherent personality differences between the two samples (leading to spuriously high or low A%), the sample size and paucity of statistical evidence must be taken into account. Although the criterion in this study was ingenious, in connection with A% it may be asked if Rorschach had in mind personality rigidity as a correlate of social isolation in deaf adolescent subjects; most probably not.

To conclude, it seems that the preponderance of studies where A% is concerned has been decidedly negative. However, there remains some doubt, as one or two attempts have indicated. As long as this doubt exists, and in view of the many weaknesses discussed, (which this study attempts to surpass), it follows that a more searching investigation in this area is needed.

The case for popular responses must be stated next. As with animal responses, a compilation of the many meanings attached to this type of association on the Rorschach will be

presented. Following this, a brief discussion of the phenomenon represented by P responses and a review of the validity studies on P% will be undertaken.¹⁸⁵

3. Popular Responses: Hypotheses and Rationale.

As is the case with most Rorschach scores, the area of popular responses has been characterized by considerably more theorizing than experimental verification. For example, one of the ubiquitous problems has concerned the value of the "raw number" method, as opposed to percentage of P responses in determining the adequacy level of a protocol.

Accordingly, the hypotheses underlying P% or number of P responses will be set out in an attempt to examine and clarify any common denominators in the interpretations.

Rorschach considered percepts which are commonly seen in the blots (by some larger reference group and with a response frequency of one in every three protocols) as representative of individuals with a "popular mind".¹⁸⁶ "Vulgär" responses signified a tendency to share in the collective or common mode of sensing and perceiving things. The individual

¹⁸⁵ Again, not in chronological order, for reasons stated previously.

¹⁸⁶ H. Rorschach and E. Oberholzer, "The Application of the Interpretation of Form to Psychoanalysis", in the Journal of Nervous and Mental Disorders, Vol. 60, 1924, p. 225-248.

thought in common with the thinking of the social group; this was termed "sociality". Along with A%, P responses were also an index of intellectual adaptivity. Using his incompletely known list of P responses, Rorschach specified that a P% under 21% showed a lack of the sociality tendency.

Hertz's early summary¹⁸⁷ of what has happened to P% since Rorschach's introduction incorporated the following hypotheses: intellectual adaptation to collective thinking; cooperativeness, general adaptability; intellectual rapport with the world; ability and need to think and feel as part of a group, adjust to a group or to the practical requirements of life. It can be seen that, in these early interpretations, there was one central element around which secondary hypotheses were built: sufficient participation in common (collective) thinking.

Klopfer and Kelley reiterated this element by contending that less than four P responses indicated "[...] a lack of conformity. [...] the subject is not able to think along the lines of other people or [...] is not willing to do so".¹⁸⁸ Five or more P responses showed this capacity and interest. P responses express a non-committal attitude where the symmetry

187 Marguerite Hertz, "The 'Popular' Response Factor in the Rorschach Scoring", in The Journal of Psychology, Vol. 6, 1938, p. 3-31.

188 B. Klopfer and D. McG. Kelley, Op. Cit., p. 216.

of the blot is utilized with the least risk of becoming involved with too specific form characteristics.

In a more recent interpretation, Klopfer et al. concluded that eight or more P showed "[...] an unusually strong emphasis on seeing the world in the obvious, agreed-upon way".¹⁸⁹ This conventionality may occur through training or fear of error. Besides indicating resources for taking the conventional view, P indicates strength of reality ties; i.e., an average number of P (five) indicates undue emphasis upon the conventional view and adequate reality ties.

Beck has been one of the more prolific workers in this area. He considered P as an index of social conformity; at the very least, it showed a surface interest not necessarily a sincere wish - to be in conformity. P responses manifest a conscious, not deeply dictated attitude to the world's proprieties. Low P% may show rebellion against conventionalities or indifference to them. Quantitatively, a mean of seven P is usually found, with up to eight or nine (of a possible twenty-one) in healthy individuals. Above nine P's, the individual is said to have a most conscious need for formalized values.¹⁹⁰

189 B. Klopfer et al., Op. Cit., p. 312-313.

190 S. J. Beck et al., Vol. III, Op. Cit., p. 16-17.

Beck viewed the literature on P as evidence supporting the theory that high P shows "[...] capacity for sociality and conformity with the thinking of [...] fellow peers".¹⁹¹ Beck et al. summarized the interpretative hypotheses best:

The psychologic significance of P is as an index to participation by the individual in the more common concepts of his culture. It represents thus intellectual adaptivity, conventionality. A certain minimum, as we know from extensive clinical findings, is essential towards adjustment in one's community. An inadequate quantity of P is evidence of failure to participate in common thinking; and when the P finding is very low, the indication is, estrangement. An excessive quantity of P is an overt over-conventionality; and depending on the picture as a whole, may project a knuckling under, a surface passivity.¹⁹²

Finally, Beck considered the P factor as providing the most satisfactory opportunity for quantitative methods in the Rorschach test procedure. This suggestion has been taken up by Griffin¹⁹³ and will form (as elaborated upon later) a central method of the present paper.

Piotrowski adhered to the standard conventional interpretation of P responses: "[...] its function is [...] to serve as a measure of the degree to which the subject shares

191 S. J. Beck et al., Vol. III, Op. Cit., p. 345.

192 S. J. Beck et al., "The Normal Personality as Projected in the Rorschach Test", in The Journal of Psychology, Vol. 30, 1950, p. 286.

193 Dorothy Park Griffin, "Psychometric Scales for the Rorschach Popular Response", in the Journal of Clinical Psychology, Vol. 13, 1957, p. 283-287.

the common ideas of his social group".¹⁹⁴ However, he tempered his analysis by implying that the extent to which these common views have been adopted is inaccurately measured by P if the Rorschacher ignores other factors such M, C, and O responses.¹⁹⁵

Rapaport's conception of P responses represented a significant contribution in terms of his rationale for them. He first stated that P responses signified a compliance with the thinking of the community, a capacity for conventional thinking:

Such a capacity is essential for balanced and realistic thinking, and the lack of it indicates a degree of lack of "common sense" and of understanding of the simple and common routes of thinking. Of course, this compliance is often carried to extremes, resulting in a lack of individuality and freedom of thinking; flexible "common sense" then becomes a "commonplace".¹⁹⁶

Rapaport has found his rationale in the nature of the blots. The fact that many subjects see certain common responses

194 Z. Piotrowski, Op. Cit., p. 108.

195 This is the question of qualitative vs. quantitative vs. both qualitative and quantitative approaches. Piotrowski has only voiced what many other workers have probably felt and acted upon: an integrated approach.

196 D. Rapaport, Op. Cit., p. 315.

[...] indicates that the card itself is more or less conducive to a specific perceptual organization and consequently specific associative content. In this sense, the areas to which popular responses are given represent a relatively clear-cut piece of reality which is so compelling that its "meaning" is a matter of "social agreement". The responsiveness of a subject to these compelling areas on the inkblots thus becomes the measure of his sense for the "obvious". Thus, the P responses have a continuity of meaning with - and the majority of them are - animal responses.¹⁹⁷

He continued to elaborate the correlates of high P%:

Poor yet not altogether low-grade deficient intelligence, compulsive over-critical pedantry, depressive inertia and self-criticism, a penchant for platitudes of the type found frequently in naïve hysterics, ideational flatness of the type seen in simple schizophrenics - all may make for an unduly high P%.¹⁹⁸

Quantitatively, Rapaport stated that an average record should contain 4 or 5 P's or a P% of 20 to 25%. However, the larger the number of responses, the more the number of P's should approach a maximum of 12.

A high number of P's (or over 20% in a normal record) was considered by Bochner and Halpern as revealing "[...] a disinclination to deviate from the beaten path, an excessive desire to conform with group ideas".¹⁹⁹ In addition, "It implies an intellectual and emotional adaptation to the life about one, a participation in the group reaction. It shows

197 D. Rapaport, Op. Cit., p. 315.

198 Ibid., p. 315.

199 R. Bochner and F. Halpern, Op. Cit., p. 91.

receptivity to public opinion and a desire to conform".²⁰⁰
P is dependent upon intelligence, emotional stability, and age.

Phillips and Smith were of the opinion that P responses "[...] provide significant data about the subject, [...] in relation to the socialization and the extent to which he has incorporated conventional patterns of behavior".²⁰¹
The average subject gives 4 to 6 P's; the median is 5. P's under 3 and over 8 are considered unusual, if R is 25, and when R is 30, 5 to 10 or 11 P's are expected.

Allen viewed P as referring to the extent the testee can relate his perceptions to those of the group, which reveals his sameness to group experience. P reflects "[...] compliance with socially established thinking, and the acceptance of this code of reality living".²⁰² Thus, "A normal protocol, indicating ability to accept the expectancies of the social milieu, should have between 20 and 30 per cent P concepts".²⁰³ As an absolute number, this means at least 4 P responses. Furthermore,

200 R. Bochner and F. Halpern, Op. Cit., p. 67.

201 L. Phillips and J. Smith, Op. Cit., p. 112.

202 R. M. Allen, Op. Cit., p. 159.

203 Ibid., p. 159-160.

More than 30 per cent P engrams points to a prosaic outlook from which may be inferred an inability or lack of desire to stray from the beaten path. The higher the P percentage the more "clichéish", banal, and socially stereotyped the person's thinking. The individual is too steeped in sterile reality at the expense of flexibility and creativity of thought and perhaps action.²⁰⁴

On the other hand, "An underproduction of popular concepts may point either to originality with or without minimal social conformity, or to a pathologic disregard for society's demands".²⁰⁵ This is related to anxiety, mental retardation, and psychosis.

Allen proceeded to interpret additional P's, seldom done by other workers. Here, "[...] it would seem as though the testee is [...] above banality and has to be prodded into typical perception [...]".²⁰⁶

Silveira made some modifications in the meaning of P. They reflect "[...] le consensus appliqué à chaque situation spécifique. Il s'ensuit que l'on pourrait peut-être lui accorder un sens psychologique plus restreint que celui que Rorschach lui attribuait dans sa contribution posthume [...]".²⁰⁷

The P response

204 R. M. Allen, Op. Cit., p. 160.

205 Ibid., p. 160.

206 Ibid., p. 160.

207 A. Silveira, Op. Cit., p. 144.

[...] traduirait la capacité à «accueillir» le consensus général, à pousser la logique jusqu'au domaine des valeurs admises par la collectivité et d'autre part, à hausser les notions de réel jusqu'au rang des abstractions [...]²⁰⁸

A further modification was implied in the following: "On peut lui appliquer la signification que Rorschach a prêtée à Ban [...], pourvu que l'on remplace «concevoir» par «prendre conscience de la réalité»".²⁰⁹

Silveira has found the mean P% to be 26.9 +/- 4.9%.

According to Brown, individuals with many P responses demonstrate a "[...] basic perceptual communality which overrides the accidental nature of the blots".²¹⁰ This communality represents "[...] the most visible segment of a continuum which implies that there is a similar communality in the invisible segments of the continuum [...]"²¹¹ Thus Brown has viewed low P% as related to personalized concepts, and high P% as related to a communality of conformity and reality awareness.

208 A. Silveira, Op. Cit., p. 145.

209 Ibid., p. 146.

210 Fred Brown, "An Exploratory Study of the Dynamic Factors in the Content of the Rorschach Protocol", p. 354-393, in M. Sherman, editor, A Rorschach Reader, New York, International University Press, 1960, xi-440 p.

211 Ibid., p. 360.

Kerr suggested that P may be measuring the subject's suggestibility to and dependence upon public opinion, and his potentiality to participate in collective thought. She has found a significant correlation (+0.45 +/- 0.053) between A and P responses and considered both as characteristic of the "koartive type".²¹²

Guirdham's interpretations extended traditional ones attached to P to include degree of stereotypy, which is seen as a concentration of P answers. This implies that the coercive individual, who is constricted, controlled and disciplined, has a higher P%.²¹³

In terms of norms for P, which set the limits for any particular group of interpretative hypotheses, several studies have been illustrative, with both normal and abnormal samples. Bradway and Heisler interpreted the fact that their psychotic sample never had more than seven P responses as supporting the validity of P hypotheses.²¹⁴ Vernon²¹⁵ and

212 M. Kerr, Op. Cit., p. 181.

213 A. Guirdham, "On the Value of the Rorschach Test", in the Journal of Mental Science, Vol. 81, 1935, p. 848-869.

214 K. Bradway and V. Heisler, "The Relation between Diagnoses and Certain Types of Extreme Deviations and Content on the Rorschach", in the Journal of Projective Techniques, Vol. 17, 1953, p. 70-74.

215 P. E. Vernon, "The Rorschach Ink-Blot Test", in the British Journal of Medical Psychology, Vol. 13, 1933, p. 89-118, 179-200, 271-291.

Piotrowski²¹⁶ reported 27 to 30% P as normal; Gardner,²¹⁷ 20%; Hertz²¹⁸, 25 to 30%; Bohn,²¹⁹ 20 to 25%; Cass and McReynolds,²²⁰ 5.4 +/- 2.0 P responses; Brockway et al.,²²¹ 4.1, 5.7, and 8.2 P responses at the 20th, 50th, and 80th percentiles respectively; McCall and Doleys,²²² 7 responses for a normal protocol; Beck et al.,²²³ a mean of 6.79, standard deviation 2.41.

In summary, the most important conception which has emerged from this brief review is the following. Use of popular forms by a subject suggests that his perceptions are similar to those of society. The individual sees what others see, and, by implication tends to think the way they do. To quote Levy, "Any human act may be located on a continuum ranging from the banal to the original, and the Rorschach response

216 Z. Piotrowski, Op. Cit., p. 109-110.

217 G. E. Gardner, "Rorschach Test Replies and Results in 100 Normal Adults of Average I.Q.", in the American Journal of Orthopsychiatry, Vol. 6, 1936, p. 36-60.

218 M. Hertz, Op. Cit., p. 29.

219 E. Bohn, Op. Cit., p. 168.

220 W. A. Cass and P. McReynolds, Op. Cit., p. 182.

221 A. L. Brockway, et al., Op. Cit., p. 260.

222 R. J. McCall and E. J. Doleys, "Popular Responses on the Rorschach Test in Relation to the Number of Responses", in the Journal of Clinical Psychology, Vol. 11, issue of July 1955, p. 301.

223 S. J. Beck, et al., Op. Cit., p. 286.

is no exception".²²⁴

Levy has considered the P interpretations to follow fairly obviously from the label attached to these responses, and "[...] from the assumption that they are of the same order of importance as any other behavioral events we might observe [...]"²²⁵ A high number of P's then signified that "[...] the individual has adequate ties with reality, unfortunately to the extent that he would be considered a conformist".²²⁶ An average number credits the individual only with good reality contact. Very few P may mean a multitude of characteristics, including creativity and certainly a lack of excessive conformity.

Levy made the final point that P interpretations

[...] are no different from those that would be made elsewhere, given the same labels; and this labeling is the responsibility of the analytic system. But should the labels be given inconsistently from one domain of events to another, the validity of their attendant interpretations cannot help but vary also.²²⁷

A. Social Conformity as a Personality Construct.

From the wealth of previous remarks concerning the significance of P responses, especially a high number or

224 L. H. Levy, Op. Cit., p. 219.

225 Ibid., p. 219.

226 Ibid., p. 219-220.

227 Ibid., p. 220.

percentage of P, one interpretation has emerged singularly. The high P individual shows excessive conformity, sociality, over-conventionality and adherence to the common way of sensing or perceiving the world.

Before any instruments can be discussed which measure this behavioral construct allegedly tapped by P associations, an examination of the construct is needed to clarify its definitional ramifications. Is the type of loosely-defined conformity on the Rorschach equivalent within reasonable limits to the social conformity measured by psychometric tests? A brief analysis of the phenomenon as theoretically discussed in other contexts, and forming the theoretical frame of reference for the psychometric instruments may be of some aid in suggesting answers to this question.

Krech et al.²²⁸ have suggested that conventionality is not the same as conformity; rather, conventional behavior results from conforming behavior. The conformist tends to hold more conventional values, but the converse is not necessarily true. Other terms which are not exactly equivalent are acquiescence, persuasibility, and suggestibility. Traits inspiring conformity-proneness in the individual include alertness to what others think, need of support by external

228 D. Krech et al., Individual in Society, New York, McGraw-Hill, 1962, 564 p.

moral authorities, and intolerance of ambiguity. Cognitive flexibility and openness to experience are prevented. The conforming individual tends to have typical, conventional interests and avoids conflict by interpreting events around him as consonant with his own opinions. This narrow-mindedness can be viewed in the case of stereotype-building, for equating one's opinion with social opinion is a method of reducing cognitive dissonance. Conformity gradually develops, manifesting itself in the use of stereotypes, the product of stereotyped thinking. Cognitive balance and cognitive closure may make demands which drive the individual to accept social consensus as a guide for his behavior in ambiguous situations without question.

The conformist seeks the line of least resistance and wants to feel that he can be in the group situation. (The reasoning here is analogous to several authors' contentions about the ease of perceiving A and P responses on the Rorschach.) The conformant individual may have a fundamental insecurity which is eased by proceeding according to social consensus, participating in the collective or popular mind.

Conformity, as discussed above, has been used as a personality construct or mode of behavior, not necessarily as a chronic product of social pressure or specific motivational circumstances. Logically, such a broad conception of the phenomenon will be adopted in the present study.

Endler perhaps best described the conformant person (who may have a high degree of P responses).²²⁹ This individual is dependent, compliant, suggestive, shows greater tendencies towards rigidity of logical processes and poverty of ideas, exhibits intense preoccupation with others, is passive, submissive and over-accepting. This ideal conformist may also tend to desire clarity and certainty which stereotypes clearly provide. He places relatively greater emphasis on socially-approved values. It is suggested that stereotypes have all the necessary characteristics towards which the conformist gravitates. What is at first merely an easily accepted social belief may later become a fact, when incorporated into the conformist's value system. Prejudged categorical ways of thinking can be seen as a consequent of over-conventionality. Conformity and stereotypy both seem to act as selective screening devices to maintain simplicity in perception and thinking. In addition, both phenomena connote rigidity.

Conformity has been measured both by direct and indirect tools. Although the few tests gauging social conformity directly are possibly more useful, equally helpful are those instruments measuring prejudice or prejudice-related

229 N. S. Endler, "Conformity Analyzed and Related to Personality", in Dissertation Abstracts, Vol. 19, 1958, p. 1114.

syndromes. Allport has postulated a direct relationship between conformity and prejudice. Conformity is seen as a part of prejudiced attitudes; in some cases, the prejudiced attitude may be merely conformative. Thus, prejudiced attitudes may be based partly "[...] on the need to conform to custom, to let well enough alone, to maintain the cultural pattern".²³⁰ However, a "A given case of prejudice may fall anywhere between the pole of surface conformity and the pole of extreme functional relevance".²³¹

It has been stated that an overlapping of the dynamics of the processes underlying stereotypy and conformity exists. In line with this, Allport contended that the dynamics of prejudice tend to parallel the dynamics of cognition. That is, a person with stereotyped cognition, which may contain elements of social conformity, will likely be a person with a high degree of prejudice. The "[...] style of thinking that is characteristic of prejudice is a reflection, by and large, of the prejudiced person's way of thinking about anything".²³² Prejudice is characterized by rigidity, which is common to both stereotypy and social conformity. Prejudiced people

230 G. Allport, Op. Cit., p. 272.

231 Ibid., p. 376-377.

232 Ibid., p. 272.

[...] demand clear-cut structure in their world, even if it is a narrow and inadequate structure. Where there is no order, they impose it. When new solutions are called for, they cling to tried and tested habits. Wherever possible, they latch onto what is familiar, safe, simple, definite.²³³

Lindzey has followed a similar approach: high prejudiced subjects appear to be more conforming to conservative norms.²³⁴ Elsewhere,²³⁵ it has been argued that the conformist is oriented to prejudice; authority figures block aggression, which is then displaced onto minority groups.

Ackerman²³⁶ has contended that prejudiced subjects set up a false front of conformity and sociability. By adhering to stereotypes of out-groups, the prejudiced subject enhances his sense of security and belongingness with his own group.

Thus, bearing in mind what has been previously discussed with regard to the meanings of high A and P responses, it would seem that conforming subjects would tend to score high on prejudice scales, where this is measured in terms of agreement to stereotypes. Also, with regard to A hypotheses,

233 G. Allport, Op. Cit., p. 378.

234 Gardner Lindzey, "Differences Between the High and Low in Prejudice and Their Implications for a Theory of Prejudice", in the Journal of Personality, Vol. 19, 1950, p. 16-40.

235 G. Allport et al., "Some Roots of Prejudice", in the Journal of Psychology, Vol. 22, 1946, p. 9-39.

236 N. W. Ackerman and Marie Jahoda, Anti-Semitism and Emotional Disorder, New York, Harper and Bros., 1950, 135 p.

subjects who (theoretically) demonstrate stereotyped cognition and association, would likely tend to score high on tests measuring degree of social conformity. These two hypotheses seem supportable on the basis of the rigidity characterizing the person who is conforming, stereotyped or prejudiced. Whether or not these hypotheses (which will be set out in greater detail below) are tenable is a matter which depends on the resultant construct validity of A and P responses upon which are based the as yet unproven assumptions of stereotypy and social conformity. Consequently, to complete the picture thus far presented, a brief investigation of validity studies of P% follows.

B. Validity Studies on P Interpretations.

Studies in this area of Rorschach research have mainly concentrated on norms, cross-cultural studies and differences between clinical groups. The few that have attempted to deal with the value of P hypotheses have included A% and a host of other indices.

Himelhoch's battery²³⁷ measured attitudinal factors which were not significantly correlated with the level of Rorschach P responses. Although the sample size was small, it does seem that his high-prejudiced subjects were candidates

237 J. Himelhoch, Op. Cit.

for an over-abundance of P associations. (It is not known at this time what the P percentage for the groups was.)

The somewhat tentative results reported without quantitative evidence by Frenkl-Brunswik and Sanford²³⁸ indicated that persons high in prejudice (containing components of conformity) were conforming, in view of their level of P responses. Again, the authors assumed the value of the Rorschach factor and used very small numbers of subjects.

The contention that prejudiced subjects showed over-conforming behavior was not shared by Reichard²³⁹ who found no significant difference in terms of number of P responses.

Fabrikant²⁴⁰ found no significant differences in mean number of P responses (where conformity was defined as P% over 30%), considered primarily as a measure of rigidity. Although it seems at first glance that as wide an interpretation as "rigidity" should have produced results, the suitability of Fabrikant's criteria leaves some doubt where P is concerned. The same criticism may be used to explain Cowen and Thomson's²⁴¹ negative results. However, the authors recognized that the type of conforming behavior measured by both the War Jar Test

238 E. Frenkl-Brunswik and R. N. Sanford, Op. Cit.

239 S. Reichard, Op. Cit.

240 B. Fabrikant, Op. Cit.

241 E. L. Cowen and G. G. Thompson, Op. Cit.

and P% may have been altogether too dissimilar.

Johnson and Stern,²⁴² using Fisher's scale for Rorschach rigidity, attempted to differentiate perceptually rigid from flexible subjects, using the many signs comprising this scale. There was no significant difference between these groups in terms of number or percentage of popular responses. Although it can be argued that postulating A% as an indicator of perceptual rigidity was somewhat tenuous, the author's conclusion has some bearing on the theoretical interrelatedness of A and P hypotheses.

Langer et al.,²⁴³ using responses on the modified Bernberg Human Relations Inventory as the criterion for conformity, attempted to validate P responses produced on the Structured-Objective Rorschach Test (SORT). The latter is a multiple-choice group variation of the Rorschach, where responses (ten per blot) are scored by a combination of various systems. One hundred and nineteen college students were administered both tests, one month apart. Analysis of variance on high and low conformity groups (upper and lower quartiles) yielded non-significant results for P interpretations. These results, although not formally interpreted by the authors,

242 L. C. Johnson and J. A. Stern, Op. Cit.

243 P. Langer et al., "The Effects of Anxiety and Conformity on the Structured-Objective Rorschach Test (SORT)", in the Journal of Clinical Psychology, Vol. 19, No. 3, 1963, p. 317-319.

appeared to largely invalidate P interpretations. However, the question arose as to their generality in terms of the individual or Group Rorschach, especially the latter. The various aspects of the SORT mentioned above, may have contributed to these negative findings.

Sattler,²⁴⁴ in a brief report, described the administration of the Harrower Multiple-Choice Rorschach, a Word Association Test, and the Marlowe-Crown Social Desirability Scale to seventy-five college students, to determine the validity of P responses. Product-moment correlations computed among the various test scores proved non-significant. The author stated that

For the measures utilized, a large number of P responses is not indicative of a general tendency to be socially conventional. Furthermore, as no apparent relationship obtains between perceptual associations and free associative thought processes, caution is needed in interpreting the P response as a general indicator of conventionality.²⁴⁵

Smith²⁴⁶ used as criterion a non-conformity scale constructed especially for his study. This scale contained twenty-eight items, describing attitudes pertaining to a

244 Jerome Sattler, "Rorschach Popular, Word Association, and Social Desirability", in Perceptual and Motor Skills, Vol. 20, No. 3, Part 1, 1965, p. 744.

245 Ibid., p. 747.

246 R. J. Smith, "Explorations in Nonconformity", in the Journal of Social Psychology, Vol. 71, 1967, p. 133-150.

variety of personal, social and ethical issues. One hundred and sixty-two male college students were divided on this basis into three groups: conformers, independents, and rebels. The non-conformity scale was thus constructed by the method of collated judges' opinions as to agreement or disagreement by the three groups as conceptually defined. Differences in P responses were predicted between ten high and ten low conforming subjects; thus, N was twenty. This hypothesis did not prove to be tenable.

While Smith attributed this to the small sample, it may possibly have been the criterion scale which was at fault, especially in terms of its construction.

Langer²⁴⁷ completed a further investigation purporting to measure that part of the conformity represented by the response set variable of social desirability, through the Gough Adjective Checklist. Seventy-three subjects were used in an attempt to show relationships between degree of social desirability and extent of P associations on the SORT. Spearman rho's, calculated on the subsample of thirty-six males, showed a significantly high relationship between the social desirability index and the P index. Unfortunately, while encouraging, the results were based on a small sample

247 P. Langer, "Social Desirability and P Responses on the SORT", in the Journal of Clinical Psychology, Vol. 18, 1962, p. 472.

and obtained through use of a variant of the Rorschach (the SORT), which limits generalizability and made any solid interpretation relatively more tenuous.

Sappenfield²⁴⁸ hypothesized that "perceptual conformity" (PC) - readiness to perceive reality as the majority perceives it might be measured in terms of P%. The responses of forty-five college students on the Group Rorschach were correlated with measures of PC. The latter were operationally defined as the percentage of "right answers" on the Rorschach, where right was defined in terms of M responses given to cards I, IV, VI, VIII, and IX, and F responses to cards III, V, VII. "Wrong responses" were the opposite of the above responses. The rationale was thus based on normative protocols: most subjects usually give the "right" associations described above. PC scores varied from 0.50 to 1.00 or 50 to 100%, with a median of 79%. The number of responses upon which P% was computed ranged from ten to thirty-three. These PC scores were found to be significantly correlated with an operationally-defined scale of Ego Strength on the MMPI ($r = +0.387, p < .01$). The correlation between P% on the Group Rorschach and the E scale was again significant: ($r = +0.36, p < .01$). As the author was mainly interested in validating his rationale for

248 B. R. Sappenfield, "Perceptual Conformity and Ego Strength", in Perceptual and Motor Skills, Vol. 20, No. 1, 1965, p. 209-210.

