

AN INVESTIGATION INTO THE RELATIONSHIP  
BETWEEN OPINION INTENSITY IN SOCIAL ISSUES AND  
THE HOSTILE CONTENT IN RORSCHACH INKBLOTS

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## CHAPTER I

### INTRODUCTION

In the past twenty years since L. L. Thurstone's development of standard attitude scales, the analysis of opinions and attitudes has received a large portion of attention from research workers in the fields of sociology and psychology. Empirical construction of attitude scales, validated upon representative samples of the population, has reduced the statistical inadequacies present in earlier attitude research to an extent sufficient for further study to be devoted to the psychological and sociological factors contributing to opinion formation and persistence.

Among the sociological factors which have been related to opinion formation are age, sex, race,<sup>1</sup> religion, vocation, geographical location, and membership in a stable group such as a political party. More recently investigative work has been directed toward the psychological determinants operating when individuals consistently conform to various

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1. Daniel Katz and K. W. Braly, "Verbal Stereotypes and Racial Prejudice," Readings in Social Psychology, eds. T. M. Newcomb and E. L. Hartley, New York, Holt, 1947.

group norms. In spite of the vast amount of opinion research, connections between opinion intensities and personality traits have not been sufficiently explored. Personality dimensions such as hostility, anxiety, conflicts, and reality contacts, may yield fruitful information regarding opinion intensity.

Undoubtedly, the absence of a standard scale or method by which the opinion intensities of one person may be reliably compared to the opinion intensities of another person, has hindered research work concerning the relation between personality traits and intensity of opinions. Even though the absence of a scale of relative opinion intensities introduces inaccuracies in the interpretation of experimental data, this shortcoming, alone, cannot justify neglecting this area of psychological research. Reliance upon the subjective reports of the experimental population in combination with limiting instructions to the subjects, might diminish the error in opinion intensity analyses.

Therefore, the problem to be considered in this paper is the amount of relationship between the frequency of opinion intensities and the hostile perceptions of individuals.

#### DEFINITION OF TERMS

Little distinction can be made between the meanings

of attitudes and opinions either by inspection of their English usages in scientific papers or by inference from the actions of people in relation to their stated attitudes and opinions. While opinions are popularly defined as views upon any subject resting on grounds which are insufficient to produce certainty, an attitude is a subjective entity defined as "a mental set to respond to a situation with a prepared reaction."<sup>1</sup> Nevertheless, in order to study an individual's attitudes, these subjective qualities must be abandoned. An attitude loses its subjective qualities whenever it is expressed either behaviorally or verbally. In comparison, an opinion is always an expressed statement.

From the standpoint of development, the distinction between attitude and opinion again is not very substantial. Although some attitudes are derived from personal experience, many of them are formed from social interaction and communication.<sup>2</sup> Likewise, opinions arise from social interaction. Here, the strongest point of difference between definitions of attitude and opinion is minimized.

Finally, the usual differentiation between attitude

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1. Philip Lawrence Harriman, The New Dictionary of Psychology, (New York, The Philosophical Library, 1947), pp. 37-8.

2. Donald M. Johnson, Essentials of Psychology, (New York, McGraw-Hill Book Company, 1948), p. 183.

scales and opinion polls is that an opinion poll seldom concerns more than one controversial issue at a time, while attitude scales evaluate several issues simultaneously. Since the latter practice is not an invariant rule and accepting the distinction between the two methods does not create clearer lines of demarcation between the two terms, this paper will not distinguish between attitudes and opinions. Both terms shall be used interchangeably with reference to, "expressed statements on topics which are controversial, or at least, about which some diversity of views exists."<sup>1</sup>

Since the manner in which hostility will be considered in this study does not pertain to behaviorally expressed hostility, some clarification is necessary. The concept of hostility is to be confined exclusively to the individual's inclination to perceive or project hostile objects and circumstances into Rorschach inkblots. Measurement of such projected hostile content is more likely to reveal the unexpressed quantity of this element within the individual. When structured situations are involved, these perceptions would not necessarily be manifested in the overt behavior of the person. Hence, any hostile reaction observed outside of the Rorschach test conditions

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1. William Albig, Modern Public Opinion, (New York, McGraw-Hill Book Company, 1956), p. 1.

will not be included in the evaluation of the hostility level of a person. The research evidence substantiating this approach to the interpretation of hostility will be presented in Chapter II.

The final term to be explained is conformity. Herein, conformity will refer to the individual's abandonment of one opinion succeeded by acceptance of another opinion which is in alliance with a designated majority opinion or group norm. It should be stressed, at this point, that occasional changes of opinion toward majority opinions must be expected among most people, because opinion conformity is more than the mere lack of intellectual independence. Solomon Asch regards this type of opinion change as the result of several psychological needs. Foremost among them is the affiliative need.

It has been customary to reduce the latter to the dimensions of sheer conformity, a conclusion that oversimplifies and blunts the perception of many facts...The need to belong is first a need for consensus and for shared experience that will support one's relation to reality...The need to belong soon comes to serve more particular ends. It is an expression of the need to be acceptable to others, to express affirmative feelings towards others and to share their concerns and experiences.<sup>1</sup>

Only in those cases where conformity to a group norm is so predominant that the person's original opinions are

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1. Solomon E. Asch, Social Psychology, (New York, Prentice Hall, 1952), pp. 605-06.

largely obscured, is the operation of the conformity element to be viewed as an indication of a disproportionate influence from a personality determinant or group of determinants.