PC, he assumed the hypothesis that P% measured social conformity as valid. Hence, no correlation was carried out between level of PC and P%. However, the inference here is that P% is related, perhaps significantly, to PC, which would somewhat strengthen the interpretations often given to popular Rorschach responses.

4. Synopsis and Hypotheses.

The preliminary theoretical considerations adhered to in the present research investigation have been outlined. The orientation will consider two Rorschach factors only, in terms of their quantitative levels, and without either qualitative or quantitative reference to other Rorschach indices with which they may be interrelated. The rationale for the interpretations to be validated has been both perceptually based and based on clinical norms and theoretical studies. The latter rationale will be used, excluding consideration of the stimulus properties of the blots as influencing interpretations. A group variation of the standard Rorschach will be used in a correlational attempt to establish construct validity. Essentially, the present research will not consider formal Rorschach categories (determinants), being based instead on a contentual, molecular and quantitative methodology.

To this end, a review of Rorschach validity has brought to light many approaches which have failed, either because of a weak rationale, small samples, or deficient methodology in general. Arguments for attempting to ascertain construct validity of Rorschach factors were put forth, with much emphasis on the singular importance of suitable criteria. The final conclusion which emerged was that the Rorschach has not, by and large, demonstrated superior validity.

The objectives of this study were stated, with a view to obtaining a statistically-supported statement of two selected Rorschach constructs through more scientifically-acceptable means than have been used to date.

Subsequently, a review of the major interpretative hypotheses attached to A% was undertaken. A common finding appeared to be the element of stereotyped thought processes, the phenomenon of stereotypy. This construct was then evaluated in terms of social psychological theory, whereupon the writer postulated certain theoretical relationships as a rationale for selecting criterion instruments. It was contended that the process of stereotypy, with all its ramifications, could conceivably best be seen in terms of agreement the subject manifests with stereotyped statements; in short, the degree of acceptance of thoroughly defined stereotypes, be they ethnic, occupational, etc. From these considerations,

it was argued that psychometric tests, held to be relatively more valid than the Rorschach, could, within reasonable limits, tap the individual's stereotype-proneness. This tendency, linked with stereotypy, could then be matched with its proposed counterpart, percentage of A associations.

This line of reasoning was followed by a brief analysis of several validity studies on A%, only a few of which tended to support the hypothesis of stereotyped thought processes first stated by Rorschach. However, there appeared to have been some doubt throughout the literature, a fact which the significant studies pointed out. In view of the many apparent deficiencies evident in the negative studies, this doubt is further increased, enhancing the usefulness of a more searching investigation.

A compilation of the hypotheses stated with regard to P responses was next presented. The common element extracted here was the construct of social conformity, which was theoretically discussed in terms of rigidity and prejudice. The overlapping of A and P hypotheses was also examined, both being understandable as components of rigidity and prejudice, where prejudice is understood as agreement with a significantly high number of stereotypic statements on a given psychometric instrument. Basically, it was contended that the individual with common, mundane associative processes would also tend to see and think what others see

and think.

Several validity studies on P hypotheses were evaluated, some of which tended to suggest that social conformity was indeed accurately measured by the extent of popular percepts. Nevertheless, in view of the considerations voiced previously, it was submitted that this Rorschach factor could be approached from other methodological angles.

In connection with the previously reported theory and evidence, this study proposes to test two general hypotheses, and two subhypotheses; the testing of the latter will be somewhat contingent on the outcome of the first two. These hypotheses are herewith stated in null form, and will be further specified in greater detail in Chapter II, when the appropriate examination of all psychometric criteria and methods is completed. The manner in which this research attempts to deal with the testing of these four hypotheses remains to be seen.

1. There is no significant relationship between the degree of stereotyped thinking evidenced on two psychometric scales measuring prejudiced attitudes in terms of stereotype agreement, and the extent of stereotyped thinking allegedly measured by animal associations produced on the Group Rorschach.

2. There is no significant relationship between social conformity as measured by three psychometric scales, and the extent of social conformity allegedly measured by popular

responses produced on the Group Rorschach.

3. There is no significant relationship between the degree of social conformity as measured by popular responses on the Group Rorschach (if valid) and the extent of stereotyped thinking measured via stereotype agreement on two psychometric scales.

4. There is no significant relationship between the degree of stereotyped thinking as measured by animal associations on the Group Rorschach (if valid), and the extent of social conformity measured by the three psychometric scales.

The preceding hypotheses may also be stated in a way which is more consonant with the research findings reviewed above, as follows.

1. There is no significant difference between means of a given criterion test of stereotypy (AS, AN) with regard to extreme groups of subjects scoring high or low on a given Group Rorschach factor measuring stereotypy (A, A%).

2. There is no significant difference between means of a given criterion test of social conformity (HRI, FS) with regard to extreme groups of subjects scoring high or low on a given Group Rorschach factor measuring social conformity (P, P%, MPR²⁴⁹).

²⁴⁹ The meaning of this measure will be discussed in chapter II.

3. There is no significant difference between means of a given criterion test measuring stereotypy (AS, AN) with regard to extreme groups of subjects scoring high or low on a given Group Rorschach factor measuring social conformity (P, P%, MPR).

4. There is no significant difference between means of a given criterion test measuring social conformity (HRI, FS) with regard to extreme groups of subjects scoring high or low on a given Group Rorschach factor measuring stereotyped thinking (A, A%).

CHAPTER II

DESIGN OF THE STUDY

This chapter outlines the research techniques used to test the four hypotheses described at the conclusion of Chapter I. The subjects used are discussed in some detail, following which the tools and particular methods used are set forth.

1. Characteristics of the Sample Used.

The participants in this study were seventy-seven English-speaking male and female elementary school teachers, taking education courses at General Vanier High School in Cornwall, Ontario. Three groups of Ss were selected, with approximately twenty-five Ss per group.

Age ranged from 20 to 59 years, with a median of 27 years. This variable has been found to relate significantly to Rorschach A and P scores.¹

Sex was fairly evenly distributed: thirty-six males and forty-one females. This variable has also been discovered to influence A and P scores.²

1 J. G. Draguns, E. M. Haley and L. Phillips, "Studies of Rorschach Content: A Review of the Research Literature, Part I: Traditional Content Categories", in the Journal of Projective Techniques and Personality Assessment, Vol. 31, issue of February 1967, p. 7.

2 Ibid., p. 5.

Similarly, socio-economic status was considered to have been held constant (upper middle class), as was intelligence, by the very nature of the sample (above average intelligence). Both factors have been correlated with the Rorschach indices under study.^{3,4}

By reason of the fact that all Ss were screened by the university admission process, it was assumed that they possessed normal personalities. That is, it was highly unlikely that any gross abnormalities were present.

It can be consequently assumed that all Ss were relatively uniform for many characteristics, such as age, language, educational level and absence of any outstanding psychological disorder.

As the possibility existed that age and sex differences could act as "third factors" in the intercorrelations, (moderator and/or suppressor variables), they were later tested in the data analysis.

2. The Instruments Used in the Study.

A. The Group Rorschach.

For reasons of economy (both financial and temporal, especially the latter), the Rorschach instrument used was the

3 J. G. Draguns et al., Op. Cit., p. 5.

4 Ibid., p. 5.

Group Rorschach.⁵ This projective technique consists of the ten standard Rorschach blots in the form of slides projected on a screen, at a specified distance from the Ss. The latter respond in writing on a prepared booklet containing location charts.⁶ Responses (three per blot, one minute per response) are written in the booklet and delineated on the location charts by the S, upon specific instructions from the examiner throughout.⁷ An inquiry is then carried out, during which the S is called upon to locate his or her responses.

Originally developed by Harrower for economy of time and greater objectivity, the Group Rorschach was first subjected to a thorough analysis, using 340 Ss, 224 of which were in the college age group. An adult group, consisting of 34 males, aged 26 to 56, was also used.⁸ Card by card performance of these samples was undertaken in terms of all Rorschach variables.

The college subsample (the group of interest for this study) produced a mean A% of 33%, Ad% of 5%; adults produced

5 M. R. Harrower and M. E. Steiner, Large Scale Rorschach Techniques: A Manual for the Group Rorschach and Multiple Choice Tests, Second edition, Springfield, Illinois, Charles C. Thomas, 1951, v-353 p.

6 See Appendix 1.

7 See Appendix 2.

8 M. R. Harrower and M. E. Steiner, Op. Cit., p. xviii.

a mean A% of 25%, Ad% of 9%. Stimulus pull of cards known to produce more A associations was found to be similar to the standard individual Rorschach; cards V, VIII and IX stimulated higher A% in both subsamples.

In terms of popular responses, adults produced more according to a criterion of 25% frequency.

The lowest number of responses per card averaged 2.2 and 2.8, for the college and adult samples, respectively.

Further normative studies were done by Lindner⁹ and Hertzman¹⁰ for the purpose of comparison with the individual Rorschach. Lindner found a mean total R of 20.4, S.D. 10.5; mean A% of 43.6, S.D. 17.0, mean P of 4.8, S.D. 2.2, and mean P% of 26.8, S.D. 12.5. These statistics were based on a sample of 100 Ss, 65 normal and 35 with psychological disorders. Average age was 34-1, with a range from 17 to 65 years.

Hertzman tabulated a mean total R of 25.1, S.D. 9.5; mean A% 44.9, S.D. 13.3; P% 24.8, S.D. 8.6; P, 5.5, S.D. 1.6.

9 R. M. Lindner, "A Further Contribution to the Group Rorschach", in Rorschach Research Exchange, Vol. 7, issue of January 1943, p. 7-15.

10 Max Hertzman, "Recent Research on the Group Rorschach Test", in Rorschach Research Exchange, Vol. 7, 1943, p. 1-6.

Using 233 male adults ranging in age from 18 to 31, Buckle and Cook¹¹ found a mean R of 22, ranging from 8 to 49 R per subject. From a sample of 104 male and female canteen managers' course trainees and applicants, an average A% of 33 was found. P responses were only analyzed in terms of frequency per card.

In the first definitive study comparing the traditional Rorschach method with Harrower's product, Hertzman¹² derived norms based on 200 male college students. One hundred (average age 19-4) were administered the Group Rorschach; one hundred, the individual Rorschach.

While the mean number of R in the Group administration was 25.1, standard Rorschach Ss produced significantly more R: 38.4. This was explained as being due to a combination of attitudinal factors, the fact that three more positions are able to be used with the individual Rorschach, and the strict time limit (three minutes) imposed in the Group version. The Group Rorschach Ss produced a mean P of 5.5, S.D. 1.6, mean P% 24.8, S.D. 8.6, mean A% 44.9, S.D. 13.3. The individual Rorschach Ss produced a mean P of 5.0, S.D.

11 D. F. Buckle and P. H. Cook, "Group Rorschach Method: Technique", in Rorschach Research Exchange, Vol. 7, 1943, p. 159.

12 Max Hertzman, "A Comparison of the Individual and Group Rorschach Tests", in Rorschach Research Exchange, Vol. 6, 1942, p. 89-108.

1.5, significantly less P% (16.3, S.D. 9.6) and mean A% 42.8, S.D., 12.9. The figures for P% may be explained on the basis of the significantly higher number of responses on the individual Rorschach.

The percentage of Ss having A% \leq 50 was 40% on the Group, and 30% on the individual Rorschach. The percentage of Ss having #P \leq 4 was 89 on the Group, 82 on the individual Rorschach. Hertzman's interpretations of these results will be reviewed later.

Rohrer and Edmonson,¹³ using 48 male undergraduate volunteers, ranging in age from 18-7 to 22-3, with a mean of 19-10, undertook a similar normative comparison with a view to assessing validity of the Group method. Both forms of the Rorschach were compared with regard to P, A% and R. These data are found in Table I.

The authors concluded that the same frequency distributions are obtained with the Group presentation as with the individual.

13 J. H. Rohrer and B. W. Edmonson, "An Experimental Study of the Effects of Individual and Group Presentation of the Rorschach Plates", in the Journal of Clinical Psychology, Vol. 12, issue of July, 1956, p. 249-254.

Table I.-
Group Rorschach Norms for R, A%, P% and P
 from Research Findings

Experimenter	N	Total mean R	Mean A%	Mean P%	Mean P
Harrower	224 ^a	26	33	---	---
	34 ^b	31	25	---	---
Hertzman	200 ^c	25.1	44.9	24.8	5.5
Buckle & Cook	233 ^d	22	---	---	---
Lindner	100 ^e	20.4	43.6	26.8	4.8
Rohrer & Edmonson	24 ^f	23.9	38.25	---	6.12
Rohrer <u>et al.</u>	1000 ^g	25	40	18	---
	374 ^h	28	40	17	---
Hire	50 ⁱ	41.1	39.3	---	4.76

a College students.

b Adults, 26-58 years of age.

c Male college students, average age 19.4.

d Male adults.

e "Canteen trainees".

f Male undergraduate volunteers, average age 19 years,
10 months.

g Males, average age 22.5.

h Navy Ss, median age 24 years.

i College students, 17-22 years of age.

Rohrer et al.¹⁴ used 1000 Marines with a median age of 22.5 and 374 Navy Ss with a median age of 24. Conclusions were the same as above. (See Table I)

Hire¹⁵ used 50 college students ranging in age from 17 to 22; again the conclusions were the same. (See Table I)

Inspection of Table I shows that, out of a total of 2343 Ss used, 27 responses per S was average. Approximately 38% A responses were given, and 22% P; the average number of P per subject was 5. Hence, it may be inferred that, with regard to these variables - which are used in the present study - the Group Rorschach does not produce results which differ significantly from the standard method.

In terms of validity, Harrower¹⁶ did a four-way analysis, manipulating group and individual administrations. She concluded that validity was assured by way of the many similarities found. Those differences appearing - irrelevant to the present investigation - were due to the factor of repetition rather than differences in the techniques themselves.

14 J. H. Rohrer et al., "The Group Administered Rorschach as a Research Instrument: Reliability and Norms", in Psychological Monographs, Vol. 69, No. 8, Whole No. 393, 1955, p. 1-13.

15 W. A. Hire, "A Group Administration of the Rorschach: Method and Results", in the Journal of Consulting Psychology, Vol. 14, issue of December 1950, p. 496-499.

16 M. Harrower, Op. Cit., p. 153.

Hertz¹⁷ stated that "[...] total personality pictures developed independently from individual and group records show agreement in many general traits of personality".¹⁸

It seems then, that the group technique is just as valid - or invalid - as the individual. However, it is the purpose of this project to ascertain the partial validity of the technique. Whether the group form is used or not, evidence has suggested that it is comparable, in terms of the two variables analyzed, with results from all previous research on A and P using the standard Rorschach form.

Rohrer and Edmonson and Rohrer et al. have suggested that the group form is more valid because of the lack of direct examiner influence: distortions arising from this interaction are minimized.

Harrower posited that responses are facilitated for Ss inhibited by interpersonal contact. Although the price paid for economy of time and effort is a somewhat blunter instrument, it is nevertheless an enormously powerful one.

Hire noted that both methods were comparable from a normative standpoint, and that no radical revision of the usual method of interpretation was necessary.

17 M. Hertz, "The Validity of the Rorschach Group Method", in the Psychological Bulletin, Vol. 39, 1942, p. 514.

18 Ibid., p. 514.

The burden of research on the method, twenty to thirty years ago, was concerned with many criticisms of Harrower's innovation. These criticisms were of two sorts: 1) those dealing with the validity of the technique a) in itself b) as compared to the individual; and 2) technical variations in administration and the relative merits of each. (The latter will be reviewed in the next section.)

Contentions that there are fewer responses on the group method, inadequate norms, sparse validity, scoring differences and so on, have been dealt with above. However, Benton¹⁹ has stated along with Hertzman, that the P responses on the Group Rorschach differ (significantly?) from its counterpart. Many authors have found significant differences with regard to locations (more W, less D), which were principally explained on the basis of the influence of distance from the blots on the screen. However, the question remains open as to whether the greater number of P on the Group Rorschach is to a significant degree the result of more W and less D. Also, it is unclear how many P responses are affected by these changes in manner of approach. And finally the varying number of R found by each researcher may have accounted for the fluctuating P%.

19 A. L. Benton, "The Experimental Validation of the Rorschach Test", in the British Journal of Medical Psychology, Vol. 23, parts 1-2, 1950, p. 49-58.

Hertzman alluded to the fact that, as many methods of administration are used, with minor differences, "What may appear as gross differences in method may actually be functional equivalents or near equivalents".²⁰

Harrower's work has shown skewed response distributions per card; Hertz contended that scoring differences exist. Both these results may have great importance for determinants on the Rorschach. However, A and P responses, in the context of the present study, are not affected in any way.

In conclusion, some workers, with certain modifications, and reservations, have endorsed the Group method favorably. Hertz stated that "Scores based on formulae developed for various traits [...] stereotype-originality [...] tend to fall in similar ranges for individual and group tests".²¹ Lindner contended that the Group Rorschach "[...] as an instrument of personality analysis and evaluation appears to be the same tool used with single subjects or with groups of subjects".²² Furthermore, it is "[...] in and of itself such a good instrument for the work it has to do, that the conditions of group administration actually matter very

20 M. Hertzman, Op. Cit., p. 1.

21 M. Hertz, Op. Cit., p. 514.

22 R. M. Lindner, Op. Cit., p. 14.

little".²³ And,

No one has yet put forward the claim that the group method be used for anything but screening purposes. No one expects the group method to replace the individual for the finer aspects of clinical work. Everyone who is in any way concerned with the group method looks to it for convenience in separating one or another variety of sheep from goats. We all want from it rough appraisal; we hope only that it will be adequate to point up gross differentials in personality structure.²⁴

B. The Human Relations Inventory.

In order to fulfill the aims of this study which were postulated at the end of Chapter I, four psychometric criterion tests were used.

As criteria for validating hypotheses underlying high degree of P on the Rorschach, two instruments were chosen, measuring social conformity in different ways.

The first of these is the Bernberg Human Relations Inventory²⁵ (HRI). This test consists of 37 items aimed at six determinant areas of social conformity: moral values, positive goals, reality testing, ability to give affection, tension level and impulsivity. Each item is presented as a five-option multiple-choice question concerning the percentage

23 R. M. Lindner, Op. Cit., p. 14.

24 Ibid., p. 14.

25 R. E. Bernberg, "A Measure of Social Conformity", in the Journal of Psychology, Vol. 39, 1955, p. 890-896. Published by Psychometric Affiliates, Chicago, Ill. See Appendix 3.

of some group who hold or exercise a certain belief in one of the determinant areas. Since there is presumably no foundation in fact for a choice among the possible answers, the tendency of the subject to deviate toward one extreme or the other is presumed to express a direction of perception based on his need value system. Social conformity, as defined by Bernberg is the "[...] tendencies of members of a society to manifest communality of attitudes and of behavior as a result of these influences".²⁶ These tendencies appear to be in defitional or theoretical agreement with what Rorschach meant by a high number or percentage of P responses, and as such appear to partially justify the use of the HRI, at least theoretically.

The HRI is an attempt to approach personality dimensions at a different level than is usual in most other personality tests. In addition, it is an indirect method of attitude measurement. The six determinant areas are outlined as follows:

a. Moral values as manifested in attitudes of responsibility toward groups, through typical sexual attitudes, through attitude toward law, government, etc.

b. Positive goals, as manifested through attitudes toward long range planning, time perspective, through consistent attitudes toward shifting goals.

26 R. E. Bernberg, Op. Cit., p. 89.

c. Reality testing as manifested in (the individual's) awareness of others' attitudes toward him, learning by experience, the projection of reality to any life role.

d. Ability to give affection as manifested in attitudes toward marriage, family, children, attitude toward perseverative relationships, attitude toward women and sexual relationships.

e. Tension level as manifested in attitude about concern with intimates, empathy and identification, attitude toward personal threat, degree of self-satisfaction.

f. Impulsivity as manifested in lack of inhibitive attitude patterns.²⁷

The HRI was developed by selection of sixty-eight questions which were constructed with an approximately equal distribution of the determinants; each question had five response choices. Choices were given as numerical percentages with equal numerical distances between adjacent choices. Two forms of the test were constructed. While each form contained the same questions, the range of numerical percentages in the choices for answers was different. In form A, the range of values on a percentage scale began fairly high as a rule. The lowest value for a choice of answer on Form A was the highest value for a choice of answer on Form B. Form B contained a range of values for the choices of answer which began fairly low and the highest value for a choice of answer was the lowest for Form A.

27 R. E. Bernberg, Op. Cit., p. 89-90.

The entire scale was based, as mentioned, on the "direction of perception" technique in attitude measurement.²⁸

Standardization of the HRI was accomplished by administration of the test to two groups of high school students. The first sample consisted of 100 senior students, median age 18, low socio-economic level, mixed races, mean Otis I.Q. 92. The second: 125 senior students, median age 18, middle socio-economic level, white, mean Otis I.Q. 114. One half of each group took Form A, the other, Form B, giving four groups.

Analysis of the different ranges of values for each item on both forms was undertaken using Allport's index of institutionalization, to determine the degree of conformity of response to the items. This index indicates the relative communal meaningfulness which each question had for the Ss. An index of 2.00 shows a chance distribution in the frequency of responses to the five choices for the answer. A score of 3.00 indicates a conforming distribution. An index above 3.00 shows a relatively more intense conforming distribution. Direction of perception is manifested by a personal frame of reference which channels the response towards "more" or "less". This is an outcome of the operation of the social conformity process.

28 R. E. Bernberg, "The Direction of Perception Technique of Attitude Measurement", in the International Journal of Opinion and Attitude Research, Vol. 5, 1951, p. 397-406.

Using the index of institutionalization for the same item, Bernberg found the correlation between the two forms to be +0.66 ($p < .01$).²⁹ This indicated that the systematic similar results in the responses to the same item with different ranges of values for the choices of answer reflected the operation of a direction of perception in the responses of the Ss to the various items.

In addition, no significant difference was found between the mean index for forms A and B: distributions for both forms were statistically similar. The HRI was also found to be devoid of contamination by the covariates intelligence and social class, operating in the two samples described above.

Next, 37 of the 68 items were chosen on the basis of an index above 3.00. They were weighted, depending on the degree of conformity in response to the standard population. Thus, intensity was determined empirically.

Validation was carried out in a number of ways. A behaviorally-defined non-conforming group (160 male prison inmates, median age 21 years) was used for comparisons with the standard population above ($N = 125$). Significant differences were found ($p < .001$) between mean scores in the two populations, in the desired direction. Seventeen of the

29 R. E. Bernberg, Op. Cit., p. 92.

thirty-seven items were then further weighted, according to the empirical distribution of responses of the prison group. Using this new key, comparisons were made with a sample of 300 male and female college students. Comparisons showed significant differences ($p < .001$); neither sex, age within limits nor religion contaminated results.

The prison group (non-conformity) was also compared with 101 Police Science students designated as a conformity group through interest and intent. A large significant difference provided additional assurance of the validity of the scale for its assumptions. Additional criterion populations were obtained to demonstrate the continuous ability of the scale to differentiate between conformity and non-conformity. These groups were 157 regular church-goers, mixed sex, all ages; 110 adult female prison inmates; 145 adult male prison inmates.

In another study, Bernberg³⁰ administered the HRI and the Guilford-Zimmerman Temperament Survey to eighty-nine female social case workers, in an attempt to find personality correlates of social conformity. The only GZ index significantly related to the HRI was Objectivity ($r = -0.47$).

30 R. E. Bernberg, "Personality Correlates of Social Conformity", in the Journal of Applied Psychology, Vol. 38, 1954, p. 148-149.

A similar study³¹ was attempted, using the MMPI on a heterogeneous sample of 105 adults. A factor exhaustion of the MMPI scales with the HRI scores as criterion yielded only one small but positive correlation with Ma ($r = +0.21$). High scores on the HRI, indicative of non-conformity, were not related to Pd ($r = -0.05$). It was concluded that social conformity "[...] as a personality trait defined within a socio-cultural framework exists as a dimension separate from that approached by the MMPI scales".³² The results were interpreted to indicate different levels of approach of the two tests towards understanding personality dimensions.

A two-part study by Gorfein and Anderson³³ first attempted to ascertain the relationship between social conformity and the degree of attitude change. The latter was measured using eighty male introductory Psychology students. The task consisted in rating a case history of a juvenile delinquent. Five of the thirty-seven HRI items were eliminated on the basis of failure to meet the J-distribution criterion on the above population. Results showed the HRI as failing

31 R. E. Bernberg, "Personality Correlates of Social Conformity, II", in the Journal of Social Psychology, Vol. 43, 1956, p. 309-312.

32 Ibid., p. 311.

33 D. S. Gorfein and L. M. Anderson, "A Note on the Validity of the Bernberg Human Relations Inventory", in the Journal of Psychology, Vol. 54, 1962, p. 65-68.

to distinguish between individuals who conform, i.e., are influenced in the attitude change task. However, slightly more Ss who did conform received low scores on the HRI; a trend existed.

A second attempt was made to ascertain the relationship between social conformity and individual susceptibility to yield to majority influence situations. The Asch paradigm was used for 21 female students. Significant predictive value for the HRI was found. Yielding Ss scored lower (greater conformity) ($p < .05$). The correlation between the HRI and the Marlowe-Crowne Social Desirability Scale for fifty-two introductory psychology students was not significant ($r = -0.03$).

In terms of reliability of the HRI, Bernberg originally found a Spearman-Brown coefficient of +0.77, using the first prison group.

Norms for the HRI were given in terms of quartile scores for the seven different groups of Ss who took the test. (Total N = 1,098).³⁴ Additional norms provided percentile ranks for fourteen-year old male high school freshmen (N = 159) and male delinquents (N = 124).

In view of the preceding information, it is suggested that the validity studies on the HRI enable the reader to

34 R. E. Bernberg, Op. Cit., p. 89.

appreciate its acceptance for the present study.

C. The Famous Sayings Test.

The second psychometric instrument used to provide as broad a definition of social conformity as possible was the Famous Sayings Test (FS)^{35,36} (see Appendix 4). This is a scale originally designed for measuring social acquiescence (SA) but includes three other measures: hostility (HO); fear of failure (FF); and conventional mores (CM). SA and CM were judged to be the most useful and thus were used in the present investigation.

The test consists of 130 sayings (maxims, adages, apothegms, and aphorisms) with which the testee is to indicate his agreement or disagreement. The initial item pool was formed by selecting a priori, twenty sayings from several chosen sources which might be relevant to each of thirteen needs from Murray's system of classification. Then, the original form, containing 300 items was administered to approximately 2000 Ss in a variety of samples drawn from different segments of the U.S. population. From these, a

35 B. M. Bass, "Development and Evaluation of a Scale for Measuring Social Acquiescence", in the Journal of Abnormal and Social Psychology, Vol. 53, 1956, p. 296-299.

36 Idem, "Famous Sayings Test: General Manual", in Psychological Reports, Vol. 4, 1958, p. 479-497.

representative sample of 400 was chosen. Mean age was 26.5, S.D. 10, sex equally distributed.

Factor analysis was then followed by an attempt to develop a scale to measure each factor using an item analysis on a new sample of 200. Here, the mean age was 21, S.D. 3.5. Bass had pooled scores from two original Murray scales (nurture, superego strength) to obtain a crude measure of CM. The development of the SA scale is discussed later. The sample of 200 was trichotomized for the CM score into an upper-scoring 25%, middle 50%, and lower 25%. For the item analyses, the tendency to respond "yes" of the upper and lower 25% of the distributions was compared since about half of all responses fell into this category, while about half were "?" or "no". Most items selected were accepted by 40% or more of the upper compared to the lower criterion group on the scale for which the item was selected, and by less than 20% more of the upper than the lower groups on the other scales. Probabilities were less than 1% that such an item distribution would arise by chance.