#### DEVELOPMENT OF HYPOTHESES

Clinical psychologists, in particular, have endeavored to examine the relevance of projective test data to manifest behavior under experimental conditions. The work in this special area has hardly progressed beyond the exploratory stage. Hence, the conclusions secured have been tentative ones. The formation, persistence, and intensity of opinions are forms of manifest behavior which, as yet, have not been inspected as attributes of personality traits to any considerable extent. The aim of the current study is to explore the connections, if any, between the individual's amount of covert hostility and the frequencies of his opinion intensities before and after opposing majority opinions are revealed to him. The amount of conformity to the majority opinion among high and low hostile persons is the principal object of interest within this study.

Opinions are probably more closely related to conscious motives than to covert personality factors. Moreover, notable resistance to compromise or abandon one's personal opinion with respect to a majority opinion may be

attributable to confidence in one's personal knowledge of the subject matter contained in an opinion questionnaire, in addition to a partial expression of overt hostility. Therefore, taking the above elements into consideration, one would not expect a direct relationship between opinion intensity frequencies and hostile perceptions. However, two additional kinds of relationships are plausible. First, an inverse variation may exist between opinion intensity and hostility. Or, the correlation between the two variables may be a curvilinear one.

In view of these possibilities, the following hypotheses are offered:

- 1) The expression of hostile content in Rorschach inkblots is inversely related to the frequency of intense opinions.
- 2) Upon the introduction of a majority opinion, individuals with high levels of hostility will conform more readily than individuals with low hostility ratings.
- 3) Finally, in the presence of the majority opinions, the retention of all opposed opinions will tend to be smaller for persons exhibiting high hostility than for persons with low hostility.

Finally, the anticipation of difficulty in obtaining a dispersion of covert hostility scores by random sampling methods lead the writer to adopt a selective sampling approach in this study. The measurement of hostility within an emotionally and mentally healthy population sample could easily yield scores closely centered about the average

score. In an attempt to achieve an approximation of normally distributed hostility ratings, it seems preferable to carry out this study upon a minority group sample, whose Rorschach protocols may reveal more diverse levels of hostility. For these reasons, this investigation will be applied to American Negroes.

Although studies directly relating opinion intensity to covert hostility cannot be found in the literature, illumination of the present problem can be acquired by reviewing the research literature concerning projective test developments and attitude evaluations, respectively.

## CHAPTER II

### REVIEW OF RELATED STUDIES

The conclusions drawn from studies formulated to compare projective test results to overt behavior have been somewhat contradictory. Some of the contradiction may have been the consequence of employing vastly differing samples of the population to inspect overt behavior. Notwithstanding the inconsistencies, highly interesting and reasonable information has been obtained. The succeeding studies have been selected as representative of the research efforts recently directed toward relating behavior to projective test protocols.

John Smith and James Coleman have studied the correspondence of expressed hostility to Rorschach hostility ratings among male children in a remedial reading class. All subjects, ranging in age from nine to fifteen years, revealed nearly equivalent intelligence quotients on the Wechsler-Bellevue Intelligence Test and the Wechsler Intelligence Scale for Children. The reading difficulties of these subjects were attributed to emotional problems rather than to defective intelligence. Each subject was

ranked by trained observers on the frequency with which he released verbal or physical aggression upon his classmates. Aggression was measured by the Champney Rating Scale of Behavior, a scale devised to measure child behavior as influenced by parent-child relations.<sup>1</sup>

The investigators found a curvilinear relationship between the physical release of hostility and the hostile content in Rorschach records which were scored by Elizur's Rorschach Content Test. Although a similar variation between verbal hostility and Rorschach content was noted, the data did not reach statistical significance. Smith and Coleman interpreted Rorschach hostile content as an index of tension resulting from unexpressed aggressive feelings. Thus, subjects with high levels of Rorschach hostility expressed little hostility behaviorally. Also, subjects with low hostile content scores showed little hostility in the classroom because they tended to be impunitive persons who discharged hostile tensions upon themselves. The medium hostility group showed both high and medium amounts of hostility in the Rorschach, but they also periodically released this hostility in the classroom situation.<sup>2</sup>

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1. Horace Champney, "The Measurement of Parent Behavior," Child Development, XII, (1941), 131-66.

2. John Smith and James Coleman, "The Relationship Between Manifestations of Hostility in Projective Tests and Overt Behavior," Journal of Projective Techniques, XX, (1956), 333.

Bruno Klopfer has thoroughly discussed a similar unpublished dissertational study by Horace Stone. This investigation compared past records of hostile behavior to the hostile content in Rorschach and Thematic Apperception Tests among three groups of military prisoners. Group one was composed of twenty-five "least aggressive" desertion prisoners, who had no previous records of offenses. Group two consisted of twenty-seven "medium aggressive" deserters, and group three contained thirty-one prisoners who had repeatedly manifested assaultive behavior. Both projective tests were administered to all subjects. Aggression scores for the Rorschach were obtained by employing the Palo Alto Aggressive Content Scale, while Stone's Thematic Apperception Test Aggressive Content Scale was used to compute the second hostility rating.

Data from this study suggested that the hostile responses from Rorschach Tests were inversely related to assaultive behavior. Thematic Apperception Test content, on the other hand, increased directly with the frequency of physically expressed hostility.<sup>1</sup> Klopfer regarded Stone's findings as indications that the hostile content of the

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1. Horace Stone, The Relationship of Hostile Aggressive Behavior to Aggressive Content on the Rorschach and TAT, An unpublished doctoral dissertation, (University of California, 1953), as quoted by Bruno Klopfer, Developments in the Rorschach Technique, (New York, World Book Company, 1954), II, pp. 600-03.

Rorschach denoted the magnitude of a personality trait which the individual could not tolerate at conscious levels of expression.