The thirty-item CM scale scores are associated with the tendency to accept as true, statements about the desirability and need to help others, to be generous, to be forgiving, to obey the dictates of one's conscience, to be virtuous, to maintain old friendships and form new ones, to be loyal, to be humble, to conform to custom and maintain faith.

The sample of 200 Ss previously described was used to develop the SA scale. One general factor was assumed to permeate all the scales: the tendency to accept or reject the widely varying statements regardless of their content. The proportion of proverbs accepted was tabulated and ordered for the 200 Ss; upper and lower quartiles were then contrasted. Fifty-six percent of the items were accepted by at least 40% more of the upper than of the lower criterion group.

Thus, SA purports to measure the tendency to accept any generalizations about human behavior, about how people behave or should behave. High SA scorers appear to be "outward-oriented", insensitive, non-intellectual, socially uncritical individuals - unquestioning conformists to social demands.

Bass has therefore attempted to devise a structural, objectively scorable, yet indirect self-report measure of certain personality dimensions, to be principally used as a screening and classification technique, a research tool in social psychology. The test takes fifteen to twenty minutes to administer and is scored with a simple stencil.

FS has been standardized on a sample of approximately 2000 Ss from different educational, geographical, and occupational levels. Norms for each of the four scales are given for six groups of adults and two groups of students, including

520 college students.³⁷ Although the author has suggested developing local norms, it is possible to compare the S's individual score on any scale with the norms for the appropriate reference groups which are given in terms of T-scores and percentiles. Thus, each S can be ordered into a high (upper 25%) or low (lower 25%) group on the basis of his percentile rank.

Bass has found the reliability of the CM scale to be +0.73 and SA, +0.92.³⁸ It was concluded that only SA is satisfactory for use on an individual basis; however, reliability of CM is quite adequate for screening purposes. Hence, it appears adequate for this study.

The above coefficient for CM is corrected split-half reliability for 100 Louisiana college sophomores. That for SA is based on 50 West Coast residents and 50 college students. In addition, Kuder-Richardson reliability for SA was +0.81, using a more homogeneous sample of 1,491 college freshmen.

Validity of the FS was developed within an occupational framework as the instrument was primarily designed for industrial screening. It is considered irrelevant within the context of this study to elucidate how well the test performs its specialized functions. Rather, the following data will

37 B. M. Bass, Op. Cit., (1958), p. 481-482.

38 Ibid., p. 487-488.

serve as an estimate of the accuracy with which the FS measures aspects of personality in general, i.e., CM and SA.

The CM scale differentiates between groups of Ss in ways consistent with the construct implications of the scale. More importantly however, it was found to significantly correlate with the Sociability and Co-operativeness scores on the G-Z Temperament Survey (+0.43, +0.31) and the UCPOC Ethnocentrism Scale (-0.41) for a sample of 25 college students.³⁹ Bass also found significant occupational, educational and regional differences.⁴⁰ Bass and Vidulich⁴¹ used 108 introductory psychology students in order to derive correlations between FS and a number of criterion personality tests. CM correlated significantly at the .01 level with Conservatism and Radicalism on the Conservatism-Radicalism Questionnaire (+0.40, -0.34); Nurturance, Affiliation and Autonomy on the EPPS (+0.31, +0.25, -0.24); Dogmatism on the Dogmatism Scale (+0.30); Conscientiousness, Sociability and Aggressiveness on the 16 P.F. (+0.27, +0.26, -0.23); and Rigidity on the unpublished California Rigidity Scale (+0.26).

39 B. M. Bass, Op. Cit., (1958), p. 490.

40 Idem, "Validity Studies of a Proverbs Personality Test", in the Journal of Applied Psychology, Vol. 41, issue of June 1957, p. 158-160.

41 B. M. Bass and R. N. Vidulich, "Relation of Selected Personality and Attitude Scales to the Famous Sayings Test"; in Psychological Reports, Vol. 7, issue of October 1960, p. 259-260.

No correlation was found between CM and the HRI. These data suggest good construct validity for the CM scale, insofar as they provide evidence that it is an indirect measure of conventionality, conservatism, conscientiousness, rigidity and sociability.

CM has been found to correlate with the SA scale (+0.67). Other FS scales also correlated highly, suggesting that interpretation of any scores must first focus on the S's general acquiescence level, then on the departure from this level, using other scales.

A factor analytic study by Feinberg and Penzer⁴² showed CM to be significantly correlated with religious and social values (+0.55). This factor is identified by a desire to work with people for their sake rather than for political or economic reasons. A social acquiescence factor correlated +0.60 with CM.

In a normative study on 101 nurses and physicians, Walsh⁴³ found experienced nurses to have higher CM scores when compared to new interns and residents, who are in constant change and presented with little opportunity to

42 M. R. Feinberg and W. N. Penzer, "Factor Analysis of a Sales Selection Battery", in Personnel Psychology, Vol. 17, 1964, p. 323.

43 T. M. Walsh, "Responses on the Famous Sayings Test of Professional and Non-Professional Personnel in a Medical Population", in Psychological Reports, Vol. 18, 1966, p. 151-157.

establish conventional patterns.

Validity studies on the SA scale have been more extensive, as this variable is correlated with the three other FS scales, due to a fifteen item overlap. Bass has suggested a pattern of relations between SA and miscellaneous personality and behavioral measures. SA correlated with Sociability and Co-operativeness on the G-Z Temperament Survey (N = 25, $r = +0.27, +0.25$) and with Sociability (N = 41, $r = +0.34$). Using 23 Marines' peer nominations, SA correlated +0.45 with "likes to help" and +0.42 with "thinks well of most".⁴⁴

For three samples of college students (N = 108, 82, 71), Gaier and Bass⁴⁵ reported correlations between SA and the F (Authoritarianism) Scale (+0.49, +0.48, +0.16), and the E (Ethnocentrism) Scale (+0.33, +0.20, +0.06).

Frye and Bass⁴⁶ reported a study in which eight groups of five Ss each engaged in discussions about human relations problems. Significant correlations of +0.36 and +0.39 were

44 These and other less relevant criteria correlated with SA were based on samples too small to allow for critical statistical tests.

45 E. L. Gaier and B. M. Bass, "Regional Differences in Interrelations Among Authoritarianism, Acquiescence and Ethnocentrism", in the Journal of Social Psychology, Vol. 49, issue of Feb. 1959, p. 47-51.

46 Roland L. Frye and Bernard M. Bass, "Behavior in a Group Related to Tested Social Acquiescence", in the Journal of Social Psychology, Vol. 61, December 1963, p. 263-266.

found between SA scores and the tendency to accept group decisions and to agree with other group members following the discussions. These authors concluded that the socially acquiescent member, as assessed by his tendency to accept rather than reject generalizations, tended

[...] to accept more readily the group decision ($r = +0.36$) and to agree more with the other members after learning their opinions in the discussion ($r = +0.39$). [...] The conformity could not be accounted for by initial agreement, influence, or attempted influence of the other members, since these measures were negatively (but not significantly) related with Social Acquiescence [...]⁴⁷

Vidulich and Bass⁴⁸ established correlations at the .01 level between SA and Dogmatism (+0.40) and 16 PF Objectivity (-0.25). The lack of correlation between SA and the EPPS was interpreted as an absence of the social acquiescence response bias on the EPPS. Similarly, the lack of correlation between either SA or CM and the HRI may have perhaps shown that the latter instrument measures a qualitatively different kind of social conformity, and thus extends the spectrum of criteria to be used herein.

Murstein⁴⁹ established a correlation at the .01 level (+0.45) between SA and Self-Ideal-Self-Adjustment Discrepancy,

47 R. L. Frye and B. M. Bass, Op. Cit., p. 264.

48 B. M. Bass and R. N. Vidulich, Op. Cit., p. 259.

49 B. I. Murstein, "The Relation of the Famous Sayings Test to Self- and Ideal-Self-Adjustment", (abstract) in the Journal of Consulting Psychology, Vol. 25, issue of Aug. 1961, p. 368.

implying that SA was more than an interfering set. It "[...] may be a superficial phenotype reflecting considerable underlying anxiety which manifests itself by an inordinate need to win acceptance by others through excessive conformity".⁵⁰

Bass speculated that

[...] where successive learning or problem-solving involves reserving judgment, avoiding half-truths, weighing evidence critically, discerning among weakly differentiated cues, avoiding overgeneralizing and the negative effects of stimulus generalization, socially acquiescent Ss are likely to perform less adequately than those of matched intelligence but with lesser tendencies to acquiesce.⁵¹

Hoffman's finding that those Ss low in SA increase significantly more in subject matter proficiency in psychology during a semester than do Ss high in SA has borne out this hypothesis.⁵²

Shaw⁵³ computed correlations between SA and the F Scale and Individual Prominence Scale (showing tendencies to behave in ways which stand out in a group as an individual). Samples consisted of 74 adults and 172 university students.

50 B. I. Murstein, Op. Cit., p. 368.

51 B. M. Bass, "Some Recent Studies in Social Acquiescence", in Psychological Reports, Vol. 9, 1961, p. 448.

52 P. Hoffman, "Social Acquiescence and Education", in Educational and Psychological Measurement, Vol. 20, 1960, p. 769-777.

53 M. E. Shaw, "Some Correlates of Social Acquiescence", in the Journal of Social Psychology, Vol. 55, 1961, p. 133-141.

Using the total N of 246, significant correlations were found at the .01 level between SA and F (+0.61) and SA and IP (+0.22). However, the latter statistic should have been negative. It was interpreted as arising from unwanted response bias in the IP scale. It may also have been explained on the basis that social acquiescence is a form of behavior calculated to gain attention from others.

Husek⁵⁴ attempted to replicate Bass' work in correlating SA with similar variables, including personality ratings of independence, etc. Two hundred and thirty-one high school students were used; no significant relationship was found between SA and the ratings. However, a measure of "pure" acquiescence (comprised of 120 choices - agree/disagree - pertaining to what Ss hypothesized the experimenter was thinking) was related to SA by a small but significant amount (+0.24).

Quinn and Lichtenstein⁵⁵ performed a factor analytic study which showed that SA loaded higher (+0.83) than fourteen other tests (mostly questionnaires) on a general factor of acquiescence.

54 T. R. Husek, "Acquiescence as a Response Set and as a Personality Characteristic", in Educational and Psychological Measurement, Vol. 21, No. 2, 1961, p. 295-307.

55 R. P. Quinn and R. E. Lichtenstein, "The Validity of Acquiescence Measures", paper presented at A.P.A. convention, St. Louis, Missouri, August 1962.

Vaughan⁵⁶ used three complex and carefully defined criteria of conformity: Direct Command, Normative Pressure, and Group Pressure, on a sample of sixty-four students. SA scores on this sample had a mean of 25.89, S.D. 6.29, as compared to the results of Quinn and Lichtenstein, who derived a mean of 23.9, S.D. 8.8. SA was not significantly correlated with the three other measures of conformity. By computing frequency distributions and percentile rankings on GP and NP data, it was found that SA discriminated significantly between high conformity (HC; N = 13) and low conformity (LC; N = 10) groups. This finding appears to further support SA validity. When SA scores were thus added to the criteria, N was 6 in HC and 6 in LC. Here, mean SA was 32.5 for HC (82nd percentile) and 21.2 for LC (28th percentile).

Vaughan then used a massive battery of tests on these twelve Ss. Admittedly, the sample was small, but this may have been compensated for by the broad and stringent criteria for conformity with which these Ss were classified and separated.

The HC group (which had significantly high SA scores) was found to have significantly higher scores on Rokeach's Dogmatism Scale, the F Scale, the Religious value of the

56 G. M. Vaughan, "The Trans-situational Aspect of Conforming Behavior", in the Journal of Personality, Vol. 32, 1964, p. 335-354.

Allport-Vernon-Lindzey Study of Values and the 16 P.F. factors of Premia, Protension, Guilt-Proneness, Emotional Reactivity, Paranoia and Ergic Tension. The Objective-Analytic Test Battery factors of Hypomanic Smartness, Critical Practicality and Anxiety were all significantly higher in the HC group.

The LC group had significantly lower scores on an intelligence test, Ascendance on the A-S Reaction Study, Theoretical and Aesthetic Values on the AVL, 16 P.F. Assertiveness, Intelligence, Ego Strength, Dominance and Shrewdness; OATB Assertiveness, Neural Reserves, Realism, Apathy, Wary Realism, Dourness and Extraversion.

These results argue strongly in favor of the SA scale.

In yet a further study by Vaughn and White,⁵⁷ it was found that consistently high conformers (N = 20) scored higher (P < .01) on a forced-choice version of the F scale than do low conformers (N = 25). No sex difference was observed. Criteria of conformity were GP, NP and SA scores (here, a median cut-off). Using 312 Ss, a significant correlation (+0.28) between SA and F was obtained.

57 R. M. Vaughn and K. D. White, "Conformity and Authoritarianism Reexamined", in the Journal of Personality and Social Psychology, Vol. 3, No. 3, 1966, p. 363-366.

A more recent study by Eisenman and Platt⁵⁸ employed the California F scale as a measure of authoritarianism and a twelve-item Response Acquiescence Scale developed by one of the authors. Using fifty-nine undergraduate college students, the authors found significant correlations between CM and the F scale (+0.42, $P < .01$); SA and the F scale (+0.33, $P < .05$) and SA and the Acquiescence Scale (+0.28, $P < .05$).

Two further studies have shown evidence that the SA scale is susceptible to faking. Braun and Dubé⁵⁹ computed an r of +0.54 between regular and faked administrations of the SA scale. Bass⁶⁰ reported a similar result and concluded that SA "[...] is regarded as desirable just as sociability, ascendancy, emotional stability and other such traits are usually thought by the layman to be related positively to career success". In the present context, there is no reason for the Ss to fake as the FS is not being used for personnel selection. In any case, the HRI is being used as an adjunct.

58 R. Eisenman and J. J. Platt, "Authoritarianism, Creativity, and Other Correlates of the Famous Sayings Test", in Psychological Reports, Vol. 26, 1970, p. 267-271.

59 J. R. Braun and C. S. Dubé, II, "Note on a Faking Study With the Famous Sayings Test", in Psychological Reports, Vol. 13, 1963, p. 878.

60 B. M. Bass, Op. Cit., (1956), p. 299.

Another criticism of the FS was that levelled by Murstein.⁶¹ The question was raised concerning the possibility that a number of the proverbs may be perceived as being true by the majority of persons. Hence, to assure differential value, scale values must be established as to the normative agreement on the verification of a proverb. Hopefully this problem will be circumvented by obtaining a normal distribution of SA and CM scores and dealing with extreme groups thereof, in order to make Rorschach comparisons.

In conclusion, studies appear to have shown adequate construct validity for the two scales of the FS, as they will be used in the present study, i.e., a non-predictive, non-selective research tool. Bass and Frye's results appear to have more relevant importance - and their findings were positive.

The second part of the present study is concerned with validating the construct implied by a high degree of A responses, namely, stereotyped thinking. As will be evident, the two psychometric instruments used as criteria for this purpose are not as direct in their approach as the criteria for social conformity. A central reason for this is the lack of any instrument measuring stereotyped thinking as Rorschach described it. Experimental techniques abound, e.g.,

61 B. I. Murstein, Op. Cit., p. 368.

for measuring rigidity; however, psychometric criteria measuring stereotypy can only be deviously appreciated.

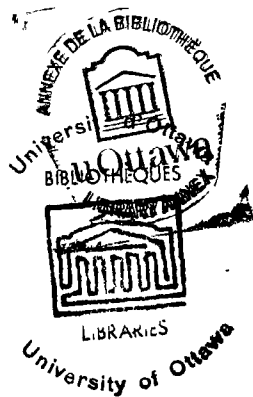
It is therefore postulated, in line with the reasoning developed in Chapter I, that the highly-prejudiced subject will be one showing the greatest agreement with the stereotyped statements on attitude scales. One can infer logically that this subject will be one who usually thinks in social stereotypes. The differences between the individual stereotype (personal mental construct) and the social variety can be resolved by considering only the process of stereotypy, as Hermann Rorschach intimated. The quality, type, dynamics and object of the phenomenon of stereotypy are secondary in the context of this study. The two central questions appear to present themselves as "How stereotyped is the individual's thinking? and "To what extent is the process of stereotypy operative in his behavioral repertoire?" The motor parameters or components of stereotypy obviously cannot be considered, as well as the cognitive approach to the dynamics, purpose, etc. of stereotyped cognition, such as that of Festinger. The validity tests mentioned below were primarily chosen according to their suitability as criteria, variety, simplicity, and especially - validity, relative to the Rorschach.

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CONSTRUCT VALIDITY OF RORSCHACH
ANIMAL AND POPULAR HYPOTHESES

by Paul de Lotbinière Harwood

Thesis presented to the Faculty
of Psychology of the University
of Ottawa in partial fulfillment
of the requirements for the
Degree of Master of Arts.



Ottawa, Ontario, 1973

D. The Anti-Semitism Scale.

Two instruments were selected to broaden criteria of stereotypy. The first of these is the Anti-Semitism Scale (AS)⁶² developed by Levinson and Sanford. This is a fifty-two-item questionnaire dealing with the ethics, morality and personality traits of Jews, as well as their patriotism and religion. Responses to each item are on a six-point modified Likert-type continuum, ranging from firm, strong agreement (undoubtedly true in general) to strong disagreement (an absolute misconception, false). No neutral alternative is provided. Weights are assigned from +3 to -3 and a constant of 4 is added to make all values positive. High scores - the sum of the weighted alternatives endorsed by the S - reflect anti-Semitism.

The authors have convincingly presented four reasons for using only negative items. They have stressed that the scale is sufficiently inclusive of anti-semitic ideology that it discriminates between attitudes and opinions concerning Jews. The latter is directed towards the S's conception and imagery of the Jews, while the former taps the personal and social measures the S himself would take. To the potential

62 D. J. Levinson and R. N. Sanford, "A Scale for the Measurement of Anti-Semitism", in the Journal of Psychology, Vol. 17, issue of April 1944, p. 339-370. (See Appendix 5)

criticism that certain items might be consistently held by the majority of the population, the authors contended that the AS contains contradictory statements. If one is accepted as true, the other is only accepted as true also if the individual is truly prejudiced, i.e., has truly identified totally with anti-semitic ideology. Furthermore, it is logically impossible that all, or even most Jewish people have the stated traits; most traits could not even co-exist in one person.

Seventy-seven female introductory psychology students were used to obtain reliability; split-half reliability, corrected by the Spearman-Brown formula, was +0.98. Although this coefficient appears spuriously high, the authors observed that there was relatively little intrasubject uniformity of response. That is, considerable variability was found, which was quantitatively equalized between the odd and even items. A study of internal consistency showed that Ss obtaining high and low scores on the total scale also obtained high and low scores on each item ($r = +0.91$). The higher discriminabilities were obtained partly as a result of scoring on a seven-point basis. However, they would have been higher had a more heterogeneous group been used.

In addition, five subscales were extracted, all showing high reliabilities and intercorrelations, indicating a remarkable generality of readiness to accept or reject

anti-semitism. The AS measures stereotypy, i.e., the process of identifying a group in terms of the traits and properties of known individuals or in terms of a "mythology" concerning the nature of the group as a whole. This process must be considered akin to Rorschach's theorizing on the cognitive processes of the person with high degrees of A associations.

The authors based the validity of the scale upon the discrimination between known groups with liberal and conservative leanings (as measured by their approval or disapproval of such groups and movements: as labor unions, racial equality, and the United States Communist Party). The AS scores of several groups of Ss turned out to be meaningfully related to political preference, religious affiliation, and socio-economic level. Ss choosing professions and having parents with higher income had relatively high AS scores. The authors concluded that all results⁶³ were in accord with what one might expect from a valid scale.

Several validity studies have confirmed this opinion. Evans⁶⁴ correlated results on the AS with those on the AVL, using a sample of 169 college students. Significant positive relationships were found between high AS and Political and

63 D. J. Levinson and R. N. Sanford, Op. Cit., p. 364, 366.

64 R. I. Evans, "Personal Values as Factors in Anti-Semitism", in the Journal of Abnormal and Social Psychology, Vol. 47, 1952, p. 749-756.

Economic values, and to a lesser degree, with Theoretical and Religious values. In addition, there was a significant relationship between AS and the number of reasons given for being (or not being) anti-semitic.

O'Reilly and O'Reilly⁶⁵ related scores on a religion scale to AS scores of 92 white Catholic male college students and 120 female college students. Split-half reliability of the AS scale was found to be +0.92, raised to +0.96 by the Spearman-Brown formula. It was found that 60% of high religion scorers were high AS scorers. 61% of low religion scorers were low AS scorers ($\chi^2 = 9.99, p < .01$). Those who reported that religion had greatly influenced their upbringing had 52.5% more of their number in the more prejudiced half of the AS scale.

Weatherley⁶⁶ compared 25 high and 25 low AS Ss with respect to their readiness to express experimentally aroused aggression in subsequent fantasy productions; there were 50 control Ss. High AS Ss had a greater tendency to displace aggression significantly onto Jews.

65 C. T. O'Reilly and E. J. O'Reilly, "Religious Beliefs of Catholic College Students, and Their Attitudes Toward Minorities", in the Journal of Abnormal and Social Psychology, Vol. 49, 1954, p. 378-380.

66 D. Weatherley, "Anti-Semitism and the Expression of Fantasy Aggression", in the Journal of Abnormal and Social Psychology, Vol. 62, 1961, p. 454-457.

Pulos and Spilka⁶⁷ used 40 high and 40 low AS Ss from a population of 220 college students, relating these scores to accuracy in identifying twenty-Jewish photographs, labelling more photographs as Jewish, and remembering significantly more Jewish (twenty) than non-Jewish (twenty) photographs. Compared to the low AS group, high AS Ss demonstrated these tendencies to a significant degree.

Weatherley⁶⁸ used AS responses of thirty-nine college women, from whose mothers information had been obtained concerning maternal handling of their childhood aggression. High AS was significantly associated with relatively stern maternal discipline, high punitiveness and low permissiveness.

The first study by Weatherley showed good predictive validity for the AS; the second, and that of Pulos and Spilka, may be taken as very strong evidence for the construct validity of the scale.

In conclusion, it is suggested that, for the purposes of this investigation, the AS scale, although dated, represents a viable means of ascertaining the degree of stereotyped cognition an individual can manifest. Because of the lack of a

67 L. Pulos and B. Spilka, "Perceptual Selectivity, Memory, and Anti-Semitism", in the Journal of Abnormal and Social Psychology, Vol. 62, 1961, p. 690-692.

68 D. Weatherley, "Maternal Response to Childhood Aggression and Subsequent Anti-Semitism", in the Journal of Abnormal and Social Psychology, Vol. 66, 1963, p. 183-185.

suitable alternative, this instrument, backed by several adequate validity studies, was adopted as one of the measures relating to the phenomenon under analysis.

E. The Attitude Toward the Negro Scale.

The instrument used as an adjunct for the AS and for a similar purpose of tapping the stereotypy process was Hinckley's Attitude Toward the Negro (AN).⁶⁹ This is a Thurstone type instrument, having two forms comprised of sixteen items each. It deals with stereotyped statements (as on the previous scale) concerning the equality, rights and prerogatives of the Negro.

Three independent sets of scale values, for each of the sixteen items on both forms, were accumulated, using white Ss prejudiced against the Negro, in favor of the Negro (groups I and II, total N of 600), and a Negro sample (N of 250). At first, 230 statements were culled from 200 college students and 25 college professors; this number was further reduced to 114. The three groups of Ss sorted the statements into eleven piles; frequency tables for each statement were computed, including percentile curves. Scale values and quartile deviations were then calculated, and Pearson correlations

69 E. D. Hinckley, "The Influence of Individual Opinion on Construction of an Attitude Scale", in the Journal of Social Psychology, Vol. 3, 1932, p. 283-296. See Appendix 6.

between the series of scale values in all groups were then obtained. (r between I and II was +0.98, between I and III, +0.935.) On this basis, thirty-two final items were chosen. A frequency distribution of the differences in responses between the first two groups was plotted and the probable error of a scale value in general was established. This constant error was not found to be significant.

Hinckley concluded that the AN scale was not influenced in its measuring function by the attitudes of the Ss used in the construction of the scale. This is an indirect estimate of its validity. Several other studies have shed light on this aspect.

Bolton⁷⁰ used responses of 162 Southern female college students on the AN and found no significant relationship with measures of intelligence and knowledge of the social problems of the Negro, as determined by objective rankings of prejudiced and non-prejudiced Ss. Equivalent form reliability was found to be +0.62.

However, Sims and Patrick,⁷¹ using 368 college students, found a slight positive relationship with intelligence.

70 E. B. Bolton, "Effect of Knowledge Upon Attitudes Toward the Negro", in Psychological Bulletin, Vol. 30, 1933, p. 719.

71 V. M. Sims and J. R. Patrick, "Attitude Toward the Negro of Northern and Southern College Students", in the Journal of Social Psychology, Vol. 7, 1936, p. 192-204.

Validation of the AN was successful: it significantly differentiated between the three groups of Ss (Northern students in the North, N = 97; Northern students studying in the South, N = 115; and Southern students in the South, N = 156). These Ss were operationally defined as being non-prejudiced, slightly prejudiced, and very prejudiced, respectively. Reliability (equivalent forms) was found to be +0.70 (group I), +0.78 (group II), and +0.73 (group III), with +0.78 for the three groups combined.

Rosander⁷² validated the AN using correlations for 98 Northern and 88 Southern college students, between the AN and responses on his own anti-Negro scale. Significant positive correlations (corrected for attenuation) were found in the range of +0.684 to +0.891.

Chase⁷³ computed AN scores for 1027 Northern college students and found more favorable attitudes to Negroes than with University of Alabama students, and less favorable attitudes to Negroes than with University of Ohio Ss.

72 A. C. Rosander, "An Attitude Scale Based Upon Behavior Situations", in the Journal of Social Psychology, Vol. 8, 1937, p. 3-16.

73 W. P. Chase, "Attitudes of North Carolina College Students (Women) Toward the Negro", in the Journal of Social Psychology, Vol. 12, 1940, p. 367-378.

Stephenson⁷⁴ reported equivalent form reliability to be $+0.76 \pm .02$, established on 200 Ohio University education majors.

Ritt⁷⁵ obtained a correlation of $+0.89$ between this scale and a scale developed by a procedure for short-forming structured psychological tests.

Finally, Hinckley himself⁷⁶ has replicated his original study, using 298 white Southern college students. Scale values on both forms of the AN were correlated for two subsamples, one of which displayed prejudice, while the other did not. An r of $+0.94$ was obtained, as compared to the r of $+0.98$ in the previous study.

Again, as in the case of the AS scale (p. 146) the AN scale was adopted partially as a result of the lack of a viable alternative, to serve as a criterion sampling the phenomenon of stereotyped cognition, in line with what it is believed Rorschach's hypotheses implied.

74 C. M. Stephenson, "The Relation Between the Attitudes Toward Negroes of Seniors in a School of Education and Their Major Subject", in the Journal of Educational Research, Vol. 49, 1955, p. 113-121.