Thus,...the data do support the notion that Rorschach records tap deeper levels of personality than does the TAT; specifically, the content of the Rorschach records would seem to reveal mostly ego-alien aspects (such as hostility), whereas the TAT reveals more of the ego-syntonic features (such as how much of the hostility one can accept without its being ego-alien).<sup>1</sup>

Still a third relationship between Rorschach hostility and overt behavior has been experimentally supported. Ben C. Finney investigated this problem among two groups of mental patients. Viewing assaultive behavior as the function of two interrelated variables, namely, impulse control and the degree of hostility, he anticipated violent behavior from mental patients who either lack efficient impulse controls with low hostility or possessed very high hostility without extensive impulse control.

The two groups of mental patients were matched with regard to their similarities in mental disorder, intelligence, occupation, and economic status. Group one was composed of non-violent males and group two consisted of only violent male patients. All Rorschach records were scored for

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1. Ibid., p. 603.

hostility by application of the Palo Alto Destructive Content Scale. Under these circumstances, Finney found a direct relationship between hostility in Rorschach protocols and violent behavior, if an accumulation of pure color responses appeared in the records.<sup>1</sup> Absent or insufficient impulse controls, alone seemed to permit overt expression of a trait held at the unexpressed level within non-patient populations.

The preceding studies involved cases of observing the usual amount of hostile behavior subjects exhibit in their regular environments. Whenever uncontrolled environmental factors are functioning, extraneous variables might operate to obscure the actual relationships between experimental variables. For this reason, some clinical psychologists have formulated experiments in which the subjects' behavioral reactions were induced by conditions produced by the investigators.

Prominent among the latter types of experiments, has been the work of Robert Counts and Ivan Mensh.<sup>2</sup> These investigators used Thematic Apperception hostility scores to screen out subjects with high amounts of hostility.

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1. Ben C. Finney, "Rorschach Test Correlates of Assaultive Behavior," Journal of Projective Techniques, XIX, (1955), 16.

2. Robert Counts and Ivan Mensh, "Personality Characteristics in Hypnotically Induced Hostility," Journal of Clinical Psychology, VI, (1950), 325-30.

Eight subjects were obtained who were then tested for their susceptibility to hypnotic suggestions. Three subjects were not susceptible to hypnosis, leaving five suitable subjects. The subjects, college students, were given Rorschach tests and subsequently hypnotized. During the period under hypnosis, the subjects were told of a special incident in which one of the investigators had been unduly discourteous to the subjects. The anger of the subjects was aroused in this manner and amnesia for the incident was then suggested. The second Rorschach administration disclosed a general increase of responsiveness to the test, slight increases in pure color and color-form determinants, and increments in space, S, locations.

The subjects were again hypnotized for the purpose of removing the hostility and conflicts aroused. The third Rorschach test illustrated a return of the subjects' records to the original positions displayed prior to hypnotic suggestions. Only space responses resisted the tendency to decrease in the last Rorschach test. Furthermore, the stability of hostile content, in spite of the presence of anger, was significant.

...although the psychiatric interview material showed changes in so-called "surface" hostility levels, the underlying level characteristic of the individual did not change significantly during the several psychological examinations.<sup>1</sup>

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1. Ibid., p. 330.

It should be noted that the method by which Counts and Mensh selected subjects, that is, using TAT tests to reveal behavioral hostility levels, coincided with Stone's findings that TAT content corresponds to overt rather than covert traits.

Bernard Murstein designed an experiment to determine whether or not, the hostile content of Rorschach tests was indicative of ego-alien or ego-syntonic levels, exclusively. Measuring Rorschach hostility content by a revised version of Elizur's Scale for Content of the Rorschach, known as the Rorschach Hostility Scale, eight subjects were divided into hostile and friendly groups. All subjects were designated as insightful or non-insightful by the amount of agreement between their self-ratings of personality traits and Rorschach results. Half of the subjects were told by the investigator that they were mature and friendly. The remaining subjects were told that they were hostile and immature. The subjects were then asked to rate the investigator's personality.

Analysis of the data revealed that those subjects who had hostile Rorschach protocols and lacked insight perceived the investigator as hostile under the ego-threatening conditions, mentioned above. Hostile insightful subjects did not project hostility as readily in the same situation. The results clearly supported the hypothesis that projection of the covert hostility obtained in Rorschach

records decreased upon acceptance of the trait by the individual.<sup>1</sup>

In summarizing his study, Murstein cautioned the reader against broad generalizations from the results.

The possession of self-insight alone is in itself an inaccurate gauge of the amount of projection elicited in a given situation...The self concept is of primary importance in determining the extent of projection under ego threat.<sup>2</sup>

Attention to another aspect of Rorschach protocols might be of further assistance in clarifying the connection of Rorschach data to behavioral manifestations.

Exemplary among the recent studies was the research of Melvin Allerhand who analyzed the Rorschach correlates to manifest anxiety. Using forty college students as subjects, Allerhand devised a simple multiple-choice problem to be solved under normal classroom conditions and under an avoidance-avoidance conflict condition. The Taylor Manifest Anxiety Test and Rorschach were administered to the subjects.

During the experiment, including the rest periods, trained observers rated the behavioral anxiety signs of the subjects. Under the avoidance-avoidance conditions, a piercing noise was sounded while the problems were being solved. If the subjects solved the problems incorrectly,

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1. Bernard Murstein, "The Projection of Hostility on the Rorschach, and as a Result of Ego Threat," Journal of Projective Techniques, XX, (1956), 424-25.

2. Ibid., p. 426.

they received electric shocks. The results showed significant correlations of anxious behavior to all shading responses in the Rorschach under varying experimental conditions. Texture responses were positively correlated to anxiety in general; while diffuse shading determinants, k and K, were directly related to problem solving in the non-conflict situation.<sup>1</sup>

The major part of the research evidence has demonstrated that the Rorschach data reveals deeper levels of personality dimensions than the more structured projective tests. The generalization, however, has not been supported that Rorschach records correspond to unconscious exponents, exclusively. The subjects in the preceding experiment were well aware of their anxieties regarding the problem solving. Even so, behavioral signs of anxiety were exhibited in proportion to the accumulations of shading responses on the Rorschach test.

The diversity of results which seemed to be somewhat contradictory in the studies of Rorschach content and behavior were attributable in part to the different subject populations selected for examination. However, the differences in scoring methods and theoretical approaches to the concept of hostility among the various Rorschach

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1. Melvin E. Allerhand, "Chiaroscuro Determinants of Rorschach Test as Indicator of Manifest Anxiety," Journal of Projective Techniques, XX, (1956), 410.

content analysis tests, has not served to minimize the disparities between research results.

The application of Elizur's Rorschach Content Test to research has steadily increased since publication of the test in 1949. For this reason, understanding the test's standardization procedure would be beneficial in evaluating the research data. The Rorschach Content Test, often referred to as the RCT, was devised to measure the amount of hostility and anxiety expressed in the testing situation. This instrument was validated against three criteria; a Murraray and Sears questionnaire on aloofness, hostility, anxiety, depression, fear, and dependency, a self-rating scale of hostility and anxiety, and interview ratings of hostility and anxiety.

The hostility portion of the RCT correlated .72, .45, and .60 with the questionnaire, self-ratings, and interview ratings, respectively. The coefficient of reliability, obtained from the scoring agreements of eight judges, was .82.<sup>1</sup>

Elizur contended that the RCT was useful as a research instrument, although approximately one-third of the standardization population consisted of mental patients at Mt. Sinai Hospital in New York City. Elizur believed, "the

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1. Abraham Elizur, "Content Analysis of the Rorschach with Regard to Anxiety and Hostility," Journal of Projective Techniques, XIII, (1949), 271-72.

Rorschach Content Test could probably be used as a tool of research in various fields, as in the studies of cultures and subcultures."<sup>1</sup> Unfortunately, no experimental analysis of the test's sensitivity to a normal population was undertaken before it was applied to non-patient groups in research.

During Murstein's study of behavior and Rorschach content, the shortcomings of the RCT lead him to revise the scale's scoring methods so that greater sensitivity to increments of hostility among normal subjects could be discerned. The resultant reliability, from the scoring agreements of three psychologists, was .96. The alteration of the scoring methods has not destroyed the initial contributions from Elizur's test. The Rorschach Content Test correlates .84 with its revision.<sup>2</sup>

As a consequence of these findings, evidence utilizing the revised scale upon non-patient populations has been regarded as more valid than evidence acquired by means of the RCT. The revised test, entitled The Hostility Scale for Rorschach Content, has been reproduced, in full, in appendix B of this thesis.

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1. Ibid., p. 283.

2. Murstein, pp. 420-22.

## STUDIES OF OPINIONS

Assessment of subjective values, such as attitudes, by means of objective instruments has resulted in concentration upon increasing the accuracy of the available techniques. Rating scales, biographical accounts, and inventories have been the most frequently used tools for opinion and attitude measurement.<sup>1</sup>

For a time, some controversy existed with respect to which of these techniques provided more precise data. In 1930, S. A. Stouffer compared biographical accounts of attitudes towards prohibition from 238 college students with self-rating scales of the same content. A correlation of .81 was secured between the scoring of biographical accounts by judges and the self-ratings of students. Furthermore, a repetition of the self-ratings showed a .80 correlation of consistency. Stouffer concluded that the techniques were nearly equivalent in their appraisal of attitudes.<sup>2</sup>

A large scale study of attitudes and their persistence among college students was conducted by Gardner Murphy and Rensis Likert. Their findings reaffirmed Stouffer's

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1. Edward B. Greene, Measurement of Human Behavior, (New York, The Odyssey Press, 1952), p. 623.

2. S. A. Stouffer, An Experimental Comparison of Statistical and Case History Methods of Attitude Research, as quoted by Edward B. Greene, Measurement of Human Behavior, pp. 623-24.

conclusions. Applying three rating scales of imperialism, internationalism, religion, and economics to a college student population, Murphy and Likert found no prominent discrepancies between measurement by scales and by biographical accounts. However, rating scales were given preference in data analysis because of their efficiency.

...first, the method does away with the use of raters or judges and the errors arising therefrom; second, it is less laborious to construct an attitude scale...<sup>1</sup>

More recently, the question has been raised as to whether rating scales constructed on the basis of logical inference, differ significantly in measurement precision from scales empirically standardized upon large samples of the population. A dissertational study by Britten Riker at Princeton University attended to this problem. The presentation of an empirical scale concerning political, economic, religious, and social issues to college students revealed no statistically significant differences to measurements of the same attitudes with scales founded upon logical inferences.<sup>2</sup> Nevertheless, the use of logical scales, except in the total absence of an empirical scale, cannot be justified from the results of one study.

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1. Gardner Murphy and Rensis Likert, Public Opinion and the Individual, (New York, Harper Brothers, 1938), p. 62.

2. Britten Riker, "A Comparison of Methods Used in Attitude Research," Journal of Abnormal and Social Psychology, XXXIX, (1944), 41.