75 L. W. Ritt, The Development of a Scale for Measuring Attitudes Toward Negroes, Based on a Stochastic Model, Unpublished Master's Thesis, University of Florida, April 1964.

76 E. D. Hinckley, "A Follow-Up Study on the Influence of Individual Opinion on Construction of an Attitude Scale", in the Journal of Abnormal and Social Psychology, Vol. 67, 1963, p. 290-292.

Having discussed the validity of the criterion measures selected, it is now proposed that a detailed presentation of the methods followed in the study be elaborated. This will include the description of Group Rorschach and criterion test administration, the Communality Scale, and scoring procedures. Following this, a discussion of statistical problems, and the two-part data analysis will lead into Chapter III.

3. The Methods Used in the Study.

There were three testing sessions, at each of which there were approximately twenty-five Ss in attendance. Time between sessions was one week. The Harrower Group Rorschach was administered using the standard ten 35 mm. Kodaslide, on a silver screen, 4' X 6'. The first row of seats was 12' from the screen to avoid the "over-awing" effect; seats extended back 12'. Views from side and back rows were tested in order that each subject had an unobstructed view, and perceptual distortions due to distance were minimized. The seating arrangement was such that the angle subtended when viewed on the screen was approximately the same as that subtended in an individual Rorschach test, when the plate is held about 22" from the eye of the viewer: 60° .⁷⁷ Lighting from the

77 J. H. Rohrer et al., Op. Cit.

projector light was not sufficient for recording responses. To enable a clear blot image to be presented, and facilitate recording of responses, one fluorescent ceiling light was used at each session.

When Ss were assembled, pencils with erasers and the Harrower blanks were distributed. On the top sheet, Ss wrote their ages, sex, and educational level. Names were not required, as each person was assigned a numerical code. Instructions for the Rorschach were then given (after introducing the test), using modifications endorsed by Harrower from several sources.⁷⁸

A trial blot⁷⁹ was considered unnecessary, as this is not even used for the standard individual administration.

Timing was as follows: three minutes were allowed for three responses per blot; thus, theoretically, one minute per response. A few minutes were set aside after instructions to clarify any of the Ss' questions. Also, a fifteen-second pause was given between slides. Reading of instructions and answering questions took ten minutes. The actual test instructions and recording of responses during the performance took thirty-five minutes.

78 M. Harrower, Op. Cit. See Appendix 2.

79 R. M. Lindner and K. W. Chapman, "An Eclectic Group Method", in the Rorschach Research Exchange, Vol. 6, 1942, p. 139-146.

Technical points inherent in the group administration include the arbitrary assigning of three responses per blot. This was done in an attempt to induce uniformity, especially as A% and P% are directly related to the number of responses. The present author assumed that response frequency would possibly occur in four subgroups: 10 to 15, 15 to 20, 20 to 25 and 25 to 30. The results of this attempt are found in the next chapter.

Other frequent criticisms of the group method have been that it disallows handling of the card (three out of four positions are lost), and that verbalizations are lost. The latter point is somewhat irrelevant for the present study. However, the former (positions) may be. The author has chosen to follow Harrower's method (one standard position) and rationale, namely that rotation may encourage "[...] greater productivity in patients in whom lesser productivity is a diagnostic sign".⁸⁰ Harrower has found that even with four views of the card, there was an insignificant increase in the number of R (less than 10%) when the same Ss were administered the individual Rorschach. Hertzman has concurred.⁸¹ The frequency of rotation is low in the individual Rorschach; so if rotation is allowed with the Group method, encouragement

80 M. Harrower, Op. Cit., p. 141.

81 M. Hertzman, Op. Cit., p. 13.

is created which may significantly increase the disparity between individual and group forms of the Rorschach, and in a sense force answers from the Ss. In any event, Harrower has noticed that Ss turn their heads when desiring another position. She concluded that the question is open to the investigator's orientation.

When Ss had completed the performance proper, they were instructed only to locate their percepts on the location charts (see instructions, Appendix 2). One minute per blot was given for this purpose. The only Inquiry then, consisted in Ss outlining their responses in pencil, and numbering them with corresponding numbers in the Group Rorschach Blank. This was done to facilitate analysis of location (W, D, d, Dd, S) in order to specifically ascertain whether the given response could qualify as a popular one.

Thus, the Inquiry was totally dependent on the purposes for giving the Group Rorschach; namely, the designation and tabulation of animal and popular responses.

Scoring of the Blanks for popular responses was accomplished using a modification of Zubin's rating scale for them (the Communality Scale, originally developed by

Griffin^{82,83,84,85}). In addition, P responses were scored according to Klopfer's list with modifications described below. A responses were scored only quantitatively, in the usual way.

Before describing the Communality Scale, something of the development, rationale and unefulness of rating scales (Zubin's) will be discussed as pertaining to the present analysis.

Zubin was of the opinion that the advantages of his method "[...] inhere primarily in the fact that it subjects the Rorschach experiment to psychometric rating scales of a more or less objective nature. At the present time, this is done intuitively or haphazardly by the Rorschach worker [...]"⁸⁶ The quantification of Rorschach responses on a five-point scale adds to the conciseness of scoring and ease of interpretation. It was Zubin's general thesis that "Configural

82 Joseph Zubin, "A Psychometric Approach to the Evaluation of the Rorschach Test", in Psychiatry, Vol. 4, 1941, p. 547-566.

83 Joseph Zubin et al., An Experimental Approach to Projective Techniques, New York, Wiley, 1965, p. 358-359.

84 Idem, Supplement to An Experimental Approach to Projective Techniques, ADI Document No. 7955, p. 1-86.

85 D. P. Griffin, "Psychometric Scales for the Rorschach Popular Response", in the Journal of Clinical Psychology, Vol. 13, 1957, p. 283-287.

86 J. Zubin, Op. Cit., p. 565.

scoring, pattern and profile analysis, and use of nonlinear scales are all subject to psychometric analysis without violating the projective principle".⁸⁷

He has viewed the Rorschach situation as an interview; thus, the most appropriate analysis of Rorschach variables is a content analysis either from a global or atomistic viewpoint: both have worked. It was stated that the conceptual or contentual component in a Rorschach response is, at the present time, more amenable to categorization and more useful in predicting behavior. Content has been the basis for whatever success the Rorschach has achieved. Zubin was of the opinion that it is debatable whether most experts do not derive their insights from content - directly or indirectly. Potkay's more recent study⁸⁸ has tended to support this.

Zubin's scales for recording clinical impressions are extremely exhaustive, dealing with the detailed stimulus properties of the blots. Although they represent more objective means of scoring, i.e., psychometrically recording various information, no research has been carried out since their inception in the 1940's. Holtzman⁸⁹ has credited Zubin only

87 J. Zubin et al., Op. Cit., p. 19.

88 Charles R. Potkay, The Rorschach Clinician, New York, Grune and Stratton, 1971.

89 W. H. Holtzman, "Objective Scoring of Projective Tests", p. 119-145, in B. M. Bass and I. A. Berg, Objective Approaches to Personality Assessment, Toronto, Van Nostrand, 1959, v-233 p.

with pointing out the fundamental weaknesses inherent in the standard methods of scoring. It is suggested that the complexity of the scales may have deterred exploration of their merits. On this point, it may be easily seen that the scale described below, which is utilized in this study, overcomes many of the technical difficulties inherent in a global analysis of a protocol using Zubin's approach.

Zubin's scales were developed from a survey of various types of interpretive evaluations, from three sources: clinical experience, literature on scoring, and on "signs". Inter-scoring reliability of ratings varied in general from 70% to 100%, with a median of 94%. Split-half reliability for the content scales was relatively higher than for the determinant scales. Essentially, the former represent a more exhaustive categorization of P associations than does a simple, straightforward enumeration.

Thus, a two-dimensional analysis of P responses was obtained: quantitative and qualitative, the latter representing the degree to which the P response is popular. This is evident from an examination of the Communality Scale in Appendix 7.

Zubin has calculated a) the percentage perfect agreement and b) percentage one-step disagreement in order to obtain inter-scoring reliability for the scales. Scale 57 (Communality) produced 90% perfect agreement and 8% one-step

disagreement.⁹⁰ Split-half reliability for this scale was not included in the Document statistics, apparently because an insufficient number of ratings were made to permit an estimate.

The Communality Scale was modified as follows to permit simplified rating: only categories 2, 3, 4, and 5 were used. It was decided that no advantage would be gained by using the first two categories.

Zubin has authored a guide to the psychometric scoring of popular responses,⁹¹ which includes five pages of extensive examples of responses rated as category 0, 1, 2, 3, and 4. This guide was used by the present author to rate Ss' responses in terms of the degree of popularity.

Thus, each S received a score designating the mean rating of all P responses per protocol. Each category value was added and then divided by the number of P responses in the protocol. This value will be hereinafter referred to as the "mean P rating" (MPR).

90 J. Zubin et al., Supplement to an Experimental Approach to Projective Techniques, part I, p. 3.

91 Ibid., part V, p. 50-54.

In addition, Klopfer's list of P responses was used as a cross-check.⁹² As no determinants were required of the Ss, slight modifications were necessarily made. Half the value of a P response was scored whenever the following determinants were not given in the response: on Card I, human movement for the two figures; on Card VI, shading (texture) for the animal skin; and on Card VIII, animal movement for the two side animals.

The Famous Sayings Test was administered using the instructions to Ss as given in Bass' manual.⁹³ Whenever Ss asked the purpose of the test, the examiner replied that it was a test of attitudes towards various famous sayings. Response alternatives were "yes", "no" and "?". On each scale for each item, two points were assigned for "Yes", one for "no" and none for "?". Simple totals were based on sums of points assigned for a given scale. The CM scale was scored by sliding the stencil over the boxes inside the booklet. The SA scale was scored similarly. In addition, however, the total number of "yes" responses on the fourth page was included.⁹⁴

92 Bruno Klopfer et al., Developments in the Rorschach Technique, Vol. I, Technique and Theory, New York, World Book Co., 1954, p. 70-79.

93 B. M. Bass, "Famous Sayings Test: General Manual".

94 Ibid., p. 480.

Bass has suggested that for research purposes the correlation between SA and CM may be removed by computing only "Yes" responses on page four.⁹⁵ The fifteen overlapping items are omitted, yielding an SA scale of forty-one rather than fifty-six items. However, besides the fact that this "new" scale is slightly less reliable, no norms exist against which to compare scores on it. Accordingly, the fifty-six-item SA scale was used, and the appropriate statistical procedures implemented in order to remove the effect of the intercorrelation.

All Ss followed instructions on the answer sheets of the HRI. Modifications were made in five items: the word "American" was changed to "Canadian" in items 4, 5, 13, 19, and 24. In item 13, "U.S. Employment Service" was changed to "Statistics Canada"; in item 24, "F.B.I." was changed to "R.C.M.P.". It was assumed that these changes would not affect the validity of the instrument to any appreciable or significant degree.

The AS scale was also administered by having Ss read instructions on the answer sheet. Time required was fifteen minutes. The AN scale (Form B) was administered in the same way; after reading instructions, Ss completed the task in ten minutes.

95 B. M. Bass, Op. Cit., p. 480.

Modifications in the AS scale were made in items 13, 29, 30, 42, and 45, where place changes were made similar to those in the HRI. In item 45, "Washington" was changed to "Ottawa". In item 19, the words "Rosenwald, Heller" were dropped.

The order in which all four criterion tests were given was counterbalanced. The number of possible combinations of the four tests was found to be twenty-four. It was arranged that between two and four Ss had one of these orders. In this way, the effect of any response set which may have occurred was compensated for.

The total time of testing for each of the three groups was approximately two hours. All were given ample time to finish and sufficient opportunity to ask questions. Answer forms were collected and collated for each S, after which they were thanked for their co-operation.

4. Statistical Analyses Used in the Study.

A. Preliminary Analysis.

The four psychometric criterion tests were hand scored in accordance with standards outlined in the respective manuals. The Group Rorschach was scored both quantitatively and qualitatively (in the case of popular responses), as previously described.

Fifteen variables were thus considered in the analysis of data from a sample of seventy-seven Ss. These were age, sex, R (number of responses, productivity), R-A (the number of animal responses subtracted from R in a given protocol - see later), R-P (the same for P responses), A, A%, P, P%, MPR (the mean rating of a given subject's P responses on the Communality scale), CM, SA, HRI, AS and AN.

Frequency distributions were first plotted for all fifteen variables in order to ascertain the degree of statistical normality present. If a distribution was skewed (this was ascertained by inspection), the median was taken as representative; otherwise, means and standard deviations were computed, using a Monroe Programmable Printing Calculator, Model 1785. Raw data for all cases can be found in appendix 8.

B. Control for Rorschach Productivity.

Ideally, it was hoped that Ss would write no more or less than three responses per blot, thus assuring a stable number of R (30), from which percentages could be easily calculated and compared. However, response frequencies below 30 were anticipated, and had to be taken into account statistically, in order to avoid losing cases and thus decreasing N.

Some authors, e.g., Beck and Klopfer, prefer to use the absolute number of P, on the assumption that there is a

fixed number (21 and 10, respectively). If percentage is used, it is the percentage of obtained P's in a protocol divided by the number of possible P's. On this basis, Beck has contended that the norm of 7 to 9 P is a more stable frame of reference than 20 to 30%.P. The rationale was that conformity in thinking should not be measured in terms of one's own mental life (P%), but in terms of that furnished by the average "healthy individual" (#P). Hirt,⁹⁶ however, was of the opinion that both approaches (#P vs. %P) appear to be equally valid.

However, there are various sound statistical rationales for controlling productivity. Given 10 P's, P% when R = 50 is 20%, whereas when R = 10, P% = 100%. If a fixed number of P is used, say 18, P% is 55.5%. In addition, although the following Rorschach ratios are numerically equal: $2P/10R$, $8P/40R$, $20P/100R$, they are not psychologically equal. That is, when R is less than 15, for example, it becomes easy to obtain 80 or 90% P. When R is higher, it is more difficult. This is because the ratio of P on R is not linear; it is a function of R, and may be significantly curvilinear.

⁹⁶ Michael Hirt, editor, Rorschach Science: Readings in Theory and Method, New York, The Free Press of Glencoe, 1962, p. 12-13.

Cronbach⁹⁷ has noted that Rorschach ratios (A/R, P/R) based on small denominators are unreliable. For example, the A% where R = 12 is unreliable; the addition of one A response raises A% by 8%. A% where R = 30 is more reliable; here, an added A response raises A% by only 3%. Thus, the difference between A% or P% in high and low criterion groups may be significant where $R > 25$, and not where $R < 25$, because of the relatively more unreliable ratios here. Also, if R is ignored, the unreliability of low R ratios may obscure significant differences between criterion groups.

Kalter and Marsden⁹⁸ have maintained that A% or P% is an entirely new variable. Correlations with criterion tests will not take R into account with sufficient accuracy, and thus cannot be interpreted. Furthermore, A% or P% may themselves be significantly related to R. The point is that while A may be significantly related to AS and AN scores, so may R. The studies discussed below have suggested that R has a significant curvilinear relationship with most Rorschach scores, including A and P. As the researcher wants only the effect of A and P, the effect of R must be partialled out if

97 Lee Cronbach, "Statistical Methods Applied to Rorschach Scores: A Review", in Psychological Bulletin, Vol. 46, 1949, p. 393-429.

98 N. Kalter and G. Marsden, "Response Productivity in Rorschach Research: A Caution on Method", in the Journal of Projective Techniques and Personality Assessment, Vol. 34, No. 1, 1970, p. 10-15.

it is confounding.

Thompson,⁹⁹ using 100 Ss, found a correlation between R and P of +0.84, with 40 or less R. However, the correlation between P and R-P was +0.13 (N = 100) and +0.51 (N = 128).

Wittenborn¹⁰⁰ found the correlation between R and P to be +0.188. And Eichler¹⁰¹ found the correlation between P and R-P to be +0.37 with 60 cases. Jain and Parikh¹⁰² also tested the linearity between (H + A) and R with 515 cases; this was +0.72. Fiske and Baughman¹⁰³ found that the relationship between R and four Rorschach scores was not simply linear. With N = 157, contingency coefficients were: between R and P, +0.39; R and A, +0.53; R and Ad, +0.40; R and A%, -0.31. These significant relationships were interpreted as

99 Grace M. Thompson, "Rorschach 'Populars' as a Function of the Length of Record", in the Journal of Consulting Psychology, Vol. 14, 1950, p. 287-290.

100 J. R. Wittenborn, "A Factor Analysis of Rorschach Scoring Categories", in the Journal of Consulting Psychology, Vol. 14, 1950, p. 261-267.

101 R. M. Eichler, "Some Comments on the Controlling of Differences in Responses on the Rorschach Test", in Psychological Bulletin, Vol. 48, 1951, p. 257-259.

102 K. S. P. Jain and B. S. Parikh, "Linearity in Relations Between Sum R and Other Rorschach Score Variables: A Normative Study", in the Journal of General Psychology, Vol. 77, issue of Oct. 1967, p. 259-261.

103 D. W. Fiske and E. E. Baughman, "Relationships Between Rorschach Scoring Categories and the Total Number of Responses", in the Journal of Abnormal and Social Psychology, Vol. 48, 1953, p. 25-32.

being spurious as they were part-whole correlations (the #R includes the #A, etc.) and may have been influenced by the number of Ss in each range of R. They concluded that Ss differing in R also differ with regard to thresholds for content categories. For 151 Ss, McCall and Doleys¹⁰⁴ found r between P and R to be +0.48, between P% and R, -0.50. When R was 20 to 39 (N = 100), r between R and P was non-significant. It was barely significant when R was between 20 and 49 (N = 116). When R was between 20 and 39, r between R and P% was -0.48.

Cronbach, Kalter and Marsden have implied that productivity is usually partialled out by obtaining three correlations: that between R and the Rorschach score; between Rorschach scores and criterion test scores; and between R and all criterion scores. These steps are taken to measure the effects of R; if correlations are significant, other procedures are followed. One method used by McCall and Doleys, Fiske and Baughman has been to determine the median number, range and standard deviation of a given Rorschach index for all classes of responses, e.g., R = 10-19, 20-29, 30-39, etc. Then the distributions are plotted and contingency coefficients are obtained. But these are part-whole correlations: the

104 R. J. McCall and E. J. Doleys, "Popular Responses on the Rorschach Test in Relation to the Number of Responses", in the Journal of Clinical Psychology, Vol. 11, issue of July 1955, p. 300-302.

Rorschach score is included in R. It need not constitute a major portion of R to substantially affect the correlations between R and variables with which it is correlated. This situation can be resolved by plotting a distribution of R-P, R-A scores, where R is measured without being partially determined by either A or P. Thus, the decision for controlling R should be based on four sets of correlations: that between P and R-P, A and R-A, R-P and criterion tests of conformity, and R-A and the attitude scales. In view of the above considerations, R-A and R-P were tabulated.

C. Data Analysis. Part I.

A matrix of Pearson product-moment correlation coefficients was obtained, using a fifteen by fifteen variable format. This matrix was obtained using a BMD pre-packaged program (number 03D)¹⁰⁵ with an IBM computer, at the Computing Centre, University of Ottawa.

In addition to the matrix for the total sample, four additional matrices were similarly obtained: those for males, females, older and younger Ss. This was done in lieu of computing biserial correlation coefficients. As these two

¹⁰⁵ The program was entitled "Correlation With Item Deletion" and was developed at the Health Sciences Computing Facility, U.C.L.A. It was used because of the fact that not all Ss completed every test. N's varied from 68 to 77. This program dropped a particular comparison when the data value was blank, rather than dropping the entire case values.

variables have been found to relate significantly to the Rorschach variables under analysis, this effect was judged to be important to ascertain.

Significance of all coefficients (in the present case, statistical representations of construct validity) was determined using Table VI, adapted from Fisher, and found in the text by Edwards.¹⁰⁶ Degrees of freedom (d.f.) used was N-1.

Significant coefficients (r's) obtained for males, females, younger and older Ss¹⁰⁷ were then analyzed for significant differences. This was done using Fisher's " \bar{z} " as outlined in Guilford.¹⁰⁸ The formula is as follows:

$$\bar{z} = z_1 - z_2 / \sigma_{d_z}$$

where z_1 and z_2 were found using Table H.¹⁰⁹ The statistic σ_{d_z} (standard error of the difference between z's) was found

106 R. A. Fisher, Statistical Methods for Research Workers, Edinburgh, Oliver and Boyd, 1932. Table V.A., reprinted as Table VI, "Values of the Correlation Coefficient for Various Levels of Significance", in Allen L. Edwards, Statistical Methods, second edition, New York, Holt, Rinehart and Winston, 1967, p. 426-427.

107 As age was graphically skewed, Ss above and below the median were used ($N_1 = 42$, $N_2 = 35$).

108 J. P. Guilford, Fundamental Statistics in Psychology and Education, Fourth edition, New York, McGraw-Hill, 1965, p. 189-190.

109 Ibid., Appendix B, Table H, p. 589; "Conversion of a Pearson r into a Corresponding Fisher's z Coefficient", derived by interpolation from Table VB in Fisher's text, Op. Cit.

as follows:

$$\sigma_{d_z} = \sqrt{\frac{1}{(N_1-3)} + \frac{1}{(N_2-3)}}$$

where N_1 and N_2 were the sample sizes in each group. Significance of the \bar{z} values was obtained using the common z distribution (standard score) as given in Guilford's text.¹¹⁰

A \bar{z} significant at $P < .05$ was greater than 1.64; at $P < .025$, > 1.96 ; at $P < .01$, > 2.33 ; and at $P < .005$, > 2.58 .

At this stage of the analysis, it was observed that the productivity factor was contaminating several correlations. In view of previous discussions in this chapter, the effects of R on the Rorschach variables, and consequently the criterion variables, had to be partialled out in some manner. Before outlining the procedures used, a review of some solutions follows.

The popular method of using percentages has been examined and discarded. The use of a constant number of R is good in theory but poor in practice. This may be done by scoring only the first three responses per blot. But the distribution is truncated and may limit the generalizability of the results. Slemon et al.¹¹¹ have suggested normalizing

110 J. P. Guilford, Op. Cit., Table B, "Areas and Ordinates of the Normal Curve in Terms of x/σ ", p. 569-576.

111 A. G. Slemon, S. Nieger, and D. A. Quirk, "Adjustment for the Total Number of Responses in Calculating the Rorschach Apperception Type", in the Journal of Projective Techniques and Personality Assessment, Vol. 29, issue of December 1965, p. 516-521.

Rorschach scores, deducting from them expected (adjusted) scores derived from the regression of these scores on R, then obtaining means, weighting the scores and plotting a cumulative distribution. However, this method is too stringent; it assumes that the correlation between the Rorschach variable and R is caused by R which is not so. Matching groups on R has been suggested by Kalter and Marsden. However, not only is there the possibility of losing many cases, but the generalizability of all findings may be restricted to a certain range of R. Eichler has suggested using analysis of covariance which makes groups comparable on the productivity factor by determining how much of the variance in the Rorschach score can be predicted from the total R and then subtracting this to secure the residual variance as the adjusted value; in this method, scores need to be normalized, and a square root transformation was suggested.

A method suggested by Cronbach consists of plotting A and P against R, drawing a line fitting the medians of the columns and comparing the proportion above the median with that below the median by means of the chi-square method.

A final approach suggested by Cronbach is to construct subsamples of R. The only condition here is the necessity of adequate ranges of A and P in each class. This is the case especially when R is between twenty and thirty. It is expected that the majority of Ss would fall here, and ranges of A and P

should be broad enough to construct extreme groups for significance tests.

Rather than using subsamples of R or computing rank-order correlations, a relatively more simple method was used to hold constant the effect of any variable upon a pair of variables. This was partial correlation, both first-order and second-order types.

For all five correlation matrices, partial r's were computed for significant correlations only. That is, whenever variable A correlated significantly with both variables B and C, the latter correlation being significant, a partial r was secured to ascertain the significance of the correlation between B and C after the effects of A had been removed.

The analysis was carried further by investigating a submatrix of the total matrix (N = 77). This submatrix was comprised of twenty-five coefficients, representing relationships between A, A%, P, P%, MPR and CM, SA, HRI, AS and AN, both significant and non-significant. The purpose throughout was to find out whether or not significance remained after a given contaminating variable was removed. The formula used was:

$$r_{12.3} = \frac{r_{12} - r_{13}r_{23}}{\sqrt{(1-r_{13}^2)(1-r_{23}^2)}}$$

where $r_{12.3}$ was the first-order partial correlation coefficient between variable 1 and 2 with variable 3 held constant.

Statistics r_{12} , r_{13} , and r_{23} were Pearson r 's taken from the matrix.

Second-order r 's were computed as follows:

$$r_{12.34} = \frac{r_{12.3} - r_{14.3}r_{24.3}}{\sqrt{(1-r_{14.3}^2)(1-r_{24.3}^2)}}$$

Both formulas were taken from Guilford's text.¹¹² Significance of these coefficients was determined in the same manner as for the Pearson r 's.

Thus, productivity and several other "contaminating" variables were controlled for as an alternative to using cases where $R = 30$ or $R > 25$. An additional reason for not using these subgroups is that the N would be small, necessitating a higher coefficient in order to obtain significance.

D. Data Analysis. Part II.

Raw data were next analyzed in terms of significance tests (t ratios), which was more specifically in line with the way the null hypotheses were stated at the end of Chapter I. Many research reports in the literature have dealt with the hypotheses underlying A and P on the Rorschach in terms of operationally-defined limits. A person is said to have stereotyped thinking for example, if A% is above 50%. The

112 J. P. Guilford, Op. Cit., p. 339-341.

reverse is true if A% is below 25% (see Chapter I). In order to define these statistical limits, two methods can be used: accepting the levels outlined in research or using limits derived from the sample under study. In the case of A%, the aforementioned limits were used. For A, P and R%, the second method was utilized, as the literature is largely unclear as to norms for these indices. As all three indices were normally distributed (see Chapter III), limits were defined as above and below one standard deviation from the mean. Scores on each of the four criterion tests were then grouped for Ss having high A and low A, and so on. (See Appendix 11). It was predicted that Ss having high A% would have significantly different AS scores, for example, than Ss having low A%. In effect, 25 two-tailed t-ratios were secured (5 Rorschach variables and 5 criterion variables).

However, before this was done, tests for homogeneity of variance were obtained for each of the twenty-five comparisons. This was carried out to avoid violating this assumption for t ratios. Hence, Hartley's F_{\max} statistic was used, as described in Harshbarger.¹¹³ $F_{\max} = \hat{s}_{\max}^2 / \hat{s}_{\min}^2$, where \hat{s}_{\max}^2 is the larger variance estimate, and \hat{s}_{\min}^2 , the smaller.

¹¹³ Thad A. Harshbarger, Introductory Statistics: A Decision Map, New York, MacMillan, 1971, p. 243-244.

The significance of this variance ratio was determined using Table A-12 in the above text.¹¹⁴

It is well-known that when samples are of unequal size, as was the case with almost all comparisons, the Bartlett test is used. However, this was seen as introducing needless complication; Harshbarger is of the opinion that it is no longer used as a preliminary test. Instead, the lower sample size was used consistently as the value N in Table A-12.

The t ratios were computed only for the total correlation matrix (N = 77). An automatic computer program ("TWOGPS") was used via a computer terminal at the statistics laboratory, Faculty of Education, University of Ottawa. Variance was defined as the sums of squares divided by N-1 degrees of freedom (SS/N-1). The formula used in the program was the standard one.

Significance of the t ratios was determined by consulting Table D in Guilford¹¹⁵ with the d.f. given by the computer printout (N-2).

114 Thad A. Harshbarger, Op. Cit., Table A-12, "Critical Values of The Hartley F_{\max} Statistic", p. 534.

115 J. P. Guilford, Op. Cit., Table D, "Coefficients of Correlation and t Ratios Significant at the .05 Level (Lightface Type) and at the .01 Level (Boldface Type) for Varying Degrees of Freedom", p. 580-581. Adapted from H. A. Wallace and G. W. Snedecor, Correlation and Machine Calculation, Ames, Iowa, 1931.

It is recognized that chi-square and the significance of the difference in proportions could have also been used. However, it was felt that these methods would produce ancillary results of no further importance. Results of all these statistical analyses are presented in the next chapter.

CHAPTER III

PRESENTATION AND DISCUSSION OF RESULTS

This chapter is devoted to the presentation and discussion of the results of this study. During the discussion, an effort will be made to point out the implications of these findings in terms of further research.

1. Frequency Distributions of Variables.

From the raw data yielded by the Ss (the reader is referred to Appendix 8), frequency distributions were drawn for all fifteen variables under analysis, excluding sex. Results of this graphic analysis may be summed up as follows. Of the fourteen variables, age, R, R-P, CM, HRI, and AS were found to be skewed. For these variables, medians were accepted as representative of the mean. All Rorschach indices (A, A%, P, P% and MPR¹) were normally distributed.

Cut-off scores (upper and lower limits) were determined by computing one standard deviation unit above and below the means of the Rorschach variables. In preparation for tests of significance with extreme groups (see Chapter II) it was found that the number of Ss in a given extreme group

¹ Mean popular rating; the average rating on Zubin's Communality Scale for all P responses in a given protocol.

varied from nine to fifteen, all groups having approximately equal numbers of Ss. To illustrate the dispersion of R, the cut-off level was chosen as twenty-five responses. For age, approximately equal numbers of Ss were found on either side of the median (twenty-seven years): forty-two Ss above and thirty-two Ss below. This data is summarized in Tables II and III.

2. Results of the Correlational Analysis.

In this section, the null hypotheses stated at the conclusion of chapter I will be repeated and the statistical results will be presented following each null hypothesis.

The first hypothesis suggested that there is no significant relationship between the degree of stereotyped thinking as measured by two criterion scales (the Anti-Semitism and Anti-Negro Scales) and the extent of stereotyped thinking allegedly measured by animal associations (A, A%) on the Group Rorschach.

In order to test this hypothesis, Pearson product-moment coefficients of correlation were obtained between A, A% and the AS, AN scales. Resulting coefficients between A and AS, AN were -0.105 and +0.033, respectively; between A% and AS, AN, -0.006 and -0.030, respectively. All coefficients were not statistically significant.

Table II.-

Means, Medians, Standard Deviations, Ranges and Upper and Lower Limits for the Five Rorschach Variables, Age and R. (N=77)

Variable	Age*	R*	A	A%	P	P%	MPR
Range	20-60	7-32	1-24	13.3-80	0.5-11.5	4-42	2.5-5.0
Mean	30.57	27.3	9.94	36.6	5.74	21.25	3.6
Standard Deviation	9.03	4.68	3.61	12.45	2.08	8.24	0.39
Median	27	30					
Standard Deviation	1.29	0.84					
N	77	77	77	77	77	77	77
Upper Limit	27	25	13.6	50	7.8	29.5	4.0
N	42	63	9	10	13	10	12
Lower Limit	27	25	6.3	25	3.7	13	3.2
N	35	14	13	14	9	7	15

* These variables are skewed.

Table III.-
Means, Medians, Standard Deviations, and Ranges of R-A,
R-P and the Five Criterion Variables (N=77).

Variable	R-A	R-P*	CM*	SA	HRI*	AS*	AN
Range	7-25	7-29	14-60	9-51	1-35	55-256	6.1-10.3
Mean	17.51	21.6	42.3	30.6	14.2	124.8	8.37
Standard Deviation	4.8	4.7	11.2	9.6	8.1	53.5	0.88
Median			44.8		12.7	113.9	
Standard Deviation			1.64		1.2	8.01	
N	77	77	73	73	74	70	74

* These variables are skewed.

The second hypothesis stated that there is no significant relationship between the degree of social conformity measured by Famous Sayings (Conventional Mores and Social Acquiescence) and the Human Relations Inventory and the extent of social conformity allegedly measured by popular responses (P, P%, MPR) on the Group Rorschach.

Correlation coefficients calculated between P and CM, SA and HRI were +0.049, +0.161, -0.009 respectively. Those computed between P% and CM, SA, HRI were -0.048, +0.057, +0.021 respectively; and those between MPR and CM, SA, HRI were +0.147, +0.155 and +0.201 respectively. No correlations were significant except for that between MPR and HRI, significant beyond the .05 level of probability. Those coefficients between P and SA and MPR and CM and SA tended to approach significance at the .05 level.

The third hypothesis suggested that there is no significant relationship between social conformity as measured by P responses on the Group Rorschach (P, P%, MPR) and the extent of stereotyped thinking measured by the AS, AN scales.

Coefficients obtained between P and AS, AN were -0.153, -0.011 respectively; between P% and AS, AN, -0.024, -0.088 respectively; and between MPR and AS, AN, +0.071, +0.127 respectively. No correlations were significant. Those between P and AS and MPR and AN tended to approach significance at the .05 level.

The fourth hypothesis asserted that there is no significant relationship between stereotyped thinking as indicated by animal associations on the Group Rorschach (A, A%) and the extent of social conformity measured by criterion scales CM, SA, and HRI.

Coefficients computed between A and CM, SA, and HRI were +0.026, +0.047, and -0.012. Those between A% and CM, SA and HRI were -0.067, -0.050, and -0.009. None were statistically significant.

Additional intercorrelations were computed partly in an attempt to identify confounding or contaminating factors such as R. As mentioned in chapter II, the decision regarding the control of Rorschach productivity rests on several correlations. The correlation between R and A was +0.363 (significant at $P > .005$); between R and A%, -0.078; R and P, +0.214 ($P > .05$); R and P%, -0.308 ($P > .005$); and R and MPR, -0.023. The correlation between A and P was +0.479 ($P > .005$); between A% and P%, +0.489 ($P > .005$).

Finally, significant correlations ($P > .025$) were found between age and A (-0.239); and age and A% (-0.221).

The entire preceding data is depicted in Table IV. The sex variable was not used in the matrix as it is dichotomous and requires either biserial correlation or separate matrices for males and females (see later).

Table IV.-

Intercorrelations Between Variables Used in the Study
for the Total Sample (N=77)

Variable	Age	R	R-A	R-P	A	A%	P	P%	MPR	<u>CM</u>	<u>SA</u>	<u>HRI</u>	<u>AS</u>
R	-.095												
R-A	.109	.721 ^d											
R-P	-.036	.901 ^d	.773 ^d										
A	-.239 ^b	.363 ^d	-.346 ^d	.149									
A%	-.221 ^b	-.078	-.698 ^d	-.268 ^c	.881 ^d								
P	-.134	.214 ^a	-.122	-.231 ^b	.479 ^d	.428 ^d							
P%	-.088	-.308 ^d	-.496 ^d	-.683 ^d	.281 ^c	.489 ^d	.848 ^d						
MPR	-.049	-.023	.096	-.044	-.144	-.119	.047	.063					
<u>CM</u>	.167	.230 ^b	.214 ^a	.209 ^a	.026	-.067	.049	-.048	.147				
<u>SA</u>	.152	.189	.165	.119	.047	-.051	.161	.057	.155	.602 ^d			
<u>HRI</u>	-.108	-.037	.023	-.034	-.012	-.009	.009	.021	.201 ^a	-.003	.011		
<u>AS</u>	.071	-.333 ^d	-.251 ^b	-.265 ^b	-.105	-.006	-.153	-.024	.071	-.030	.200 ^a	.108	
<u>AN</u>	.076	.118	.098	.121	.033	-.030	-.011	-.088	.127	.109	-.004	-.159	-.376 ^d

- a Significant at $P > .05$.
b Significant at $P > .025$.
c Significant at $P > .01$.
d Significant at $P > .005$.

In view of the above statistical outcomes, the first hypothesis of the present study could not be rejected. Rorschach indices of stereotypy were not related to the attitude scales measuring stereotypy, beyond chance expectation. This observation was contrary to that found in several studies reviewed in the first chapter, and will be deliberated upon in detail in the following section.

The correlations used to test the second hypothesis were not significant, except in the case of MPR and HRI. However, since a high score on the HRI indicates non-conformity responses, and the MPR allegedly implies social conformity, a negative correlation was expected. This was not the case. Consequently, it could be inferred that Rorschach indices of conformity are not related to criterion scales measuring the same construct, beyond chance expectation. The only Rorschach factor occurring as an exception was MPR, which was significantly related ($P > .05$) with HRI, but in a direction opposite from that predicted. The more non-conformity manifested by a person on the HRI, the less non-conformity shown on the Rorschach, in qualitative terms, i.e., MPR. This unexpected effect will be discussed fully within the following section.

Hypotheses 1, 3, and 4 could not be rejected. Rorschach indicators of stereotypy were not related to criterion test measures of stereotypy and conformity, respectively, beyond chance expectation. But a Rorschach index of conformity

(MPR) was significantly related to a test of conformity (HRI) in an inverse manner. Thus, hypothesis 2 could be rejected in this instance.

As intimated in chapter II, age has been found to be significantly related to A responses on the Rorschach. The outcomes of this study support previous empirical conclusions: there was a significant positive relationship between the degree of animal associations and the ages of the Ss. Therefore, it was decided to partial out the effects of age on A and A% and thus on the four criterion tests. This was done by computing separate correlational analyses for younger Ss (age under 27, N = 35) and older Ss (age over 27, N = 42).

For older Ss, the only significant coefficients produced were between MPR and CM (+0.307, $P > .05$) and A and AS (-0.278, $P > .05$). Relationships between P and AS and between MPR and AN approached significance. The relationship between MPR and HRI for the total sample was lost in terms of statistical significance. These results are outlined in Table V.

In terms of the null hypotheses stated, but applied to this subsample, hypotheses 3 and 4 could not be rejected. However, hypothesis 2 could be rejected; a significant relationship was found between a Rorschach index of social conformity (MPR) and the CM scale of Famous Sayings, a criterion measure of social conformity. In terms of hypothesis 1 for this subsample, the significant negative correlation between

Table V.-

Intercorrelations Between Variables Used in the Study
for Older Ss (age over 27). (N=42)

Variable	Age	R	R-A	R-P	A	A%	P	P%	MPR	<u>CM</u>	<u>SA</u>	<u>HRI</u>	<u>AS</u>
R	-.015												
R-A	.030	.807 ^d											
R-P	-.008	.918 ^d	.857 ^d										
A	-.054	.448 ^d	-.105	.216									
A%	-.066	-.050	-.555 ^d	-.265 ^a	.843 ^d								
P	-.018	.319 ^b	-.021	-.084	.608 ^d	.507 ^d							
P%	-.026	-.264 ^a	-.503 ^d	-.617 ^d	.356 ^c	.594 ^d	.808 ^d						
MPR	-.095	-.010	.182	.039	-.221	-.215	-.067	-.073					
<u>CM</u>	.240	.181	.300 ^a	.136	-.132	-.188	.136	.074	.307 ^a				
<u>SA</u>	.318 ^b	.121	.205	.077	-.069	-.138	.124	.063	.171	.655 ^d			
<u>HRI</u>	-.103	-.266 ^a	-.116	-.205	-.167	-.020	-.182	.008	.053	-.038	.044		
<u>AS</u>	.083	-.417 ^d	-.280 ^a	-.349 ^b	-.278 ^a	-.154	-.219	-.048	.010	-.015	.197	.084	
<u>AN</u>	-.039	.189	.155	.170	.086	-.041	.071	-.076	.250	.002	-.105	-.136	-.407 ^d

a Significant at P > .05.

b Significant at P > .025.

c Significant at P > .01.

d Significant at P > .005.

A and AS implied that this hypothesis could be rejected - there was an inverse relationship of some significance between a Rorschach index (A) and a criterion test of stereotypy (AS). The many repercussions of these findings, again contrary to expectations suggested by previous research, will be dwelled upon in the next section.

In the case of the subsample of younger Ss, the sole correlation of significance obtained was between MPR and HRI (+0.370, $P > .025$), supporting a similar result produced when the entire sample was used. Coefficients approaching significance were those between A and CM, A and SA, A% and AS, and P and SA. These observations are tabulated in Table VI.

Consequently, for this subsample, hypotheses 1, 3, and 4 could not be rejected. Hypothesis 2 could be rejected; the correlation derived showed a significant relationship beyond chance expectation, but in the opposite direction from that predicted, as was the case with the same relationship in the total sample.

In lieu of computing biserial correlations between sex and all other variables, Pearson correlations were calculated for separate subsamples of males (N = 36) and females (N = 41). This was done in an effort to ascertain whether or not the four major hypotheses could be rejected when applied to these groups.

Table VI.-

Intercorrelations between Variables Used in the Study
for Younger Ss (age under 27). (N=35)

Variable	Age	R	R-A	R-P	A	A%	P	P%	MPR	<u>CM</u>	<u>SA</u>	<u>HRI</u>	<u>AS</u>
R	-.409 ^c												
R-A	-.150	.615 ^d											
R-P	-.358 ^b	.880 ^d	.628 ^d										
A	-.196	.170	-.672 ^d	.042									
A%	-.026	-.237	-.907 ^d	-.313 ^a	.911 ^d								
P	.038	-.102	-.243	-.562 ^d	.209	.243							
P%	.216	-.491 ^d	-.460 ^d	-.843 ^d	.115	.310 ^a	.911 ^d						
MPR	.108	-.111	-.041	-.207	-.052	.001	.240	.266					
<u>CM</u>	-.209	.401 ^c	.104	.330 ^a	.242	.099	.005	-.135	-.005				
<u>SA</u>	-.108	.369 ^b	.103	.198	.205	.054	.226	.048	.133	.582 ^d			
<u>HRI</u>	-.253	.345 ^b	.161	.202	.120	-.024	.190	.025	.370 ^b	.034	-.026		
<u>AS</u>	.082	-.106	-.215	-.080	.174	.242	-.016	.028	.182	-.055	.211	.147	
<u>AN</u>	-.162	.005	-.053	.037	.072	.083	-.068	-.055	-.042	.179	.142	-.176	-.341 ^a

a Significant at $P > .05$.

b Significant at $P > .025$.

c Significant at $P > .01$.

d Significant at $P > .005$.

For males, four significant correlations were arrived at: between A and CM (-0.355, $P > .025$); A% and CM (-0.334, $P > .025$); A% and AS (+0.277, $P > .05$); and A% and AN (-0.376, $P > .025$). Correlations approaching significance were between A and SA, A% and SA, and MPR and SA. This data is reported in Table VII.

The upshot of this analysis was that hypotheses 2 and 3 could not be rejected. In terms of hypothesis 1, there was significance - the hypothesis could be rejected. There was a significant relationship between a Rorschach indicator of stereotyped thinking (A%) and both scales allegedly measuring the same construct (AS, AN), beyond chance expectation. In the case of AN, the relationship was inverse, in line with the fact that lower AN scores imply prejudiced, stereotyped attitudes toward Negroes.

Hypothesis 4 could also be rejected. However, the data were in the opposite direction from that predicted. For males, the more animal associations produced on the Group Rorschach, the less conformity manifested. This finding was contrary to theoretical expectations based on previous research, and will be discussed in this light.

For the subsample of females (N = 41), three significant correlations were realized: between P and SA, (+0.283, $P > .05$); MPR and HRI (+0.398, $P > .01$); and A% and AN (+0.275, $P > .05$). Correlations approaching significance were

Table VII.-

Intercorrelations Between Variables Used in the Study for Males (N=36).

Variable	Age	R	R-A	R-P	A	A%	P	P%	MPR	<u>CM</u>	<u>SA</u>	<u>HRI</u>	<u>AS</u>
R	-.004												
R-A	.071	.833 ^d											
R-P	.013	.930 ^d	.860 ^d										
A	-.132	.224	-.352 ^b	.059									
A%	-.044	-.428 ^d	-.849 ^d	-.537 ^d	.772 ^d								
P	-.044	-.142	-.347 ^b	-.495 ^d	.372 ^b	.434 ^d							
P%	.002	-.623 ^d	-.710 ^d	-.862 ^d	.197	.594 ^d	.851 ^d						
MPR	.321 ^a	-.118	.034	-.122	-.260	-.186	.049	.075					
<u>CM</u>	.322 ^a	.074	.271	.117	-.355 ^b	-.334 ^b	-.141	-.096	.111				
<u>SA</u>	.436 ^d	.055	.206	.083	-.272	-.251	-.092	-.068	.271	.580 ^d			
<u>HRI</u>	-.193	-.145	-.122	-.087	-.032	.032	-.115	-.007	.029	-.117	-.098		
<u>AS</u>	.056	-.174	-.255	-.126	.155	.277 ^a	-.080	.045	.083	-.092	.134	.080	
<u>AN</u>	.133	.336 ^b	.427 ^d	.302 ^a	-.181	-.376 ^b	-.021	-.196	.199	.078	.047	-.227	-.592 ^d

a Significant at P > .05.

b Significant at P > .025.

c Significant at P > .01.

d Significant at P > .005.

between P% and SA, A and AS, P and AS. This data is described in Table VIII.

The implications were that hypotheses 3 and 4 could not be rejected. Hypothesis 1 could be rejected as there was a significant relationship between a Rorschach measure of stereotypy (A%) and the corresponding criterion measure (AN). However, this relationship was positive and therefore in the wrong direction from that predicted at the outset of the investigation. The same could be said of hypothesis 2 when MPR and HRI are considered. However, hypothesis 2 could also be rejected on the grounds that there was a significant relationship between P and SA, both measures of conformity - in the proper direction.

In summary, hypothesis 1 could be rejected for both subsamples of males and females only. It could not be rejected when considering the total sample and both age groups.

Hypothesis 2 could be rejected for the total sample, females and younger Ss. It could not be rejected for males and older Ss.

Hypothesis 3 could be rejected for older Ss only. For all other groups, it could not be rejected.

Hypothesis 4 could be rejected for males and older Ss, but could not be rejected for the other three groups.

From this, it was evident that hypotheses 1 and 2, the primary hypotheses, could be rejected for females.

Table VIII.-

Intercorrelations Between Variables Used in the Study for Females (N=41).

Variable	Age	R	R-A	R-P	A	A%	P	P%	MPR	<u>CM</u>	<u>SA</u>	<u>HRI</u>	<u>AS</u>
R	-.175												
R-A	.125	.633 ^d											
R-P	-.091	.883 ^d	.692 ^d										
A	-.304 ^b	.416 ^d	-.381 ^c	.192									
A%	-.312 ^b	.136	-.612 ^d	-.068	.943 ^d								
P	-.199	.439 ^d	.024	-.033	.520 ^d	.420 ^d							
P%	-.158	.011	-.278 ^a	-.454 ^d	.378 ^c	.423 ^d	.893 ^d						
MPR	-.292 ^a	.074	.160	.055	-.078	-.066	.052	.048					
<u>CM</u>	.056	.307 ^b	.145	.267 ^a	.185	.108	.155	.019	.201				
<u>SA</u>	-.035	.189	.103	.069	.103	.034	.283 ^a	.230	.088	.573 ^d			
<u>HRI</u>	-.055	.074	.127	.038	.009	-.039	.086	.055	.398 ^c	.135	.157		
<u>AS</u>	.058	-.477 ^d	-.268	-.420	-.241	-.160	-.218	.073	.080	-.041	.180	.163	
<u>AN</u>	.046	-.098	-.244	-.110	.192	.275 ^a	.002	.063	.036	.172	-.028	-.074	-.234

a Significant at $P > .05$.b Significant at $P > .025$.c Significant at $P > .01$.d Significant at $P > .005$.

Rorschach measures of stereotypy and social conformity were significantly related to at least one of their psychometric counterparts in the female subsample.

Hypotheses 3 and 4 could be rejected consistently, when considering the other subsamples of Ss.

However, all previous observations may be misleading in the sense that several significant correlations may have been affected by "third variables" or "moderator" and "suppressor" variables. One case that immediately comes to mind is R, i.e., Rorschach productivity. But an analysis of Tables IV to VIII shows that other variables were correlated significantly with both Rorschach and criterion variables. Thus, in order to ascertain whether or not the significant relationships reported retained their significance when these "third variables" were held constant, and whether new significant relationships could be obtained, a technique referred to in chapter II was used. First-order partial correlations were computed (for the total sample only), using the twenty-five primary relationships, and partialling out all possible contaminating variables: age, sex, R, R-A, R-P, A, A%, P, P% and MPR. Results thus obtained represent the relatively more accurate conclusions of the study with regard to the four hypotheses.

Considering hypothesis 1, two significant negative coefficients were derived between A and AS (-0.211, $P > .05$; -0.210, $P > .05$) when R-P and A% were held constant,

respectively. A similar finding was obtained between $A\%$ and AS when R-A was partialled out: -0.261 , $P > .025$. The relationship between $A\%$ and AS approached significance when A was controlled for. No other relationships were significant when all other variables were held constant, including R. This data is shown in Table IX.

It may finally be concluded that the first hypothesis can be rejected, subject to certain qualifications or limitations: using the AS scale, and holding R-A, R-P, and $A\%$ constant. Furthermore, the significance reported was in the direction opposite from that predicted by previous studies. This will be appropriately interpreted later.

Considering hypothesis 2, the correlation between MPR and HRI remained consistently significant when any variable was partialled out ($P > .05$). (See Table IX.) All coefficients between MPR and CM and SA approached significance when any variable was controlled for. In addition, P was significantly related to SA ($+0.195$, $+0.203$, $+0.213$, $P > .05$) when R-P, $A\%$, and $P\%$ were held constant, respectively. Significance was approached here when age, A, R-A and MPR were held constant. No significant relationships between P and CM or HRI were discovered. When $P\%$ was held constant, however, the correlation between P and CM approached significance.

No significant relationships were arrived at between $P\%$ and CM, SA, HRI when any variable was held constant, although

Table IX.-
 First-Order Partial Correlations With Age, Sex and Rorschach Variables - Constant (N=77).

Variable 1	Variable 2	Age	Sex	R	R-A	R-P	A	A%	P	P%	MPR
A	<u>CM</u>	.069	-.012	-.063	.109	-.005		.180	.003	.041	.048
A	<u>SA</u>	.087	-.024	-.024	.112	.030		.195 ^a	-.035	.032	.071
A	<u>HRI</u>	-.039	-.050	.002	.004	.017		-.007	-.009	-.018	.017
A	<u>AS</u>	-.091	-.131	.018	-.069	-.211 ^a		-.210 ^a	-.037	.007	-.096
A	<u>AN</u>	.053	.036	.068	.072	.015		.126	.044	.060	.052
A%	<u>CM</u>	-.031	-.082	-.051	.118	-.012	-.190 ^a		-.097	-.050	-.050
A%	<u>SA</u>	-.018	-.081	-.037	.091	-.020	-.196 ^a		-.134	-.091	-.033
A%	<u>HRI</u>	-.034	-.007	-.012	.010	-.019	.003		-.006	-.012	.015
A%	<u>AS</u>	.025	-.014	.000	-.216 ^b	-.083	.184		.066	.006	.002
A%	<u>AN</u>	.014	-.029	-.021	.054	.003	-.125		-.028	.015	-.015
P	<u>CM</u>	.073	.022	-.000	.024	.102	.042	.086		.169	.043
P	<u>SA</u>	.185	.121	.126	.185	.195 ^a	.158	.203 ^a		.213 ^a	.156
P	<u>HRI</u>	-.024	-.005	-.001	-.006	-.017	-.004	-.006		-.051	-.019
P	<u>AS</u>	-.145	-.173	-.089	-.191	-.228 ^a	-.118	-.167		-.250 ^b	-.157
P	<u>AN</u>	.001	-.010	-.037	.001	.018	-.030	.002		.121	-.017

Table IX.- Continued

First-Order Partial Correlations With Age, Sex and Rorschach Variables Constant (N=77).

Variable 1	Variable 2	Age	Sex	R	R-A	R-P	A	AZ	P	PZ	MPR
PZ	<u>CM</u>	-.034	-.046	.025	.069	.133	-.058	-.018	-.169		-.058
PZ	<u>SA</u>	.035	.069	.123	.162	.191	.046	.091	-.152		.048
PZ	<u>HRI</u>	.012	.021	.010	.037	-.003	.025	.029	.054		.009
PZ	<u>AS</u>	-.018	-.022	-.141	-.177	-.291 ^c	.006	-.024	.202 ^a		-.029
PZ	<u>AN</u>	-.082	-.088	-.055	-.046	-.007	-.101	-.084	-.148		-.097
MPR	<u>CM</u>	.158	.155	.157	.130	.160	.152	.140	.145	.150	
MPR	<u>SA</u>	.171	.178	.162	.142	.162	.164	.150	.150	.152	
MPR	<u>HRI</u>	.197 ^a	.200 ^a	.200 ^a	.200 ^a	.200 ^a	.201 ^a	.201 ^a	.202 ^a	.200 ^a	
MPR	<u>AS</u>	.075	.075	.067	.099	.062	.057	.071	.079	.073	
MPR	<u>AN</u>	.131	.127	.131	.119	.133	.133	.124	.128	.133	

a Significant at $P > .05$.b Significant at $P > .025$.c Significant at $P > .01$.d Significant at $P > .005$.

several approached significance (see Table IX).

To recapitulate, hypothesis 2 could be rejected, with the following qualifications in mind: 1) significance was established only when R-P, A% and P% were held constant in the case of P; 2) it was established when considering MPR and HRI, but occurred in a direction opposite from that predicted by theory.

With regard to hypothesis 3, no significant relationships were uncovered between MPR and AS, AN when any variable was held constant. However, significant relationships were realized between P% and AS when R-P and P were held constant (-0.291, $P > .01$; +0.202, $P > .05$, respectively). Several relationships approached significance here also; the reader is referred to Table IX. Significant relationships were also computed between P and AS when R-P and P% were held constant (-0.228, $P > .05$; -0.250, $P > .025$, respectively). Some relationships approached significance with AS but not with AN.

3. Results of the Significance Tests.

As discussed in chapter II, the null hypotheses considered in this study may have also been stated in another fashion, as follows.

Hypothesis 1: There is no significant difference between means of a given criterion test of stereotypy with regard to extreme groups of Ss on a given Rorschach factor

measuring stereotypy. For example, there is no significant difference between the mean AS score of Ss having high A% and the mean AS score of Ss having low A%. There are four sub-hypotheses here.

Hypothesis 2: There is no significant difference between means of a given criterion test of social conformity with regard to extreme groups of Ss on a given Rorschach factor measuring social conformity. For example, there is no significant difference between the mean HRI score of Ss having high P% and the mean HRI score of Ss having low P%. There are nine subhypotheses here.

Hypothesis 3: There is no significant difference between means of a given criterion test of stereotypy with regard to extreme groups of Ss on a given Rorschach index measuring social conformity. For example, there is no significant difference between the mean AS score of Ss having high P% and the mean AS score of Ss having low P%. There are six sub-hypotheses here.

Hypothesis 4: There is no significant difference between means of a given criterion test of social conformity with regard to extreme groups of Ss on a given Rorschach factor measuring stereotyped thinking. For example, there is no significant difference between the mean HRI score of Ss having high A% and the mean HRI score of Ss having low A%. There are six sub-hypotheses here.