Early opinion and attitude research eventually turned toward inspection of the function of individual differences in intelligence and scholastic achievement upon attitude formations. The previously cited research of Murphy and Likert was one of the studies which attended to the operation of these individual traits. Small correlations of .08 and .26 were discovered between Thorndike intelligence scores and attitudes. Higher correlations, ranging from .35 to .53, were found between scholarship and attitudes. Subsequent scrutiny of the data revealed an element of radicalism in attitude as the common factor in the latter correlations. The authors explained this relationship at length.

The reason for this correlation lies, we believe, in a general factor which we shall call "bookishness" ...The whole whirl of the first third of the twentieth century is definitely a radical whirl,...The literary groups to which these men belong,...are full of the modern doubt and disquietude, and, even more frequently, of the modern challenge and rebellion. To be bookish today is to be radical.<sup>1</sup>

Examination of intelligence as a determining factor in opinion change was carried out by Arthur Jenness. The changes of college students' estimations regarding the number of beans in a bottle were recorded before and after group discussion of the problem. The estimates of the less

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1. Murphy and Likert, p. 107.

intelligent subjects improved most after group discussion. A  $-.13$  correlation of opinion changes to self-administered intelligence test scores was secured. Jenness concluded that the benefits of discussion varied inversely with intelligence.<sup>1</sup>

On the other hand, the frequency of opinion intensities appeared to be negatively correlated to intelligence, according to Joan Purcell's inspection of the attitudes of Catholic college students toward crime, religion, marriage, science, and labor unions. One hundred five participants were given American Council on Education Psychological examinations. The correlation of the test raw scores to the frequencies of opinion certitude was  $-.18$ . These results, however, contradicted the  $.20$  correlation result reported by Edward Jones, who conducted an identical study in 1926. Noting the differences in findings, Purcell subdivided her attitude scale and found the religious items in the scale were influential enough, among the Catholic subjects, to account for the data differences between the two studies.<sup>2</sup>

Regardless of the directional course of the correlation,

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1. Arthur Jenness, "The Role of Discussion in Changing Opinion Regarding a Matter of Fact," Journal of Abnormal and Social Psychology, XXVII, (1932), 284.

2. Joan Purcell, An Investigation into the Relationship Between the Frequency of Positive Opinions and Intelligence, A master's thesis, The University of Detroit, 1950, pp. 62-63.

most studies have been in concurrence that the intellectual factors bear much weaker relations to opinion formations and alterations than the sociological variables.

Probably the most carefully examined aspect of opinion research has been the conformity of opinions to group norms. The contribution of Arthur Jenness typifies the early group conformity studies. In his 1932 work, Jenness asked college students to record their opinions toward compulsory class attendance before permitting group discussion of the topic. Several small groups were then formed for discussion purposes. Control groups discussed the issue without knowledge of the group norm; while the experimental groups knew the opinion position of the majority. Several trends were apparent in the data. First, the women changed opinions more than the men. Second, there was a general tendency for all subjects to offer more conservative opinions after group discussions. Finally, "the most significant general conclusion from these data is that discussion is not effective unless the individuals who enter into discussion become aware of differences in opinion held by others."<sup>1</sup>

Additional research supported the viewpoint that conformity could be attained from subjects by more abstract suggestions of group opinions rather than by actual

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1. Ibid., p. 296.

perception of the norms during group discourses. The following experiments were designed to observe conformity of opinion when the group norms were presented to the subjects in various abstract fashions.

The work of Clare Marple compared the relative tendencies of subjects at three age levels to alter their opinions concerning economic and political issues when an expert opinion differed from the majority opinions. A second presentation of the same attitude scales indicated to the subjects the opinions of economists and politicians, as experts, and the majority opinion of the general public. Significant convergence of the subject opinion toward the majority position occurred at all age levels.<sup>1</sup>

A similar investigation by H. E. Burtt and D. R. Falkenburg Jr. resulted in significant opinion changes toward the expert opinions when clergymen were specified as the experts upon religious rites and doctrines. In this case, the majority opinions were ignored, but subjects chose to agree with majority opinions on economic and political topics.<sup>2</sup> Apparently, the subjects' past experiences with clergymen tended to personalize the concept of the expert

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1. Clare Marple, "The Comparative Susceptibility of Three Age Levels to the Suggestion of Group Versus Expert Opinions," Journal of Social Psychology, IV, (1933), 186.

2. H. E. Burtt and D. R. Falkenburg Jr. "The Influence of Majority and Expert Opinion on Religious Attitudes," Journal of Social Psychology, XIV, (1941), 277.

and strengthened acceptance of those opinions.

Wilbert McKeachie's analysis of group conformity suggested that opinion change was the effect of the combined operation of the subjects' means of perceiving the group norms and the nature of the group from which the norms were derived. In this experiment, college students in three lecturer-centered and group-centered classrooms recorded their attitudes to crime, the Negro, and child punishment. Group norms were later presented to the two types of groups by one of three different methods, by holding open votes of opinion, by the lecturer's announcement of the majority opinion, or by the lecturer's debate of both sides of the three issues. A control group received no announcements of group norms. The results indicated less divergence from original opinions in all group-centered classes by open vote methods, and also, less conformity to the majority opinions proposed by the lecturer. In all instances, the lecturer's debate of the issues was least effective in producing conformity. More conformity occurred in lecturer-centered classes when norms were indicated by open vote.<sup>1</sup>

The interrelated function of psychological and sociological factors seemed to be varying the degree of group conformity. In the lecturer-centered groups, the

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1. Wilbert J. McKeachie, "Individual Conformity to Attitudes of Classroom Groups," Journal of Abnormal and Social Psychology, XLIX, (1954), 289.

conformity trends were probably the outgrowths of subjects' attempts to define their membership in a gathering where actual group cohesion did not exist. Acceptance of the perceived norm was the only way in which the subjects could establish their membership in the group.