In order to test these hypotheses, significance tests of the difference between means (t ratios) were computed (see chapter II). To ascertain whether or not this procedure was viable, Hartley's F_{\max} statistic was calculated. In two out of twenty-five possible significance tests, it was conceded that the variance was not homogeneous enough between groups as to permit t ratios. F_{\max} was found to be significant at $P > .05$ in the case of extreme groups of CM scores (4.46) and AS scores (3.78) when both were separated on the basis of MPR.

Operationally defined "cut-off" levels of the five Rorschach scores were taken from Table II (p. 178), with the exception of A%. (Levels of this factor are well-established in the literature as $> 50\%$, $< 25\%$). These levels were used to obtain raw data for the total sample, which are portrayed in Appendix 9.

Twenty-three t tests were derived. Data reported in Table X indicate no statistical significance. In view of these findings, all four null hypotheses and all twenty-three subhypotheses could not be rejected. Extreme groups of Ss scoring high on a Rorschach index of stereotypy did not have significantly different (higher or lower) scores on tests which validly measure stereotypy or conformity, beyond chance expectation. The same could be said for high-scoring Ss on Rorschach indices of social conformity.

Table X.-
t Ratios and Tests for Homogeneity of Variance Yielded by Comparisons
of Rorschach Indices and the Criterion Tests (N=77).

Rorschach Index	Criterion Tests														
	<u>CM</u>			<u>SA</u>			<u>HRI</u>			<u>AS</u>			<u>AN</u>		
	Fmax	d.f.	t	Fmax	d.f.	t	Fmax	d.f.	t	Fmax	d.f.	t	Fmax	d.f.	t
A	1.50	20	-0.443	1.76	20	-0.071	1.79	21	-0.927	1.08	19	-0.135	1.58	21	+0.159
AZ	1.49	21	-1.126	1.19	21	-0.945	1.30	22	-0.204	1.06	21	+0.045	1.45	22	+0.505
P	1.23	19	+0.778	1.59	19	+1.038	1.58	19	-1.045	2.40	18	-1.654	2.49	20	+0.743
PZ	2.98	18	-1.242	1.19	17	+0.024	2.78	18	-0.161	1.02	18	-0.632	1.56	19	-0.679
MPR	4.46*			1.70	25	+1.034	2.08	25	+1.222	3.78*			1.67	24	+1.142

* Significant at $P > .05$.

These contributions were entirely contrary to those expected from hypotheses presented in previous empirical inquiries, using operationally-defined extreme groups. These researches have suggested that for example, a group of Ss with high A% would have significantly higher AS scores than a complementary group of Ss with low A%. Although the hypotheses in the present dissertation allowed for a reversal of the direction of significance, not even this phenomenon occurred. Implications are discussed below, along with the interpretation of the correlational analyses.

4. Interpretation of Results.

The foregoing developments must be evaluated in terms of the construct validity of the two hypotheses underlying four Rorschach factors: A, A% (stereotyped thinking) and P, P% (social conformity). MPR was an auxiliary method of measuring popular responses, and as such should have had similar construct validity as P and P%.

The conclusions of this study cannot be understood unequivocally. Because of the number of variables involved and the numerous "third factor" intercorrelations, it is difficult to infer, for instance, that A% does measure stereotypy regardless of what criterion test or sample is used. On the other hand, several interesting but qualified results point towards this likelihood, and only further research will produce

more definitive and undebatable discoveries.

It may be submitted that the presently tenuous state of research in this area has not been resolved in the present inquiry. The preceding outcomes have implied that a given Rorschach indicator of behavior cannot be professed to measure that behavior in all contexts. Nor can it be stated to measure essentially what is operationally defined in other measures (criterion tests) as contended on page 20.

This is the resultant which a global analysis of the findings yields. The interpretations of the Rorschach indices have no parallel in general to other corresponding and relatively more valid measures. The reader is left with the impression that A, A%, P, and P%, MPR were measuring other constructs, excluding the ones they were said to measure by many workers. (See chapter I). The conclusion that logically follows is that if the Rorschach clinician wishes to have the most unequivocal, unambiguous and accurate measure of stereotypy and social conformity for his client, animal and popular associations on the Group Rorschach will not totally suffice. Instead, he is encouraged to use the five tests in this study for a more objective assessment.

Thus, when viewing the data of this report globally, these negative observations were apparent. No single Rorschach index had adequate construct validity in terms of all the criteria used to assess that validity. Both the correlational

analysis and the significance tests supported this contention. Rorschach measures of stereotypy were not valid in terms of both the AS and AN scales. And Rorschach indicators of social conformity were not valid in terms of the HRI and FS scales. In other words, the opinion voiced by the author (p.104) that the process of stereotypy on the Rorschach could conceivably best be seen in terms of the agreement a person manifests with stereotype statements (on attitude scales measuring prejudice) was not upheld in any absolute sense by the present findings. The similar contention that the phenomenon of social conformity on the Rorschach could best be understood in terms of Ss's responses on scales measuring this construct was also not thoroughly supportable.

It will be recalled that, in addition to the two major hypotheses discussed above, two secondary hypotheses were analyzed. Several studies have implied that A and P scores overlap, that both scores are measuring similar constructs. However, the findings for hypotheses 1 and 2 held for 3 and 4. The proposition (p.105) that a person with common, mundane associative processes (high A, A%) would also tend to see and think what others see and think (scores on HRI, FS) was not thoroughly tenable. The corollary that a person with much social conformity (high P, P% and MPR) would also tend to be more highly prejudiced and stereotyped (scores on AS and AN), must also be rejected in this holistic sense.

The possible reasons for these negative findings will be examined below. Up to this point, the results have been studied in toto. Yet a more detailed scrutiny raises some useful possibilities. These will have to be considered for replication in further studies.

Hypothesis 1 was rejected because of significance occurring between A and AS and between A% and AS. Yet it cannot be said that both Rorschach indices have construct validity because an inverse relationship exists. The higher the degree of Rorschach stereotypy, the lower the degree of criterion test stereotypy. Although it is theoretically illogical, the more stereotyped the individual's thinking processes, the less agreement with racial stereotypes.

Hypothesis 2 was also rejected because of several significant relationships in the partial correlation analysis. It is important to note that, in some cases, the Rorschach P score had adequate construct validity when the SA scale was used. The number of popular responses on the Group Rorschach thus validly indicates social acquiescence, operationally defined as a "[...] tendency to accept any generalizations about human behavior, about how people behave or should behave".² These Ss are "[...] unquestioning conformists to social demands".³

2 See p. 129.

3 See p. 129.

This positive finding indirectly lends support to the researches of Langer⁴ and Sappenfield.⁵

Furthermore, hypothesis 2 was rejected as far as the relationships between MPR and HRI are concerned. But once again, it seems that an illogical conclusion was reached. Using the qualitative Zubin Communality Scale, and partialling out the effects of any given "third variable", the higher the MPR, the more non-conformity was manifested on the HRI in terms of higher scores. This unwanted positive relationship may have been due to a methodological artifact. Namely, the average degree of popularity of Group Rorschach responses may have had little or nothing to do with the numerical degree of P responses, from which the classical hypotheses emanated. Yet this fails to explain the consistently significant positive relationship. The reader is cautioned about the use of MPR as an index of non-conformity, however. Before this relationship is established, further replications of the present findings would be in order.

More interesting is the relationship between MPR and CM and MPR and SA. All coefficients closely approached

4 P. Langer, "Social Desirability and P Responses on the SORT", in the Journal of Clinical Psychology, Vol. 18, 1962, p. 472.

5 B. R. Sappenfield, "Perceptual Conformity and Ego Strength", in Perceptual and Motor Skills, Vol. 20, No. 1, 1965, p. 209-210.

significance. This trend appears to be highly meaningful in the light of the fact that N was 77. A replication here, using 100 to 150 Ss would perhaps yield more conclusive results.

As far as the two secondary hypotheses are concerned, when the components of these hypotheses were broken down and studied, similar conclusions were reached. P was related to SA; A and P are postulated to overlap in the behaviors they purportedly measure; A turned out to be related to SA. This lends support to those studies (and speculations) of Beck,⁶ Allen,⁷ Rapaport,⁸ Phillips and Smith,⁹ Ferguson,¹⁰ Bochner and Halpern,¹¹ and others.

6 Samuel Beck, Rorschach's Test, Vol. I, Basic Processes, 1944, vii-223 p.; Vol. II, A Variety of Personality Pictures, 1945, vii-402 p.; Vol. III, Advances in Interpretation, 1952, vii-301 p., New York, Grune and Stratton.

7 R. M. Allen, Elements of Rorschach Interpretation, New York, International Universities Press, 1954, 242 p.

8 David Rapaport, et al., Diagnostic Psychological Testing, Vol. II, Chicago, Year Book Publishers, 1946, xi-516 p.

9 L. Phillips and J. Smith, Rorschach Interpretation: Advanced Technique, New York, Grune and Stratton, 1953, xiii-385 p.

10 Robert A. Ferguson, An Investigation of the Animal Response with Particular Reference to its Appearance on the Rorschach Inkblot Test, unpublished doctoral dissertation, University of Kentucky, 1951, v-138 p.

11 R. Bochner and F. Halpern, The Clinical Application of the Rorschach Test, New York, Grune and Stratton, 2nd edition, 1945.

The broader rigidity attributed to high A and A% thus seems to have its more specialized significance in the P association (p. 26). (This can be seen even more directly by consulting the relationships between A and P and A% and P% in Tables IV to VIII.)

Further evidence of the overlapping of these constructs was not found however, when considering A% and CM or SA (see Table IX). Here, results were in the opposite direction from that predicted: the higher the degree of stereotypy, the lower the extent of social conformity. Hence, a confusing situation was presented, which may be somewhat resolved in the discussion below.

Hypothesis 4 could also be rejected in some instances. Both P and P% were related significantly to AS. But only one of the four significant coefficients was in the proper direction, P% and AS with P constant. Upon a preliminary investigation, it appears that A and A% on the one hand and P and P% on the other were measuring different behavioral phenomena, as evidenced through the criterion tests used. Yet there are sufficient clues to suggest that they were not functioning entirely independently. The only solution would seem to lie in the direction of further research. From this study, no all-embracing conclusion can be yet made on this question.

It has been seen that even though the observations presented have appeared negative when considered globally, they become more meaningful when considered from a molecular viewpoint, i.e., the partial correlation matrix. It has been remarked that "Just one finding contrary to expectation, based on sound research, is sufficient to wash a whole theoretical structure away".¹² In the present inquiry, this outlook can have either positive or negative ramifications, as the data were largely ambiguous. The operative phrase, however, is "based on sound research". The research parameters in this study (e.g., sample size) may be open to criticism of the sort that will hopefully engender further research in the area. They may also help to explain why less inconclusive findings were not forthcoming. Accordingly, they are discussed below.

5. Suggestions for Further Research.

In this section, reasons are proposed which may explain the largely incompatible discoveries arrived at in this dissertation. From this analysis, the reader is invited to infer approaches for further research. Several avenues of

¹² L. J. Cronbach and P. E. Meehl, "Construct Validity in Psychological Tests", in Psychological Bulletin, Vol. 52, 1955, p. 301-302; and in M. Hirt, editor, Rorschach Science: Readings in Theory and Method, New York, The Free Press of Glencoe, 1962, p. 287.

exploration are deliberated upon below.

From a purely theoretical orientation, failure to establish adequate construct validity can often be traced to poorly-defined and/or ill-chosen criteria. It was maintained that the four tests used were outstanding in terms of their purpose, i.e., there are few valid paper-and-pencil measures of stereotyped thinking and social conformity. It was also observed that their validity, relative to the Rorschach, permitted their use in such a molecular and quantitative study as the present one. However, results appeared to show that perhaps a more perceptual set of criteria would have proven more rewarding. Perhaps A and A% are decidedly more indicative of "perceptual stereotypy" rather than the social or racial stereotyped thinking measured by the AS and AN scales. In this vein, new criteria would have to be devised which are broad enough to assess an individual's "perceptual rigidity", which could be linked in theory to the Brunnerian interplay of perceptual and cognitive functions.

Methodologically, several factors come into focus which could have produced more definitive conclusions about the construct validity of the Rorschach hypotheses. The most obvious of these, despite the numerous researches equating the two, is the use of the Group Rorschach instead of the individual Rorschach. The artificializations inherent in the use of the former may possibly have blocked more general

conclusions; e.g., the fixed number of responses per card, time limits, lack of a complete inquiry, etc. The standard Rorschach would seem to have a distinct advantage insofar as responses would not have to be forced. This is especially the case with "difficult" cards such as IV and IX. However, the researcher undertaking a survey of 100 to 150 Ss would have to have a team of assistants to administer the Rorschach on this scale. In this connection, it may be noted that several of the reported studies on the equivalence of both Rorschach forms are relatively dated. It may be that valid experimental conclusions are sacrificed when the investigator uses the more economic Group Rorschach.

Two considerations arise in terms of scoring. In addition to using Klopfer's well-known list of P's, it may be worthwhile to employ the more comprehensive list of eighteen P's devised by Du Bois and Hilden¹³ using factor analysis. If a very large sample is used, a list of P's may even be devised utilizing a certain statistical frequency.

The present research exploration has also cast some doubt on the advantages of using Zubin's Communality Scale. MPR may not have discriminated adequately enough in the sample used, or it may simply not be useful in a construct validity

13 P. H. Du Bois and Arnold H. Hildren, "A P Scale for the Rorschach: a Methodological Study", in the Journal of Consulting Psychology, Vol. 18, 1957, p. 333-336.

study using P associations.

Other methodological problems involve the use of norms. Local norms were employed for the Rorschach factors (except A%) and criterion tests. An alternative would be the exclusive usage of published norms for all these factors. In addition, the substitution of the forty-one-item SA scale for the fifty-six-item version adopted in the present study may prove to be more rewarding.

By far the greatest potential source of non-significant findings is the statistical analysis. The most obvious candidate is the sample size. An N of between 100 or 150 would possibly serve to produce less elusive conclusions, as the correlation needed for significance would not have to be as high as in the case where N was 77.

For several reasons, tests of linearity of regression in the bivariate distributions were not computed. If this were to be done in another study, it may be found that several curvilinear regressions exist. In this case, eta, the correlation ratio, would be more representative of the relationships. Perhaps more than any other single factor, this situation may have accounted for the preceding results.

The other outstanding statistical situation, of course, concerns the controlling of productivity. The method used was endorsed by one of the most recent publications on

the subject, that of Kalter and Marsden.¹⁴ However, the alternatives proposed by Cronbach¹⁵ and others may well have been accepted with consequently greater success; e.g., rank-order correlations, using R subgroups, etc. (see chapter II). As always, a larger N makes methods more feasible.

Finally, other statistical procedures too numerous to detail may be attempted. These include chi-square, significance of the difference of proportions, comparisons of mean ranks, using Festinger's table,¹⁶ Monroe's checklist,¹⁷ pattern tabulation, and rank-difference correlations. These methods may be used if the researcher adheres to Cronbach's viewpoint that data analyzed in one way may not produce significant results, whereas another approach may.¹⁸

14 Neil Kalter and Gerald Marsden, "Response Productivity in Rorschach Research: a Caution on Method", in the Journal of Projective Techniques and Personality Assessment, Vol. 34, No. 1, 1970, p. 10-15.

15 Lee J. Cronbach, "Statistical Methods Applied to Rorschach Scores: A Review", in M. Hirt (editor), Op. Cit., p. 347-390.

16 Leon Festinger, "Significance of Difference between Means Without Reference to the Frequency Distribution Function", in Psychometrika, Vol. 11, 1946, p. 97-105.

17 Ruth L. Munroe, "Objective Methods and the Rorschach Blots", in Rorschach Research Exchange, Vol. 9, 1945, p. 59-73.

18 L. J. Cronbach, Op. Cit.

There are three main avenues for further inquiry, in addition to those appraised above. It is generally accepted that evidence for construct validity must be amassed in a variety of situations - hence the necessity for replication. Although the conclusions of the present study tended to support the much larger body of negative or inconclusive research observations, they will only be substantiated by repetition with several variables, methods and theoretical frameworks utilized.

The first of these areas of interest concerns factor analysis. It was Zubin's opinion that although single Rorschach scores often do not yield significant relationships to criterion measures, a factor analysis of these same scores may.¹⁹

A second approach, relatively more powerful in its scope, is the experiment. Construct validity may be established in the following way. A large group of Ss is selected and given the Rorschach and criterion tests. Operationally defined criteria enable selection of Ss with high scores on all variables. These Ss are then desensitized using behavior modification techniques (as the treatment). The correlation (etc.) between Rorschach and criterion variables after

¹⁹ Joseph Zubin et al., An Experimental Approach to Projective Techniques, New York, Wiley, 1965, p. 229.

treatment is then compared with the relationship which existed before treatment for possible significance. A well-designed study in this vein would empower the researcher to eliminate many of the problems in the present correlational approach.

The third research suggestion is one which has been advocated by scores of clinicians, especially those more concerned with a molar evaluation of the Rorschach. These opponents of the psychometric treatment of the Rorschach (used in the present study) have urged the use of several other Rorschach indices of stereotypy and conformity, such as H, Hd, M, diversity of content, special phenomena such as perseveration, etc. Zubin²⁰ emphasized combining several of these scores, weighting them and validating the aggregate score against one or more criteria. This system has been attempted extensively by Fisher.²¹ It has been termed by Meehl and Rosen²² as the "patterned approach" or "configural scoring". The superiority of this method to linear ones appears to have rich potential in some cases. The advantage is that one score which discriminates poorly (e.g., A%), may

20 J. Zubin, Op. Cit.

21 Seymour Fisher, "Patterns of Personality Rigidity and Some of Their Determinants", in Psychological Monographs: General and Applied, Washington, D.C., American Psychological Association, Vol. 64, No. 1, Whole No. 307, v-48 p.

22 P. E. Meehl and A. Rosen, "Antecedent Probability and the Efficiency of Psychometric Signs, Patterns, or Cutting Scores", in Psychological Bulletin, Vol. 52, 1955, p. 194-216.

be augmented by others (e.g., H, M) so as to yield a composite index of high discriminability. This would be termed a stereotypy configuration or conformity index. In line with this reasoning, several other of Zubin's scales could be implemented as a qualitative cross-check. Moreover, the ideal situation would seem to be a configural orientation within the experimental framework reflected upon above.

It is hoped that the reader has been presented with a varied spectrum of ideas for consideration. In any event, results lacking significance, including those significant in the wrong direction, cannot be discarded as unimportant. It may be argued that they are just as important or even more meaningful, as positive results. It is also often overlooked that there are many types of significance. Statistical significance deals only with the acceptance or rejection of chance as an explanation for obtained results. Theoretical or content-matter significance is an entirely different matter. The significance of any given investigation may not become apparent for many years, or it may have importance in a sense not originally understood or appreciated.

SUMMARY AND CONCLUSIONS

The present study was designed to assess the construct validity of hypotheses linked to animal and popular responses on the Group Rorschach.

The first major hypothesis tested stated that there is no significant relationship between stereotyped thinking defined as a high degree of A and A% on the Group Rorschach, and measures of the stereotypy process, the AS and AN attitude scales. This hypothesis could not be rejected when Pearson correlation coefficients were computed. However, in the case of the subhypotheses involving A and AS and A% and AS, significant correlations were found when the partial correlation method was used.

The second primary hypothesis tested stated that there is no significant relationship between social conformity as manifested by P, P% and MPR on the Group Rorschach, and the degree of social conformity indicated by SA, CM and HRI scores. The holistic approach yielded a significant positive correlation between HRI and MPR of +0.201, again in the direction opposite from that predicted. When controlling for several "third variables", significant correlations between P and SA and MPR and HRI were produced, leading to the rejection of these two subhypotheses, in certain cases.

Two secondary hypotheses were tested in accordance with research indications that both Rorschach variables were related in terms of the behavior they allegedly measured. The first stated that there is no significant relationship between social conformity as measured by P, P% and MPR on the Group Rorschach and scores on the AS and AN scales. No significant results were found until the partial analysis was done. This yielded several significant correlations, some of which were in the opposite direction.

The second stated that there is no significant relationship between stereotypy as measured by A and A% on the Group Rorschach and scores on CM, SA, and HRI scales. The correlational analysis yielded no significant results, but when contaminating variables were partialled out, three significant coefficients were discovered, between A and SA, A% and CM, and A% and SA.

All four hypotheses were also stated in such a way that tests of significance could be done for extreme groups of Ss. Of the twenty-three comparisons, none were significant, indicating that all four hypotheses could not be rejected, from the data obtained in the present study.

These results were interpreted in the light of construct validity. Their ambiguity was attributed to several factors inherent in the design, methodology, and theoretical orientation of this study. The inadequate generalizability

of the present findings is to a great extent portrayed in the research literature in this area. The product of this investigation can be stated as a caution to the clinician wishing to use animal and popular responses on the Rorschach as indicators of stereotypy and conformity. It appears that these factors cannot be said to have general construct validity, and that perhaps this can only be gained by using a more global approach to the Rorschach, i.e., several indicators of the constructs measured. This was but one of several suggestions for further research in an area which would seem to demand greater clarification.

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Bass, Bernard M., "Development and Evaluation of a Scale for Measuring Social Acquiescence", in the Journal of Abnormal and Social Psychology, Vol. 53, 1956, p. 296-299.

A paper which represents a psychometric account of one of the scales used to measure social conformity, Bass' analysis led the present writer to conclude that the development of the FS reflected positively on its research use in this study.

Bernberg, Raymond E., "A Measure of Social Conformity", in the Journal of Psychology, Vol. 39, 1955, p. 890-896.

This paper is concerned with the companion scale to measure social conformity. The "direction of perception" technique invented by Bernberg was judged favorably in terms of the desirability of having a disguised measure along with the more direct FS.

Buros, Oscar K., Editor, Personality Tests and Reviews, Highland Park, N.J., The Gryphon Press, 1971, 1690 p.

This monumental publication served as the primary source for references dealing with the Rorschach technique. Listing 3,749 Rorschach entries, innumerable reviews and test data, it is undoubtedly the most comprehensive account of Rorschach research studies compiled from the early 1930's until the present. Held in the greatest esteem by the psychological community, its usage proved to be indispensable.

Cronbach, Lee J., "Statistical Methods Applied to Rorschach Scores: A Review", in Psychological Bulletin, Vol. 46, 1949, p. 393-429.

Perhaps the most valuable and long-needed treatise on "Rorschach statistics", this article gives the most comprehensive treatment of the subject to date, by an undisputed authority. As the major reference most often quoted in the area, it emphasizes the control of Rorschach productivity. Having suggested the central techniques of analysis to use, by demonstrating the statistical flaws in a number of studies, Cronbach's work releases the clinician from the prevailing confusion on this complex topic.

Frenkel-Brunswik, Else and R. Nevitt Sanford, "Some Personality Factors in Anti-Semitism", in Journal of Psychology, Vol. 20, 1945, p. 271-291.

In this early report, the authors assumed the major hypotheses presented in the present investigation, thereby suggesting a topic for exploration. Attitude scales were used in a simplified approach, although no statistical data was given to support these contentions, which have been since tested by the present author.

Gordon, Rosemary, "Stereotypy of Imagery and Belief as an Ego Defence", in the British Journal of Psychology, Monograph Supplement No. 34, Cambridge, England, Cambridge University Press, 1962, vi-96 p.

In a monograph which treats of the phenomenon of stereotypy in more detail than can be found elsewhere, Gordon has provided a work of central importance to this thesis. Her theoretical considerations of stereotypy provided the kernel of insight from which the rationale was developed.

Guilford, J. P., Fundamental Statistics in Psychology and Education, Fourth edition, New York, McGraw-Hill, 1965, 605 p.

This basic, easily comprehensible summary of a wide range of statistical techniques was adopted as the prime source of the correlational analyses and significance tests utilized in the present study, as well as the fundamental statistical rationale.

Harrower, M. R. and M. E. Steiner, Large Scale Rorschach Techniques: A Manual for the Group Rorschach and Multiple Choice Tests, Second edition, Springfield, Illinois, Charles C. Thomas, 1951, v-353 p.

Harrower treats her method, the Group Rorschach, in much detail, proposing her complete rationale, and presenting several pages of normative and research data. It is upon this text that the choice of the Group Rorschach was based, and from which instructions for administration, etc., were derived. Several succeeding researches were stimulated by this somewhat simplified although fundamental manual.

Hertzman, Max, "A Comparison of the Individual and Group Rorschach Tests", in Rorschach Research Exchange, Vol. 6, 1942, p. 89-108.

This investigation furnished the primary origin of information comparing the Group Rorschach with its traditional counterpart. An early treatment of the problem, it stands out among the several similar works and is perhaps the most exhaustive comparative analysis. Hertzman's findings concerning no significant differences between the techniques in some cases primarily prompted the writer to adopt the Group Rorschach.

Hinckley, E. D., "The Influence of Individual Opinion on Construction of an Attitude Scale", in the Journal of Social Psychology, Vol. 3, 1932, p. 283-296.

One of few papers dealing with an attitude scale used to measure racial stereotypes, this report served as a guide to compare several measures of anti-Negro prejudice. Although quite dated, it pointed out the relative advantages of the AN scale for a study such as this.

Kalter, N. and G. Marsden, "Response Productivity in Rorschach Research: A Caution on Method", in the Journal of Projective Techniques and Personality Assessment, Vol. 34, No. 1, 1970, p. 10-15.

In an attempt to outline the effects of R on any Rorschach score, Kalter and Marsden propose several techniques to deal with this ubiquitous problem. Partial correlation emerged as a viable candidate and was the main contribution acknowledged by the present author in this recent, timely article.

Klopfer, Bruno, et al., Developments in the Rorschach Technique, Vol. I, Technique and Theory, New York, World Book Co., 1954, v-726 p.

A well-known and widely used volume, this publication was used as the source for scoring A and P responses. Klopfer's list of P responses was adopted as it has been in countless studies. An exhaustive bibliography proved extremely useful.

Levinson, D. J. and R. Nevitt Sanford, "A Scale for the Measurement of Anti-Semitism", in the Journal of Psychology, Vol. 17, issue of April 1944, p. 339-370.

This article furnishes complete information on the AS scale used in this study, including norms, construction, reliability and validity data. The conclusions of the authors led to the use of this scale, relative to the scarcity or inadequacy of similar questionnaires.

Rorschach, Hermann, Psychodiagnostics, W. Morgenthaler, editor, translated by Paul Lemkau and Bernard Kronenberg, New York, Grune and Stratton, 1942, 226 p.

The translated version of this classic monograph served as a basis for the entire study in terms of the theoretical framework for animal and popular responses. For the interpretative approach used in the present work, Rorschach's speculations proved valuable in developing a rationale for selecting the criterion tests:

Zubin, Joseph, et al., An Experimental Approach to Projective Techniques, New York, Wiley, 1965, xxi-645 p.

Zubin's recent text deals with the major issues in Rorschach research, but concentrates largely on the detailed psychometric analysis of scores, using a strictly perceptual rationale for interpretation and scoring. The Communitary Scale was derived from this text, although this qualitative method was not the only contribution made. A clearly written and indispensable treatise, this work became the first significant impetus to inspire this thesis.

APPENDIX 1

THE GROUP RORSCHACH RECORD BLANK

INKBLOT I

INSTRUCTIONS FOR INQUIRY

Put the number of your answer under any of these words if by so doing you feel you can amplify it in the way the examiner has just explained.