As research regarding opinion changes accumulated, the concept of conformity was also modified. Thus, conformity has come to be viewed as a combination of psychological and sociological elements. Experimental efforts to separate and analyze the psychological components of opinion changes toward group norms took numerous approaches.

For example, the effect of affiliative needs in promoting conformity was the theme of a doctoral dissertation by Kenneth Hardy.<sup>1</sup> Measuring affiliative needs by the California F Scale of Affiliation Motivation, Hardy discovered that male college students changed their attitudes toward divorce if they possessed high affiliative needs and were not given social support in their own attitudes. Conformity was most intense when one naive subject was opposed by six instructed subjects. The lack of social support did not cause conformity among subjects with low affiliative needs. However, persons with low affiliative needs could be persuaded to change their opinions by the

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1. Kenneth Hardy, The Influence of Affiliative Motivation and Social Support Upon Conformity and Attitude Change, A doctoral dissertation, The University of Michigan, 1954.

content of the group discussions irrespective of the amount of the social support given to their personal views.<sup>1</sup>

The work of Abraham and Edith Luchins again illustrated the multiple composition of social conformity of opinions.<sup>2</sup> They studied the singular and combined effects of gradually decreased social support, the sex of the experimenter, and the extent of group discussion upon the opinion conformity of male college students and elementary school children. A concrete problem was used in order to exclude the effects of differences in information between subjects. The subjects were requested to state which of two lines was longer. The findings again indicated that the total absence of group support from instructed participants created more pressure toward conformity than any other single factor. Interviews with the uninstructed subjects disclosed that they had been convinced their judgments of the line lengths were wrong when all the other subjects disagreed with them. Conformity increased directly with the amount of group discussion allowed. Also, the college subjects concurred with the false statements of a female experimenter more readily than with the false statements of a male experimenter. The combination of social non-support and group discussion

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1. Ibid., pp. 69-71.

2. Abraham Luchins and Edith Luchins, "On Conformity with True and False Communications," Journal of Social Psychology, XLII, (1955).

was the most effective design for obtaining maximum opinion conformity.<sup>1</sup>

Certainly, the most comprehensive recent study of opinion formations was conducted by Mahlon Smith, Jerome Bruner, and Robert White.<sup>2</sup> Their research compiled data from case histories, interviews, group discussions, and psychological examinations of ten men, whose opinions about Russian Communism differed to a considerable degree.

The most important revelation of the study was that the individuals' distinct covert strivings, divulged through personality interpretations from Rorschach and case history data, produced selectivity in their perceptions of communistic aims and principles. In addition, their attitudes towards communism were regulated by their feelings and defenses against their own covert strivings. The authors summarized their explanations of these phenomena.

For the most part our men were disposed to condemn the behavior of the Russians that corresponded to their own covert strivings. They externalized the conflict, both the unruly striving and the necessity for its control.

We came to feel that externalized wishes might be fulfilled...when the corresponding wish in the person was obstructed,...the externalized wish could be placed at a distance and seen as a somewhat remote

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1. Ibid., pp. 302-03.

2. Mahlon B. Smith, et. al., Opinions and Personality, (New York, John Wiley and Sons, 1956).

historical tendency.<sup>1</sup>

Several investigators discovered some seemingly incidental factors which would influence opinion changes independently of experimental conditions. Erland Nelson's retest of the religious, political, and social attitudes of one hundred fifty-nine college students after an interval of fourteen years seemed to indicate a significant shift of the subjects' political views toward liberalism. However, further data inspection showed that the unmarried subjects had made extreme attitude changes toward radicalism, while those married subjects, who had formerly been conservative, had only shifted slightly toward liberalism. The subjects' social views were not affected by marital status. The persistence of conservative attitudes was also significantly related to the location of the college the individuals had attended. Subjects who had attended southern colleges tended to remain more conservative over the fourteen years than persons attending institutions in other regions of the country. Nelson found that age did not bear a relation to radical and conservative attitudes.<sup>2</sup>

Irving Lorge examined the connections of age differences

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1. Ibid., p. 273.

2. Erland Nelson, "The Persistence of Attitudes of College Students Fourteen Years Later," Psychological Monographs, LXVIII, No. 2, (1954), 12.

between subjects to the consistency of attitudes in greater detail. Twenty-five individuals between the ages of twenty and twenty-five were paired with an equal number of subjects above forty years of age according to the equivalence of their CAVD intelligence quotients. The subjects over forty exhibited a "generalized frame of attitude reference," which created highly consistent responses upon the second presentation of the Thurstone attitude scales.<sup>1</sup>

In addition, Walter Wilke found that the extent of attitude change was altered when the procedures for conveying information to the participants differed. The sample was selected from New York born college students of the Jewish faith. Four attitude scales concerning war, distribution of wealth, birth control, and the existence of God were given to three hundred forty-one subjects. The subjects, divided into three sets, later received information about the topics by lectures from a speaker, from a loudspeaker duplicate of the lecture, or from a printed pamphlet of the speech. Applying the same attitude scales, the second test of the subjects revealed more attitude conformity resulting from the lecture procedure. The printed speech was least effective in producing attitude changes. However, the

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1. Irving Lorge, "The Thurstone Attitude Scales: II The Reliability and Consistency of Younger and Older Intellectual Peers," Journal of Social Psychology, X, (1939), 207.

loudspeaker technique evoked negative reactions. The subjects became more critical and changed their attitudes to disagree with the text of the speech delivered over the loudspeaker.<sup>1</sup>

The implications from Wilke's study may be expanded toward a consideration of the influence of public communication media upon opinion changes. The test-retest experimental design, described in Chapter III, attempts to diminish the extent of interference from such extrinsic sources.

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1. Walter Wilke, "An Experimental Comparison of the Speech, the Radio, and the Printed Page as Propaganda Devices," Archives of Psychology, No. 169, (1934), 27.

## CHAPTER III

### METHODOLOGY

At this point, an expansion of the hypotheses presented in Chapter I seems expedient. The primary concern in this study is to disclose the effect of covert hostility from Rorschach data upon strong, moderate, and neutral opinion intensities, before and after the presentation of majority opinion intensities to the subjects.

In order to transform the hypotheses into operational terms, several fundamental assumptions must be explained. First, it is assumed that the mutual characteristics of race, Protestantism, education, and sex, known to the subjects, will be sufficiently influential to induce group identification, and thereby promote the desire to be in accord with group opinions. This assumption is particularly essential because the participants in the experimental and control groups were tested individually. Consequently, mental identification with the group and a reported group norm, rather than perception of the group feelings through discussions, must promote the subjects' conformity.

Secondly, the tendency to retain opinion, upon

introduction of the conformity variable, a majority opinion, is assumed to be greater for all subjects when low opinion intensities are involved than when high intensities are involved.

Finally, it is assumed that the provision of a specific reference point by which subjects can gauge their own subjective feelings and report their opinion intensities, will be effective in reducing the error associated with the comparison of opinion intensities between individuals.

In view of these basic assumptions and the results of the related studies formerly discussed, it is predicted that individuals who obtain high hostility scores on the Hostility Scale for Rorschach Content, (shown in appendix B), will display intense opinions less frequently than individuals who obtain low hostility scores. Secondly, the low scoring hostility group will be expected to retain their intense opinions more often than the high scoring group, when all subjects are cognizant of the majority opinion intensities. Finally, the high hostility group will be expected to conform to the majority opinions, regardless of their original opinion intensities, more than the low hostility group.

#### CHARACTERISTICS OF SUBJECTS

Since previous studies have revealed small, but fairly consistent correlations between intelligence and opinion intensities, it seemed advisable to attempt to experimentally

restrict the scope of the intelligence in the sample population, while studying the effects of hostility upon opinion intensities. Therefore, the sample of subjects was confined to Michigan residents whose education exceeded the college freshman level. Table I, below, shows the educational levels of the subjects.

TABLE I  
EDUCATIONAL LEVELS OF THE SUBJECTS

Two Years of College	8
Three Years of College	4
Four Years of College	18
Graduate Degrees	<u>17</u>
Total	47

Thirty-three of the subjects were female and fourteen were male. Eighteen subjects were married, three divorced, one widowed, and twenty-five were single. The age range extended from seventeen to fifty-one years, with a mean age of twenty-nine years and a standard deviation of 7.0.

A second criterion of subject selection was the race factor. When utilizing emotionally and mentally normal people in a study sample, the degree of hostility manifested would be more likely to cluster about the average score of

hostility within the total population. Consequently, in an attempt to approximate a normal distribution of hostility scores within the study sample, it was presumed that application of this investigation to Negro subjects, as members of a minority group, would yield a distribution of hostility closer to statistical normal curves.

Although all of the subjects were Protestant, the denominational differences were wide, as illustrated in Table II.

TABLE II  
RELIGIOUS AFFILIATIONS OF THE SUBJECTS

Episcopal	12
Presbyterian	3
Methodist	7
Baptist	9
Unitarian	3
Congregationalist	1
Reorganized Latter Day Saint	1
Bahai	1
Protestant without denominational preference	<u>10</u>
Total	47

Table III, on the following page, indicates the college curricula and vocational classifications of the subjects.

TABLE III  
OCCUPATIONAL CLASSIFICATION OF THE SUBJECTS

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Social Workers	4
Speech Therapists	1
Teachers	21
Education Counselors	1
Physician and related fields	5
Bacteriologists	1
Pharmacists	1
Chemists	1
Business	2
Commercial Artists	2
Lawyers	2
Musicians	2
Psychologists	1
Ministers	1
Architects	<u>1</u>
Total	47

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## OPINIONNAIRE CONSTRUCTION

The selection of the four social issues, juvenile delinquency, religion, marriage and divorce problems, and methods of criminal punishment which were presented to the subjects, was determined to a large extent by the decreased probability that the occurrence of a significant national or international event would change the opinion intensities of the participants during the lapse of time between test and retest meetings. For the same reasons, labor-management relations, political affairs, and racial integration topics were excluded from the opinionnaire. Admittedly, the choice of any national social problem for opinion study is liable to extraneous influence by communication. However, thorough and prominent discussions of the four topics elected would not be seen as frequently in popular magazines and newspapers as the other topics which were excluded from this study.

The major portion of the opinionnaire items were extracted from the questionnaire and attitude scales used by Joan Purcell and Gardner Murphy and Rensis Likert, whose studies were reviewed in chapter II. Other items were taken from pertinent chapters in a text of social problems.<sup>1</sup> The opinionnaire items were presented in general terms, so that

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1. Clement S. Mihanovich and Joseph Schuyler, Current Social Problems, (Milwaukee, Bruce Publishing Company, 1953).

subjects unfamiliar with any one of the four topics would not be unduly discouraged from offering opinions to at least some of the items.

An examination of the Opinionnaire of Social Issues<sup>1</sup> will help to clarify the methods by which the total and item reliabilities of this instrument were computed. Everyone of the thirty-two statements in the first portion of the opinionnaire was again represented in the latter half by a partially or entirely contrary statement. All items could not be constructed so that a single contrary statement would necessarily exclude its antecedent. Nevertheless, this antagonistic statement structure appeared to be a practical approach to the inspection of the item consistency of controversial and somewhat arbitrary issues.