<i>Shape</i>	<i>Color</i>	<i>Movement</i>	<i>Texture</i>
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ALTERNATE INSTRUCTIONS FOR INQUIRY

Write anything else about your answers which you think will describe them to the examiner more fully.



Where did you see your answers? Mark off the areas on this little diagram as nearly as you can.

FOR EXAMINER'S USE

MUNROE'S CHECK LIST. (Ror.Res.Ex. 1944.8.46-70)

Number of R _____	
T/R) 60" (30" (+, -) _____	
Refusal (✓) _____	
LOCATION	W (+, -, V, B) _____ Dd (+) _____ S (+) _____ Suc (r, l) _____
CONTENT	P, Com (-) _____ O (+, B) _____ At, Sex (+) _____ Range (+, -) _____
FORM	F% (+, -) _____ F (V, B, E) _____
SHADING	Shading Shock (±) (✓) _____ FK, Fc (+, -) _____ c (+) _____ C' (+) _____ K, k (+) _____
MOVEMENT	M (+, -, B, r, d) _____ FM, FM:M (+, -) _____ m (+) _____ Total Movement (+, -) _____
COLOR	Color Shock (±) (✓) _____ FC (-, B) _____ CF, CF:FC (+, -) _____ C) 1, Cn (+) _____ Total Color (+, -) _____
Color: Movement (+, -) _____	
Total Number of Checks _____	

FOR EXAMINER'S USE

GROUP RORSCHACH BLANK

Name..... 71

Age.....

Date.....

Occupation.....

INSTRUCTIONS

You will see on the screen ten inkblot pictures.

Your task is to write down what these inkblots, or any parts of them, resemble or look like to you.

You will see each inkblot for three minutes.

Always write your answers on the right hand side of the open double page, and do not concern yourself with the left hand side until instructed to do so.

Turn the page each time the slide is changed.

Do not be disturbed if the light is not very bright while you are looking at the inkblots and writing your answers, handwriting is not important.

When the first slide is on the screen, open this blank and record your answers where it says:

“Write your answers to inkblot I here”

Number your answers for each inkblot.

INKBLOT II

INSTRUCTIONS FOR INQUIRY

Put the number of your answer under any of these words if by so doing you feel you can amplify it in the way the examiner has just explained.

<i>Shape</i>	<i>Color</i>	<i>Movement</i>	<i>Texture</i>



ALTERNATE INSTRUCTIONS FOR INQUIRY

Write anything else about your answers which you think will describe them to the examiner more fully.



Where did you see your answers? Mark off the areas on this little diagram as nearly as you can.

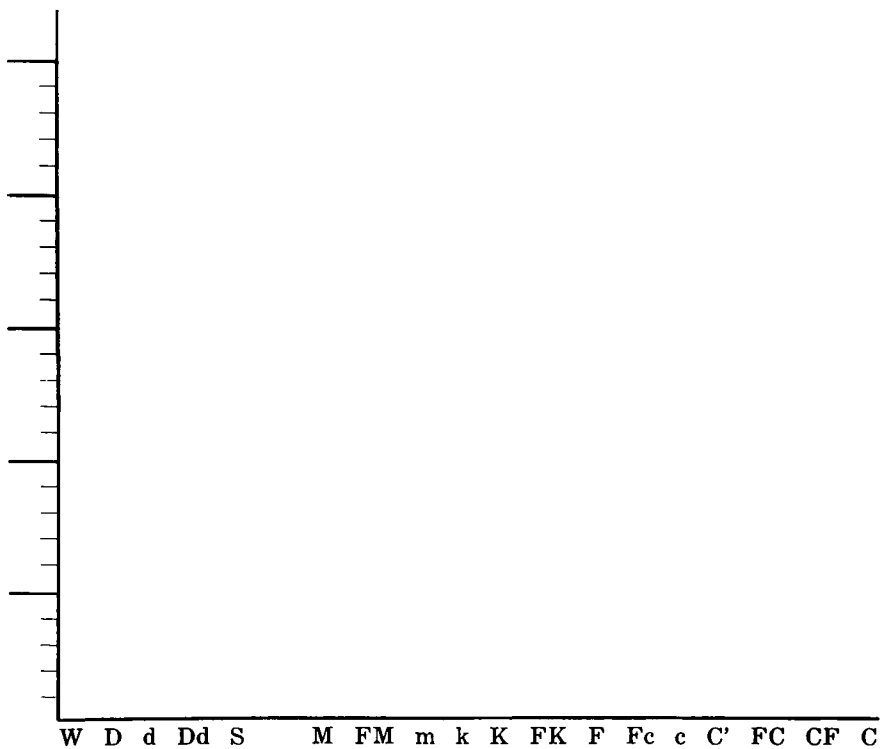
Write Your Answer or Answers to Inkblot X Here

Before you turn to the next page, draw a line under your last answers.

This is the end, you need not turn the page again.

FOR EXAMINER'S USE
FOR SCORING AND PSYCHOGRAM

Write Your Answer or Answers to Inkblot I Here
Before you turn to the next page, draw a line under your last answers.



Scoring after Klopfer.

INKBLOT III

INSTRUCTIONS FOR INQUIRY

Put the number of your answer under any of these words if by so doing you feel you can amplify it in the way the examiner has just explained.

<i>Shape</i>	<i>Color</i>	<i>Movement</i>	<i>Texture</i>

ALTERNATE INSTRUCTIONS FOR INQUIRY

Write anything else about your answers which you think will describe them to the examiner more fully.



Where did you see your answers? Mark off the areas on this little diagram as nearly as you can.

Write Your Answer or Answers to Inkblot IX Here

Before you turn to the next page, draw a line under your last answers.

INKBLOT X

INSTRUCTIONS FOR INQUIRY

Put the number of your answer under any of these words if by so doing you feel you can amplify it in the way the examiner has just explained.

<i>Shape</i>	<i>Color</i>	<i>Movement</i>	<i>Texture</i>

ALTERNATE INSTRUCTIONS FOR INQUIRY

Write anything else about your answers which you think will describe them to the examiner more fully.



Where did you see your answers? Mark off the areas on this little diagram as nearly as you can.

Write Your Answer or Answers to Inkblot II Here

Before you turn to the next page, draw a line under your last answers.

INKBLOT IV

INSTRUCTIONS FOR INQUIRY

Put the number of your answer under any of these words if by so doing you feel you can amplify it in the way the examiner has just explained.

<i>Shape</i>	<i>Color</i>	<i>Movement</i>	<i>Texture</i>

ALTERNATE INSTRUCTIONS FOR INQUIRY

Write anything else about your answers which you think will describe them to the examiner more fully.



Where did you see your answers? Mark off the areas on this little diagram as nearly as you can.

Write Your Answer or Answers to Inkblot VIII Here

Before you turn to the next page, draw a line under your last answers.

INKBLOT IX

INSTRUCTIONS FOR INQUIRY

Put the number of your answer under any of these words if by so doing you feel you can amplify it in the way the examiner has just explained.

<i>Shape</i>	<i>Color</i>	<i>Movement</i>	<i>Texture</i>

ALTERNATE INSTRUCTIONS FOR INQUIRY

Write anything else about your answers which you think will describe them to the examiner more fully.



Where did you see your answers? Mark off the areas on this little diagram as nearly as you can.

Write Your Answer or Answers to Inkblot III Here

Before you turn to the next page, draw a line under your last answers.

INKBLOT V

INSTRUCTIONS FOR INQUIRY

Put the number of your answer under any of these words if by so doing you feel you can amplify it in the way the examiner has just explained.

Shape

Color

Movement

Texture

ALTERNATE INSTRUCTIONS FOR INQUIRY

Write anything else about your answers which you think will describe them to the examiner more fully.

Write Your Answer or Answers to Inkblot VII Here

Before you turn to the next page, draw a line under your last answers.



Where did you see your answers? Mark off the areas on this little diagram as nearly as you can.

INKBLOT VIII

INSTRUCTIONS FOR INQUIRY

Put the number of your answer under any of these words if by so doing you feel you can amplify it in the way the examiner has just explained.

Shape

Color

Movement

Texture

ALTERNATE INSTRUCTIONS FOR INQUIRY

Write anything else about your answers which you think will describe them to the examiner more fully.



Where did you see your answers? Mark off the areas on this little diagram as nearly as you can.

Write Your Answer or Answers to Inkblot IV Here

Before you turn to the next page, draw a line under your last answers.

INKBLOT VI

INSTRUCTIONS FOR INQUIRY

Put the number of your answer under any of these words if by so doing you feel you can amplify it in the way the examiner has just explained.

Shape

Color

Movement

Texture

Write Your Answer or Answers to Inkblot VI Here

Before you turn to the next page, draw a line under your last answers.

ALTERNATE INSTRUCTIONS FOR INQUIRY

Write anything else about your answers which you think will describe them to the examiner more fully.



Where did you see your answers? Mark off the areas on this little diagram as nearly as you can.

INKBLOT VII

INSTRUCTIONS FOR INQUIRY

Put the number of your answer under any of these words if by so doing you feel you can amplify it in the way the examiner has just explained.

<i>Shape</i>	<i>Color</i>	<i>Movement</i>	<i>Texture</i>

ALTERNATE INSTRUCTIONS FOR INQUIRY

Write anything else about your answers which you think will describe them to the examiner more fully.



Where did you see your answers? Mark off the areas on this little diagram as nearly as you can.

Write Your Answer or Answers to Inkblot V Here

Before you turn to the next page, draw a line under your last answers.

APPENDIX 2

GROUP RORSCHACH INSTRUCTIONS

Introduction.

After having given his name, university and academic intentions, the examiner proceeded as follows to establish rapport.

"I believe you will find this project interesting. It will acquaint you with some scales and questionnaires used in psychology."

"You have in front of you an envelope containing five scales. We are going to do the first one, the Group Rorschach, together. Each of you will do the others in different orders."

"I know that you probably have some questions now and will have more later. But, for obvious reasons, I will not explain the purpose of this project until you have finished the scales. At that time, your questions and comments will be most appreciated."

"With the exception of the first instrument, the scales are not timed. But you should all be able to finish them within this period."

"There are two further points. Firstly, I would ask you not to communicate with each other during the next while. Secondly, please do not be concerned about confidentiality. You are each given a numerical code which you will find at the top of each scale. The only information that is very important is your age, sex, and degree of education."

"Open the envelopes. With the pencils provided, we shall begin by filling in this information on the Group Rorschach Blank." (A few minutes were allotted for this purpose.)

"Now before opening the booklet, I will describe for you the nature of the task you are about to undertake."

Instructions.

"This is a different kind of a test. All you have to do is to look at some slides and write down what you see. These slides show some inkblots which have been reproduced. There are no right or wrong answers to these blots. That is the nice feature of this test. All you have to do is to write down what you see, what these blots look like to you. Different people react in different ways to these blots. Your task is simply to write in the space of the right hand side of each page of the booklet what these blots make you think of. Now let us read the instructions on the front cover of the booklet together."

"You will see on the screen ten inkblot pictures."

"Your task is to write down what these inkblots, or any parts of them, resemble or look like to you."

"You will see each inkblot for three minutes. Please give three responses for each inkblot."

"Always write your answers on the right hand side of the open double page, and do not concern yourself with the left hand side until instructed to do so."

"Turn the page each time the slide is changed."

"Do not be disturbed if the light is not very bright while you are looking at the inkblots and writing your answers, handwriting is not important. But please write or print as legibly as possible."

"When the first slide is on the screen, open this blank and record your answers where it says" 'Write your answers to inkblot I here'."

"Number your three answers for each inkblot."

Questions were then answered, after which the examiner stated:

"Now that you understand the test, we are ready to start. Open your booklets to inkblot 1."

The room was then darkened, and slide 1 was presented.

"Now look at this slide, inkblot 1. On the right hand side of the page write what this blot suggests to you, giving three answers, numbering each one and leaving ample space between them. Write what this blot looks like to you."

Three minutes were given, with a fifteen second pause between slides. Instructions were the same for all slides. Ss were reminded to number their responses in sequence. After the last slide had been presented, the room was brightened and the Inquiry was begun.

"Now you have completed the ten inkblots. You have written your answers on the right hand sides of the pages. Do not add or change any answers in this column from now on. We would like to know as accurately as possible just what it was you saw and where you saw it. Therefore, we would like to ask you some questions about your responses. For that reason, there are outlines to correspond with each of the blots you have seen, so that you may show the location of your responses on them."

"Turn back to your answers to inkblot 1. On the left hand side of the page, notice the outline which corresponds to it, which is the first in your set of outlines. Please ignore the instructions at the top of each page. We want you to re-read your responses as we show you the blots again."

"If your response applies to the whole blot, it is not necessary to do anything."

"If your response is to a part of the blot, indicate on the outline which part suggested your answer by drawing around the area and by writing in the number of the response you are locating." (This was shown on a blackboard.)

"If you have more than one response to the same part of a blot, just place the numbers in the same area."

"You will have one minute for locating your responses to each blot."

Questions were answered, after which the room was darkened. At the end of each minute, Ss were told to turn the page to the next blot.

For the criterion tests, instructions were self-explanatory. All questions were answered, the Ss were thanked, and at the conclusion of the two hour session, any who wished to stay were explained the purpose of the study.

APPENDIX 3

THE HUMAN RELATIONS INVENTORY

Name _____ Age _____ Sex _____ Date _____

HUMAN RELATIONS INVENTORY.

The following questionnaire which you are requested to answer is based upon knowledge of facts known about human relations. The questions cover many aspects of life situations in which people are involved. It is not expected that you know the correct answer to these questions. You are requested to choose what you believe is the right answer and go on quickly to the next question.

At the extreme left of each item below, ENCIRCLE the initial that is the same as the initial of the answer you believe to be correct. Here is an example:

- a b d e 1. Of all babies born, what proportion do you think are boys?
a) 31% b) 41% c) 51% d) 61% e) 71%

B E G I N

- a b c d e 1. Surveys conducted in the armed forces during World War II indicate what percentage of service men maintained steady correspondence with their families?
a) 45% b) 55% c) 65% d) 75% e) 85%
- a b c d e 2. Army studies have shown that if it means another drink and more freedom, what percentage of men are willing to go A.W.O.L. from camp during training?
a) 27% b) 40% c) 53% d) 66% e) 79%
- a b c d e 3. Statistics show that what percent of people who borrow money from friends repay it as soon as possible?
a) 25% b) 38% c) 51% d) 64% e) 77%
- a b c d e 4. Social studies recently unearthed the fact that the average Canadian boy of pre-high school age is likely to run away from home a) 4 times b) 5 times c) 6 times d) 7 times e) 8 times
- a b c d e 5. According to a well-known report, what percentage of unmarried Canadian males would attempt sexual intercourse if they were sure of not being caught?
a) 15% b) 24% c) 33% d) 42% e) 51%

- a b c d e 6. It has been found that the following percentage of people who find lost articles return them to their owners:
a) 27% b) 40% c) 53% d) 66% e) 79%
- a b c d e 7. Public opinion polls show that the following percentage of men think it is stupid to keep promises:
a) 10% b) 20% c) 30% d) 40% e) 50%
- a b c d e 8. Studies have shown what percentage of men who think it is all right to carve initials and write their names in public buildings?
a) 45% b) 55% c) 65% d) 75% e) 85%
- a b c d e 9. Statistics show what percentage of men like to write things on the walls in men's rooms?
a) 27% b) 40% c) 53% d) 66% e) 79%
- a b c d e 10. Statistics show what percentage of people in this country are actually glad of the prospect of war because it promises more opportunity for personal gain?
a) 25% b) 38% c) 51% d) 64% e) 77%
- a b c d e 11. Numerous studies have shown that out of all men receiving unemployment cheques, what percentage consider this enough to prevent them from looking for a job?
a) 30% b) 40% c) 50% d) 60% e) 70%
- a b c d e 12. Recent opinion polling has indicated what percentage of our population feel it is silly to save for the future?
a) 39% b) 49% c) 59% d) 69% e) 79%
- a b c d e 13. The number of job changes annually attributed to the average Canadian as calculated by Statistics Canada is:
a) 2 b) 3 c) 4 d) 5 e) 6
- a b c d e 14. Statistics show that workers who change jobs often are happy
a) all of the time b) most of the time
c) part of the time d) small amount of the time
e) none of the time.
- a b c d e 15. Research has shown that by 30 years of age, most men have had the following number of jobs: a) 2
b) 4 c) 6 d) 8 e) 10.

- a b c d e 16. Public opinion polls show what percentage of people feel it is silly to make close friendships because few people can really understand you?
a) 30% b) 40% c) 50% d) 60% e) 70%
- a b c d e 17. Statistics indicate that the length of the average boyhood friendship is:
a) 1 yr. b) 1½ yrs. c) 2 yrs. d) 2½ yrs. e) 3 yrs.
- a b c d e 18. Records of the Canadian Tourist, Inc. show what percentage of tourists send or bring home souvenirs for loved ones while vacationing?
a) 45% b) 55% c) 65% d) 75% e) 85%
- a b c d e 19. A recent survey has shown that a man retains what percentage of his high school friends, five years after graduation?
a) 26% b) 39% c) 52% d) 65% e) 78%
- a b c d e 20. Social studies reveal what percentage of young men feel women are inferior and dirty?
a) 10% b) 20% c) 30% d) 40% e) 50%
- a b c d e 21. Family relation studies show what percentage of young men prefer single life but marry because society demands it?
a) 42% b) 52% c) 62% d) 72% e) 82%
- a b c d e 22. Opinion polls show what percentage of men believe that they had a definite place in life and that they were to just wait until the right time came along?
a) 67% b) 72% c) 77% d) 82% e) 87%
- a b c d e 23. Reports of marriage statistics show what percentage of men married more than 3 times because they believed that "one of these times I'll get the right one"? a) 28% b) 41% c) 54% d) 67% e) 80%
- a b c d e 24. Statistics released by the R.C.M.P. show what percentage of Canadian men would not hesitate to kill a petty thief trespassing on their property?
a) 32% b) 44% c) 56% d) 68% e) 80%
- a b c d e 25. The view that people can't be held responsible for what they do is held by what percentage of social scientists, as determined in a recent convention?
a) 27% b) 31% c) 35% d) 39% e) 43%

- a b c d e 26. Statistics released by a local Detective Bureau show what percentage of men will offer strong resistance to petty robbery even if they are faced with a gun?
a) 21% b) 28% c) 35% d) 42% e) 49%
- a b c d e 27. The Harvard Research Bureau found what percentage of hit-and-run drivers were concerned only with the extent of damage to their cars?
a) 18% b) 21% c) 24% d) 27% e) 30%
- a b c d e 28. Social studies show what percentage of people feel that being present at the deathbed of a close relative is just being morbid?
a) 28% b) 33% c) 38% d) 43% e) 48%
- a b c d e 29. Careful studies by the Institute of Human Relations show what percentage of men feel it is a sign of weakness to feel guilty just because we have injured someone?
a) 26% b) 39% c) 52% d) 65% e) 78%
- a b c d e 30. Research by the Institute of Family Relations found what percentage of men felt that their immediate family's troubles were not their own?
a) 30% b) 40% c) 50% d) 60% e) 70%
- a b c d e 31. In a recent study, the following percentage of men who have younger sisters stated they did not care what happened to them on dates?
a) 27% b) 31% c) 35% d) 39% e) 43%
- a b c d e 32. Army enlistment reports what percentage enlisted merely for the satisfaction of sporting a uniform?
a) 31% b) 41% c) 51% d) 61% e) 71%
- a b c d e 33. What percentage of men who enlist in a police reserve force do so merely for the satisfaction of wearing a uniform and carrying a gun?
a) 42% b) 52% c) 62% d) 72% e) 82%
- a b c d e 34. Statistical reports show what percentage of men who are unconcerned with the emotions of their girl friends?
a) 29% b) 40% c) 51% d) 62% e) 73%
- a b c d e 35. Studies have shown what percentage of soldiers, used to killing quickly, who find themselves having this urge after being discharged?
a) 10% b) 20% c) 30% d) 40% e) 50%

a b c d e 36. According to traffic records, what percentage of people being chased by a policeman for a traffic offense try and get away?
a) 10% b) 15% c) 20% d) 25% e) 30%

a b c d e 37. Studies in human relations indicate what percentage of persons do not heed a sign "private door" and barge right in?
a) 42% b) 52% c) 62% d) 72% e) 82%

Raw Score: _____ Percentile: _____ High: _____ Medium: _____ Low: _____

APPENDIX 4

THE FAMOUS SAYINGS TEST

CM HO FF SA
Yes ? No

Good will overcomes ill will
 To obtain success by your own efforts is the greatest joy in life
 The humblest of friendships is better than the triumphs of genius
 To be afraid about having accidents is the best guard against them
 There is no satisfaction without a companion to share it

If he tries hard enough one can be first in anything
 People often grudge others what they cannot enjoy themselves
 Most people enjoy having a secret enemy
 Since you spend one third of your life in bed you should spare no expense in purchasing
 the most comfortable one you can find
 A man's wealth is measured by his friendship

Every normal man must be tempted at times to commit murder
 It is better to have friends than fame
 When a man is no longer interested in doing his best he is done for
 Most people enjoy the inferiority of their best friends
 Nothing else which life can offer is a substitute for a great achievement

He who does not please his belly will not please anything else
 We like best which flies beyond our reach
 He that has many friends need never fear disaster
 It is the spirit of competition that has made America great
 Marriage is a field of battle

Better humble security than glittering danger
 Goodwill subdues its opposite like water subdues fire
 If you wish to mount a ladder you always must begin at the lowest rung
 Charity should begin with being charitable to your enemies
 It isn't the common man at all who is important it is the uncommon man

We become wise by being intimate with people
 You can fool most of the people all of the time
 Meekness is better than vengeance
 Give good for bad blessings for curses
 Crime never pays

Injuries may be forgiven but never forgotten
 Ambition is the father of virtue
 The world is full of people who are not worth speaking to
 The threat of force can persuade people easier than all the talk in the world
 Only ambition will bring a man's mind into full activity

A person seldom falls sick without someone around him faintly hoping he will die
 Who despises Fame will soon give up the virtues that deserve it
 She who flirts with all is less likely to fall than she who flirts with one
 Love is more just than justice
 Our chief want in life is somebody who will make us do what we can

We are all born for love
 Don't count your chickens before they're hatched
 The wheel that does the squeaking is the wheel that gets the grease
 As the twig is bent so is the tree inclined
 Little difficulties have a habit of becoming big ones

CM HO FF SA

Yes ? No

There is a trace of insanity in every man
 Better to starve free than be a fat slave
 Many men fear living more than dying
 One could do no better with his life than lay it down for a friend
 Because you like roses is no reason to despise the sun flower

Counting the stumps won't clear the field
 Secret mercy is the true badge of nobility
 Pity is the touch of God in human hearts
 Society is a hospital of incurably sick people
 A sense of duty is the basis of character

The first duty of every person is to his country
 It takes a lot of mud puddles to make a lake
 The greatest fortunes are for those who leave the common path and blaze a new trail
 for themselves
 It is easy to worry about unimportant things
 Show me a perfectly happy man and I'll show you a liar

Happiness must be won through great effort
 Helping others is the rock of life
 Nothing can make a person happier than success after he has tried hard
 Every moment of resistance to temptation is a victory
 Next to love sympathy is the most divine passion of the human heart

Unselfishness and sympathy are more desirable than high ideals and ambitions
 When the wind blows your fire, it is useless to tire yourself
 He who rides the tiger cannot dismount
 Progress is due mainly to competition
 It is the man that wants to do things that gets things done

People talk too much
 Stay away from the proud man who is ashamed to weep
 Sweet is the sleep of men with virtue
 The kind of person you are is more important than how successful you are
 If a man doesn't care about his own troubles, no one else will

Fortunes can be made today by men bold enough to try
 Giving is always better than receiving
 He that loses his conscience has nothing left that is worth keeping
 The grass is always greener in the other man's yard
 A man who wants nothing gets nothing

No degree of temptation justifies any degree of sin
 The seekers of their own fame and fortune have made our country great
 Competition is the spice of life
 The cat is mighty dignified until the dog comes by
 What this country needs is more ambitious and bold men and women

It is better to be faithful than famous
 You can't get dollars by pinching nickels
 Happiness comes only if we work hard for it
 Love is wiser than ambition
 Only a statue's feelings are not easily hurt

Yes	?	No	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Success against odds is the greatest of American ideals
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Love is the greatest of Arts
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Love of the opposite sex makes the world go round
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	They never fail who die in a great cause
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Destroyers of tyranny have contributed the most to mankind
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	You only injure yourself when you take notice of despised critics
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The only known cure for fear is faith
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Never trust a flatterer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	He who laughs last laughs longest
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No principle is more noble or holy than that of true obedience
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	There is nothing which the body suffers which the soul may not profit by
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	One false friend can do more harm than one hundred enemies
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No gift is more precious than good advice
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Obedience is the mother of success
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The victory always remains with those who admire rather than with those who criticize
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Tis vain to quarrel with our destiny
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	To be happy, always stay within the law
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	You should give more than you want to give
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	What we win through authority we lose, what we win through consideration we keep
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	One should feel the failures of his friends as if the failures were his own
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Virtue is a struggle in which we overcome our weaknesses
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	He conquers all who conquers himself
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	It is difficult to do excellent work without great strain
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Seeing is believing
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Still water runs deep
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Make yourself honey and the flies will eat you
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Most big cows have little horns
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Every man is blind to his own defects
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Jaws are the only part of the body that like to work
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Those in high places are in greater danger than those in lowly ones
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Life is a struggle from beginning to end
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Wild colts make good horses
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Empty heads go with loud talk
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	You can't teach an old dog new tricks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Count your sheep and the wolf will eat them
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sleep is loved by everyone
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The feeling of friendship is like that of being comfortably filled with roast beef
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Who does not love the opposite sex remains a fool the whole life long
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Better one safe way than a hundred on which you are not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Amusement is the medicine for worry
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The restless sleeper blames the couch

THAT'S ALL!

RAW	$\frac{2(\) + 1(\)}{CM} =$	$\frac{2(\) + 1(\)}{HO} =$	$\frac{2(\) + 1(\)}{FF} =$	$\frac{\quad}{S}$
PERC	$\frac{\quad}{CM}$	$\frac{\quad}{HO}$	$\frac{\quad}{FF}$	$\frac{\quad}{S_i}$

Famous Sayings

BERNARD M. BASS, LOUISIANA STATE UNIVERSITY FORM 1

Name _____ Age _____ Sex _____
 (Please print) Last First MI

Date _____ Last school grade completed _____
 Month Day Year

Present occupation _____ Marital status _____

DIRECTIONS

This is a test of your attitudes toward various famous sayings. Read each one carefully to find out its true meaning for you. If you *agree* more than you disagree with it, X the proper space below Yes. If you *disagree* more than you agree with the saying, X the answer space below No. If you are uncertain or not sure whether you agree or disagree, X the space below the ? Make one mark for every saying.

EXAMPLE

If you agree with the first saying, your answer should be marked this way

Yes	?	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you disagree with the first saying, your answer should be marked this way

Yes	?	No
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If you cannot make up your mind whether you agree or disagree with a statement, it will help if you ask yourself if you believe the statement is usually true or usually false. If it is usually true, mark Yes, if it is usually false, mark No.

APPENDIX 5

THE ANTI-SEMITISM SCALE

Name _____ Age _____ Sex _____ Date _____

THE ANTI-SEMITISM SCALE.

This is an investigation of general public opinion concerning Jewish people. The following are statements with which some people agree and others disagree. Please mark each one in the left margin, according to the amount of your agreement or disagreement, by using the following scale:

- +3 firm, strong agreement; undoubtedly true in general
- +2 moderate agreement; true in many cases; often true
- +1 slight agreement; true in some cases; occasionally
- 1 slight disagreement; more false than true
- 2 moderate disagreement; usually not the case; probably wrong
- 3 strong disagreement; an absolute misconception; false

- _____ 1. It would hurt the business of a large concern if it had too many Jewish employees.
- _____ 2. The Jews should make sincere efforts to rid themselves of their conspicuous and irritating faults, if they really want to stop being persecuted.
- _____ 3. In order to maintain a nice residential neighborhood, it is best to prevent Jews from living in it.
- _____ 4. War shows up the fact that the Jews are not patriotic nor willing to make sacrifices for their country.
- _____ 5. The best way to eliminate the Communist menace in this country is to control the Jewish element which guides it.
- _____ 6. Jews seem to prefer the most luxurious, extravagant and sensual way of living.
- _____ 7. Much resentment against Jews stems from their tendency to keep apart and to exclude Gentiles from Jewish social life.
- _____ 8. Colleges should adopt a quota system by which they limit the number of Jews in fields which have too many Jews now.
- _____ 9. The Jews must be considered a bad influence on Christian culture and civilization.
- _____ 10. In order to handle the Jewish problem, Gentiles must meet fire with fire and use the same ruthless tactics with the Jews that the Jews use with Gentiles.
- _____ 11. The Jewish districts in most cities are results of the clannishness and stick-togetherness of Jews.
- _____ 12. Jews may have moral standards that they apply in their dealing with each other, but with Christians they are unscrupulous, ruthless and undependable.
- _____ 13. On the whole, the Jews have probably contributed less to Canadian life than any other group.

- ____ 14. One thing that has hindered the Jews from establishing their own nation is the fact that they really have no culture of their own; instead, they tend to copy the things that are important to the native citizens of whatever country they are in.
- ____ 15. A step toward solving the Jewish problem would be to prevent Jews from getting into superior, profitable positions in society, for a while at least.
- ____ 16. The true Christian can never forgive the Jews for their crucifixion of Christ.
- ____ 17. Jews go too far in hiding their Jewishness, especially such extremes as changing names, straightening noses, and imitating Christian manners and customs.
- ____ 18. It is not wise for a Christian to be seen too much with Jews, as he might be taken for a Jew, or looked down upon by his Christian friends.
- ____ 19. When Jews create large funds for educational or scientific research, it is mainly a desire for fame and public notice rather than a really sincere scientific interest.
- ____ 20. There is something strange and different about Jews; one never knows what they are thinking or planning, nor what makes them tick.
- ____ 21. The Jewish problem is so general and deep that one often doubts that democratic methods can ever solve it.
- ____ 22. A major fault of the Jews is their conceit, overbearing pride, and their idea that they are a chosen race.
- ____ 23. One of the first steps to be taken in cleaning up the movies and generally improving the situation in Hollywood is to put an end to Jewish domination there.
- ____ 24. There is little hope of correcting the racial defects of Jews, since these defects are simply in their blood.
- ____ 25. One big trouble with Jews is that they are never contented, but always try for the best jobs and the most money.
- ____ 26. The trouble with letting Jews into a nice neighborhood is that they gradually give it a typical Jewish atmosphere.
- ____ 27. It is wrong for Jews and Gentiles to intermarry.
- ____ 28. One trouble with Jewish business men is that they stick together and connive, so that a Gentile doesn't have a fair chance in competition.
- ____ 29. No matter how Canadianized a Jew may seem to be, there is always something basically Jewish underneath, a loyalty to Jewry and a manner that is never totally changed.
- ____ 30. Jewish millionaires may do a certain amount to help their own people, but little of their money goes into worthwhile Canadian causes.
- ____ 31. Most hotels should deny admittance to Jews, as a general rule.
- ____ 32. The Jew's first loyalty is to Jewry, rather than to his country.

- ___ 33. It is best that Jews should have their own fraternities and sororities, since they have their own particular interests and activities which they can best engage in together, just as Christians get along best in all-Christian fraternities.
- ___ 34. Jewish power and control in money matters is far out of proportion to the number of Jews in the total population.
- ___ 35. Jewish leaders should encourage Jews to be more inconspicuous, to keep out of professions and activities already over-crowded with Jews and to keep out of the public notice.
- ___ 36. I can hardly imagine myself marrying a Jew.
- ___ 37. The Jews should give up their un-Christian religion with all its strange customs (kosher diet, special holidays, etc.) and participate actively and sincerely in the Christian religion.
- ___ 38. There is little doubt that Jewish pressure was largely responsible for the U.S. getting into the war with Germany.
- ___ 39. The Jews keep too much to themselves instead of taking the proper interest in community problems and good government.
- ___ 40. Jews seem to have an aversion to plain hard work; they tend to be a parasitic element in society by finding easy, non-productive jobs.
- ___ 41. It is sometimes alright to ban Jews from certain apartment houses.
- ___ 42. Jews tend to remain a foreign element in Canadian society, to preserve their old social standards, and to resist the Canadian way of life.
- ___ 43. Districts containing many Jews always seem to be smelly, dirty, shabby and unattractive.
- ___ 44. It would be to the best interests of all if the Jews would form their own nation and keep more to themselves.
- ___ 45. There are too many Jews in the various Federal agencies and bureaus in Ottawa, and they have too much control over our national policies.
- ___ 46. Anyone who employs many people should be careful not to hire a large percentage of Jews.
- ___ 47. One general fault of Jews is their over-aggressiveness, a strong tendency always to display their Jewish looks, manners and breeding.
- ___ 48. There are a few exceptions, but in general Jews are pretty much alike.
- ___ 49. Jews should be more concerned with their personal appearance, and not be so dirty and smelly and unkempt.
- ___ 50. There seems to be some revolutionary streak in the Jewish make-up as shown by the fact that there are so many Jewish Communists and agitators.

____ 51. The Jews should not pry so much into Christian activities and organizations, nor seek so much recognition and prestige from Christians.

____ 52. Jews tend to lower the general standard of living by their willingness to do the most menial work and to live under standards that are far below average.

Scaled Score (+4): _____ High: _____ Medium: _____ Low: _____

APPENDIX 6

THE ATTITUDE TOWARD THE NEGRO SCALE

Name _____ Age _____ Sex _____ Date _____

ATTITUDE TOWARD THE NEGRO

This is a study of attitudes toward the Negro. On this page, you will find sixteen statements expressing different attitudes toward the Negro.

Put a check mark (✓) if you agree with the statement.
Put a cross (X) if you disagree with the statement.
If you cannot decide about a statement, you may mark it with a question mark.

This is not an examination. People differ in their opinions about what is right and wrong in this issue. Please indicate your own attitude by a check mark when you agree and by a cross when you disagree.

- _____ 1. Negroes must undergo many years of civilization before they may be said to reach the social level of the whites.
- _____ 2. Negroes should not be allowed to mingle with whites in any way.
- _____ 3. Although the Negro is rather inferior mentally, he has a fuller and deeper religious life than the white man, and thus has an emphatic claim upon our social approval.
- _____ 4. In our efforts to help the Negro, we must not blind ourselves to the definite and marked differences which actually exist between the two races.
- _____ 5. The white man has clearly shown the dominance of his race and should continue to exercise his power of leadership over the Negro.
- _____ 6. The great majority of Negroes should be treated as well-trained apes.
- _____ 7. Social recognition should be based on culture, without regard for color.
- _____ 8. I believe that the Negro is entitled to the same social privileges as the white man.
- _____ 9. So great is the social range between the highly educated Negro and the "nigger" that the race as a whole cannot be assigned to any one notch in the social scale.

- ___ 10. The feeble-mindedness of the Negro limits him to a social level just a little above that of the higher animals.
- ___ 11. The Negro is perfectly capable of taking care of himself, if the white man would only let him alone.
- ___ 12. Give the Negro a high position in society and he will show himself equal to it.
- ___ 13. The Negro is a necessary evil and is to be endured.
- ___ 14. There are some Negroes with whom I would esteem it a privilege to travel, but I would not spend an hour with a miscellaneous multitude of the Negro race.
- ___ 15. The Negro should not be condemned forever to a lower place than the white man, but to a different place.
- ___ 16. The instinctive aversion which the white man has for the Negro will forever keep the latter far beneath the notice of the former.

Score: ___ Percentile: ___ High ___ Medium ___ Low ___

APPENDIX 7

THE COMMUNALITY SCALE (MODIFIED)

THE COMMUNALITY SCALE (MODIFIED)

Rating	Title	Meaning
2	Common but not popular	Listed in only one of the published frequency lists; tendency towards popularity
3	Quite popular	Listed in only two of the published frequency lists
4	Very popular	Listed in three of the four published frequency lists
5	Extremely popular, almost universal	Listed in the three well-known published lists; also found by Molish to occur with significantly greater frequency in normals, than with schizophrenics or neurotics

APPENDIX 8

RAW SCORES YIELDED BY THE GROUP RORSCHACH, FAMOUS SAYINGS,
HUMAN RELATIONS INVENTORY, ANTI-SEMITISM AND ATTITUDE
TOWARD THE NEGRO SCALES (N=77).

RAW SCORES YIELDED BY THE GROUP RORSCHACH, FAMOUS SAYINGS, HUMAN RELATIONS INVENTORY,
ANTI-SEMITISM AND ATTITUDE TOWARD THE NEGRO SCALES (N=77).

Sub- ject	Age	Sex	Rorschach Variables								Criterion Variables				
			R	R-A	R-P	A	A%	P	P%	MPR	CM	SA	HRI	AS	AN
1	38	F	30	23	22	17	56.6	8	26.6	3.7	45	35	23	---	8.6
2	23	F	30	16	25	14	46.6	5	16.6	3.6	47	41	9	136	7.1
3	36	F	11	7	8	4	36.4	3	27.3	3.8	38	29	17	108	8.7
4	50	F	7	6	6	1	14.3	1	14.3	3.0	30	28	13	357	8.1
5	35	M	25	12	17	13	52.0	8	32.0	3.8	42	25	9	114	9.3
6	26	M	30	20	25.5	10	33.3	4.5	15.0	3.3	53	36	6	88	9.3
7	28	M	30	21	24.5	9	30.0	5.5	18.3	3.2	34	24	24	103	9.0
8	30	M	28	21	20.5	7	25.0	7.5	26.8	3.8	46	10	18	131	8.7
9	26	M	27	12	19.5	15	55.6	7.5	27.8	3.6	13	21	22	217	6.7
10	24	M	19	10	14	9	47.4	5	26.3	3.2	30	23	11	169	6.9
11	27	M	30	21	28	9	30.0	2	6.7	2.6	36	25	25	165	7.4
12	39	M	26	16	19.5	10	38.5	6.5	25.0	3.6	38	34	13	122	7.8
13	27	M	20	14	16	6	30.0	4	20.0	4.4	39	22	25	164	8.7
14	30	F	30	18	26	12	40.0	4	13.3	3.2	40	33	17	176	7.4
15	27	M	30	19	26	11	36.7	4	13.3	3.1	42	14	9	60	9.9
16	24	M	27	19	21	8	29.6	6	22.2	3.5	31	27	7	128	6.9
17	24	M	30	18	23	12	40.0	7	23.3	3.5	36	25	35	59	8.1
18	44	F	30	23	26	7	23.3	4	13.3	3.0	50	36	7	113	8.1
19	26	M	22	12	14	10	45.5	8	36.4	4.1	29	17	26	81	8.1
20	21	F	30	17	22.5	13	43.7	7.5	25.0	3.7	--	--	--	---	---

RAW SCORES YIELDED BY THE GROUP RORSCHACH, FAMOUS SAYINGS, HUMAN RELATIONS INVENTORY,
ANTI-SEMITISM AND ATTITUDE TOWARD THE NEGRO SCALES (N=77) (Continued).

Sub- ject	Age	Sex	Rorschach Variables								Criterion Variables				
			R	R-A	R-P	A	A%	P	P%	MPR	CM	SA	HRI	AS	AN
21	24	M	26	14	17	12	46.2	9	34.6	3.6	32	23	--	---	8.1
22	51	F	30	15	22	15	50.0	8	26.7	3.0	42	37	19	86	9.3
23	31	F	29	19	19	10	34.5	10	34.5	3.6	45	40	13	231	8.1
24	25	F	27	16	21.5	11	40.7	5.5	20.4	3.3	20	27	8	99	8.7
25	23	F	30	20	24	10	33.3	6	20.0	3.2	40	33	10	119	8.1
26	50	F	31	25	26.5	6	19.4	4.5	14.5	3.2	28	21	16	113	6.0
27	30	F	32	19	23	13	40.6	9	28.1	3.6	52	47	6	141	7.8
28	26	F	24	8	17	16	66.7	7	29.2	3.8	54	40	8	252	9.3
29	21	F	30	18	24	12	40.0	6	20.0	3.4	32	22	29	---	8.7
30	28	M	26	22	18.5	4	15.4	7.5	28.8	3.5	48	40	11	80	9.9
31	25	M	24	16	20	8	33.3	4	16.7	3.2	37	15	5	---	7.4
32	41	F	29	23	26	6	20.7	3	10.3	3.4	--	--	16	102	9.3
33	46	M	18	6	10.5	12	66.6	7.5	41.7	3.1	47	32	9	178	7.7
34	28	F	30	17	20.5	13	43.3	9.5	31.7	3.5	38	11	3	90	8.4
35	22	F	28	20	22	8	28.6	6	21.4	4.0	52	35	17	---	7.4
36	22	M	30	18	27.5	12	40.0	2.5	8.3	3.6	42	20	23	123	7.8
37	22	F	29	15	24	14	48.3	5	17.2	4.0	52	46	21	163	8.7
38	32	M	25	17	19.5	8	32.0	5.5	22.0	4.0	49	36	13	128	7.8
39	59	F	30	17	21.5	13	43.3	8.5	28.3	3.5	60	44	17	133	8.7

RAW SCORES YIELDED BY THE GROUP RORSCHACH, FAMOUS SAYINGS, HUMAN RELATIONS INVENTORY,
ANTI-SEMITISM AND ATTITUDE TOWARD THE NEGRO SCALES (N=77) (Continued).

Sub- ject	Age	Sex	Rorschach Variables								Criterion Variables				
			R	R-A	R-P	A	A%	P	P%	MPR	CM	SA	HRI	AS	AN
40	24	F	30	25	23.5	5	16.7	6.5	21.7	5.0	32	30	31	158	7.4
41	29	F	27	20	26	7	25.9	1	3.7	4.0	46	22	14	217	8.4
42	23	F	25	16	17.5	9	36.0	7.5	30.0	3.3	15	40	5	133	8.4
43	25	M	30	19	25	11	36.7	5	16.7	3.6	--	--	6	94	8.1
44	25	M	21	12	15.5	9	42.9	5.5	26.2	4.0	14	17	1	107	9.3
45	23	M	30	15	24	15	50.0	6	20.0	3.8	44	31	14	164	8.1
46	26	M	22	12	13	10	45.5	9	40.9	3.4	58	33	5	109	8.4
47	25	F	30	23	24	7	23.3	6	20.0	3.4	47	41	11	116	7.8
48	25	M	30	21	24	9	30.0	6	20.0	3.1	47	19	19	74	---
49	44	M	30	23	25	7	23.3	5	16.7	4.0	56	31	6	109	7.7
50	29	F	27	13	22.5	14	51.9	4.5	16.7	3.5	24	10	3	54	9.4
51	22	F	27	16	21	11	40.7	6	22.2	3.4	48	34	14	92	7.8
52	44	F	30	24	24	6	20.0	6	20.0	3.8	60	36	25	66	9.3
53	25	F	26	15	21	11	42.3	5	19.2	4.0	54	41	22	123	8.7
54	20	F	29	19	25	10	39.5	4	13.8	3.3	49	21	4	77	9.0
55	24	F	30	22	25	8	26.6	5	16.7	3.5	54	46	10	95	9.9
56	44	F	30	15	23	15	50.0	7	23.3	3.5	42	26	11	56	9.3
57	20	F	29	17	17.5	12	41.4	11.5	39.7	3.6	52	39	17	91	8.7
58	21	F	30	6	23.5	24	80.0	6.5	21.7	3.5	57	36	16	90	8.7
59	26	F	30	18	21.5	12	40.0	8.5	28.3	3.4	48	40	8	72	7.5

RAW SCORES YIELDED BY THE GROUP RORSCHACH, FAMOUS SAYINGS, HUMAN RELATIONS INVENTORY,
ANTI-SEMITISM AND ATTITUDE TOWARD THE NEGRO SCALES (N=77) (Continued).

Sub- ject	Age	Sex	Rorschach Variables								Criterion Variables				
			R	R-A	R-P	A	A%	P	P%	MPR	CM	SA	HRI	AS	AN
60	27	F	30	21	25	9	30.0	5	16.7	4.3	52	40	13	133	9.0
61	21	F	32	20	24	12	37.5	8	25.0	3.6	54	44	35	207	7.8
62	28	M	10	6	7	4	40.0	3	30.0	3.5	48	28	35	107	6.7
63	31	F	30	17	24	13	43.3	6	20.0	3.2	46	43	10	178	7.4
64	43	M	30	26	28.5	4	13.3	1.5	5.0	5.0	58	49	16	183	9.3
65	34	M	30	20	26	10	33.3	4	13.3	3.5	47	32	13	85	8.7
66	39	F	26	20	21	6	23.0	5	19.2	3.6	49	33	8	158	7.8
67	43	M	27	18	23	9	33.3	4	15.0	3.5	53	35	4	74	8.7
68	52	F	30	25	26	5	16.7	4	13.3	3.6	58	41	3	124	8.7
69	41	M	28	16	22	12	42.8	6	21.4	3.7	27	24	20	138	8.7
70	28	M	27	18	19.5	9	33.3	7.5	27.7	3.5	45	37	12	158	7.4
71	23	M	30	22	27	8	26.7	3	10.0	3.0	44	28	13	192	7.6
72	35	M	27	18	23	9	33.3	4	15.0	3.8	28	31	20	81	9.3
73	33	M	30	24	24	6	20.0	6	20.0	3.6	44	34	15	54	9.9
74	33	M	30	21	25	9	30.0	5	16.0	3.5	24	13	1	84	9.3
75	36	F	30	22	25.5	8	26.7	4.5	15.0	3.2	46	35	14	83	7.8
76	21	M	27	19	22.5	8	29.6	4.5	16.6	3.3	31	22	14	68	10.3
77	31	F	26	14	18.5	12	46.2	7.5	28.8	3.5	--	--	--	---	---

APPENDIX 9

RAW DATA YIELDED BY CRITERION SCORES
FOR SIGNIFICANCE TESTS (N=77).

RAW DATA YIELDED BY CRITERION SCORES
FOR SIGNIFICANCE TESTS (N=77).

<u>Rorschach</u> <u>Variable</u>	<u>Criterion Variables</u>					
	<u>CM</u>	<u>SA</u>	<u>HRI</u>	<u>AS</u>	<u>AN</u>	
high A	45	35	23	136	8.6	
	47	41	9	217	7.1	
	13	21	22	86	6.7	
	42	37	19	252	9.3	
	54	40	8	164	9.3	
	52	46	21	54	8.7	
	44	31	14	56	8.1	
	24	10	3	90	9.4	
	42	36	11		9.3	
	57	26	16		8.7	
	low A	38	29	17	54	8.7
		30	28	13	107	8.1
		39	22	25	183	8.7
		28	21	16	158	6.0
		48	40	11	124	9.9
		32	30	16	80	9.3
		60	36	31	102	7.4
48		28	25	158	7.8	
58		49	35	66	7.7	
49		33	16	108	9.3	
58		41	8	357	9.3	
44		34	3	164	7.8	
			15	113	8.7	
					9.9	

RAW DATA YIELDED BY CRITERION SCORES FOR
SIGNIFICANCE TESTS (N=77) (Continued)

<u>Rorschach</u> <u>Variable</u>	<u>Criterion Variables</u>				
	<u>CM</u>	<u>SA</u>	<u>HRI</u>	<u>AS</u>	<u>AN</u>
high A%	45	35	23	114	8.6
	42	25	9	217	9.3
	13	21	22	86	6.7
	42	37	19	252	9.3
	54	40	8	178	9.3
	47	32	9	164	7.7
	44	31	14	54	8.1
	24	10	3	56	9.4
	42	26	11	90	9.3
	57	36	16		8.7
low A%	44	28	13	54	8.1
	58	10	18	183	8.7
	49	36	7	158	8.1
	58	21	16	124	6.0
	48	40	11	80	9.9
	32	30	16	102	9.3
	47	41	31	158	7.4
	56	31	11	116	7.8
	60	36	6	109	7.7
	30	49	25	66	9.3
	46	33	16	357	9.3
	50	41	8	131	7.8
	28	34	3	113	8.7
		15	113	9.9	

RAW DATA YIELDED BY CRITERION SCORES FOR
SIGNIFICANCE TESTS (N=77) (Continued)

<u>Rorschach</u> <u>Variable</u>	<u>Criterion Variables</u>				
	<u>CM</u>	<u>SA</u>	<u>HRI</u>	<u>AS</u>	<u>AN</u>
high P	45	35	23	114	8.6
	42	25	9	81	9.3
	29	17	26	86	8.1
	32	23	19	231	8.1
	42	37	13	141	9.3
	45	40	6	90	8.1
	52	47	3	133	7.8
	38	11	17	109	8.4
	60	44	5	91	8.7
	58	33	17	72	8.4
	52	39	8	207	8.7
	48	40	35		7.5
	54	44			7.8
low P	48	29	17	107	8.7
	58	28	13	183	8.1
	44	25	25	192	7.4
	42	20	16	102	9.3
	46	22	23	123	7.8
	38	28	14	217	8.4
	30	49	35	108	6.7
	36	28	16	357	9.3
		13	165	7.6	
high P%	42	25	9	114	9.3
	29	23	26	81	8.1
	32	40	13	231	8.1

RAW DATA YIELDED BY CRITERION SCORES FOR
SIGNIFICANCE TESTS (N=77) (Continued)

<u>Rorschach</u> <u>Variable</u>	<u>Criterion Variables</u>				
	<u>CM</u>	<u>SA</u>	<u>HRI</u>	<u>AS</u>	<u>AN</u>
high P%	45	32	9	178	8.1
	47	11	3	90	7.7
	38	40	5	133	8.4
	15	33	5	109	8.4
	58	39	17	91	8.4
	52	28	35	107	8.7
	48				6.7
low P%	36	25	25	165	7.4
	40	20	16	176	7.4
	42	22	23	60	9.9
	50	49	14	113	8.1
	42	28	16	102	9.3
	46	33	13	123	7.8
	58	14	17	217	8.4
	47	36	9	183	9.3
	58	32	7	85	8.7
	44	41	13	124	8.7
		3	192	7.6	
high MPR	39	22	25	133	8.7
	29	17	26	183	8.1
	52	46	17	163	7.4
	52	35	21	128	8.7
	49	36	13	158	7.8
	32	30	31	217	7.4
	46	22	14	107	8.4

RAW DATA YIELDED BY CRITERION SCORES FOR
SIGNIFICANCE TESTS (N=77) (Continued)

<u>Rorschach</u> <u>Variable</u>	<u>Criterion Variables</u>				
	<u>CM</u>	<u>SA</u>	<u>HRI</u>	<u>AS</u>	<u>AN</u>
high MPR	14	17	1	109	9.3
	56	31	6	123	7.7
	54	41	22	164	8.7
	52	40	13	81	9.0
	58	49	16		9.3
low MPR	30	28	13	357	8.1
	34	24	24	103	9.0
	30	23	11	169	6.9
	36	25	25	165	7.4
	40	33	17	176	9.9
	42	14	9	60	8.1
	50	36	7	113	9.3
	42	37	19	86	8.1
	40	33	10	119	7.4
	37	15	5	178	7.7
	47	32	9	74	7.6
	47	19	19	178	7.8
	46	43	10	192	7.4
	44	28	13	83	7.4
	46	35	14		

APPENDIX 10

ABSTRACT OF

Construct Validity of Rorschach
Animal and Popular Hypotheses

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ABSTRACT OF

Construct Validity of Rorschach
Animal and Popular Hypotheses¹

This is an investigation based on several research findings suggesting that Rorschach indices of stereotyped thinking (A, A%) and social conformity (P, P%) have construct validity when considered psychometrically. Because many reports tended to yield inconclusive results due to widely differing criteria and inadequate sample sizes, it was the purpose of the present study to ascertain whether these Rorschach scores did, in fact, possess adequate construct validity. For this purpose, more well-defined criteria were introduced within a molecular or psychometric framework.

The sample used in the present inquiry consisted of seventy-seven males and females with a median age of twenty-seven years. They were administered the Group Rorschach, which was scored for A, A%, P, P% and MPR, the mean P rating derived from the modified Communality Scale developed by Zubin and Griffin. The Ss were also given four criterion tests (psychometric attitude scales) ostensibly measuring social conformity and stereotyped thinking: Famous Sayings (Conventional Mores and Social Acquiescence subscales); the

¹ Paul Harwood, master's thesis presented to the Faculty of Psychology, University of Ottawa, Ontario, 1973, ix-270 p.

Human Relations Inventory; the Anti-Semitism scale and the Anti-Negro scale. Stereotyped thinking was operationally defined as high A, A% on the Group Rorschach, a high score on the AS and a low score on the AN scales. Social conformity was similarly defined as high P, P% and MPR on the Rorschach, a high score on FS and a low score on the HRI.

The first major hypothesis tested stated that there is no significant relationship between the degree of stereotypy manifested on the Group Rorschach in terms of A, A% and the degree of stereotypy indicated by AS and AN scores. Using a global statistical approach, this hypothesis could not be rejected as no significant correlations were found. The use of partial correlation yielded results of poor generalizability, significant in the direction opposite from that predicted, suggesting that the first hypothesis could be rejected under certain conditions.

The second primary hypothesis tested stated that there is no significant relationship between social conformity as manifested by P, P% and MPR on the Group Rorschach, and the degree of social conformity indicated by SA, CM, and HRI scores. The holistic approach yielded a significant positive correlation between HRI and MPR of +0.201, again in the direction opposite from that predicted. When controlling for several "third variables", significant correlations between P and SA and MPR and HRI were produced, leading to the

rejection of these two subhypotheses, in certain cases.

Two secondary hypotheses were tested in accordance with research indications that both Rorschach variables were related in terms of the behavior they allegedly measured. The first stated that there is no significant relationship between social conformity as measured by P, P% and MPR on the Group Rorschach and scores on the AS and AN scales. No significant results were found until the partial analysis was done. This yielded several significant correlations, some of which were in the opposite direction.

The second stated that there is no significant relationship between stereotypy as measured by A and A% on the Group Rorschach and scores on CM, SA, and HRI scales. The correlational analysis yielded no significant results, but when contaminating variables were partialled out, three significant coefficients were discovered, between A and SA, A% and CM, and A% and SA.

All four hypotheses were also stated in such a way that tests of significance could be done for extreme groups of Ss. Of the twenty-three comparisons, none were significant.

These results were interpreted in the light of construct validity. Their inconclusiveness was attributed to several factors inherent in the design, methodology, and theoretical orientation of this study, factors which were suggested as the basis for further research on this as yet unresolved problem.