Three weeks after the initial opinionnaire test, a second administration of the unaltered instrument was given to the control group. Thus, the consistency of opinion intensities, upon retesting, would serve as a measure of the total reliability of the opinionnaire.

#### OPINIONNAIRE ADMINISTRATION

At the initial presentation of the Opinionnaire of Social Issues, all the subjects were told that the writer was interested in securing the opinions of Protestant Negro

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1. The Opinionnaire of Social Issues is completely reproduced in appendix A.

college students and college graduates with respect to some aspects of religion, marriage and divorce, crime, and juvenile delinquency within the United States. Also, the writer was interested in learning how strongly the subjects felt about each of the statements they were about to read, in relation to their usual feelings regarding national social problems, in general. The latter instructions were always given orally to the subjects in order to avoid or clarify any misinterpretations of the instructions before the subjects began writing their responses.

Three weeks later, each subject in the control group received the same opinionnaire preceded by the same set of instructions. In contrast, the members of the experimental group received the same opinionnaire after an equal lapse of time, with additional oral instructions, as follows: "This opinionnaire contains the same statements as the previous one. The opinions underlined with blue pencil marks are the majority opinions of the Negro college students and graduate women, (if the subject being addressed was female), in the group. Indicate your opinion by circling how strongly you feel about each of the statements, in relation to your feeling about national social problems in general."

The majority opinion intensities shown to the subjects of the experimental group were false and actually bore little

or no similarity to the true group opinion intensities. The false majority opinion intensities were distributed throughout the opinionnaires so that each subject found his original opinions were being opposed fifty per cent of the time.

#### RORSCHACH ADMINISTRATION

The Rorschach test was administered to all subjects immediately succeeding the first opinionnaire presentation. The participants had been informed prior to volunteering their services for this study, that a personality test would be administered to them.

Since the Hostility Scale for Rorschach Content assumes that the test records being compared are equal in length, a slight alteration in the usual Rorschach testing procedure was necessary. The usual instruction for Rorschach testing were given the subjects according to the recommendations of Bruno Klopfer and Douglas Kelley as follows:

"People see all sorts of things in these ink-blot pictures; now tell me what you see, what it might be for you, or what it makes you think of."<sup>1</sup>

These instructions were followed by a request that the subjects limit their responses to five for each inkblot.

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1. Bruno Klopfer and Douglas Kelley, The Rorschach Technique, (New York, World Book Company, 1946), p. 32.

Whenever subjects gave fewer than three responses to one blot during the performance section of the test, they were encouraged to continue. On the other hand, when three or four responses were given to one blot, subjects were not encouraged to provide a fifth response. No other changes were made in the Rorschach procedure. Likewise, the scoring of response determinants coincided with the instructions of Klopfer and Kelley.

#### QUANTIFICATION OF HOSTILITY SCORES

The lengths of the Rorschach records obtained by the method described above, varied from fifteen to thirty responses. Each record was scored for hostility by point summation as directed in the Hostility Scale for Rorschach Content test. The resultant raw scores of hostility were then transformed into McCall T scores in order to establish the relative positions of differing amounts of hostility within the sample distribution. Appendix C contains the raw and standard scores of hostility. The control and experimental group scores were calculated separately and constitute two distributions of hostility scores.

By erecting specific standards for subject selection and further directing subject performance by oral instructions, an effort was made to control those variables, other than hostility, which might influence opinion

intensities regarding social issues. Moreover, the selective subject procedure was used to stimulate group identification and conformity needs among members of the experimental group. Accordingly, conformity measurement can be employed to gauge the general effectiveness of the experimental restrictions, as well as provide data for the examination of the hypotheses.

## CHAPTER IV

### THE ANALYSIS OF DATA

The contrasting statement construction of the Opinionnaire of Social Issues was developed solely for the purpose of testing the item consistency of the instrument. Since the opinionnaire consisted of items drawn from portions of several attitude scales, no tenable analogies concerning reliability coefficients could be cited. Therefore, the item reliability of the instrument was calculated from the responses of forty-nine subjects to the first administration of the opinionnaire.<sup>1</sup>

In the computation of item reliability the strong and moderate degrees of opinion intensity were incorporated into one category. It could not be logically assumed that the subjects would be equally intense in their answer to each pair of antagonistic statements. Hence, the correlation of item consistency was based upon two opinion intensities, indifference and agreement or disagreement. The Pearson

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1. Two subjects were later removed from the study when their Rorschach responses indicated sufficient knowledge of the test's scoring methods to produce biased results.

product-moment correlation coefficient for item reliability in the opinionnaire was  $-.30$ .<sup>1</sup> The standard error of correlation was  $.13$ .

The total reliability estimate was based upon the three levels of opinion intensity, (strong agreement or disagreement, moderate agreement or disagreement, and indifference), listed on the opinionnaire. The twenty-one subjects, constituting the control group, received a second presentation of the opinionnaire without any indications of majority opinion intensities. From this test-retest data a Spearman Brown reliability correlation coefficient of  $.83$  was obtained by the split half test method. The standard error of correlation was  $.07$ .

#### TESTING GROUP IDENTIFICATION STRENGTH

The next pertinent question was whether or not the twenty-six individuals in the experimental section were identifying with the group enough to exhibit significant conformity tendencies after their first opinion positions were opposed by the majority opinion intensities. If the subjects relinquished their original opinions to accept opposing majority opinions, but retained their original opinions when not opposed by majority designations, the strength of group identification would be adequate to

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1. The complete statistical frequencies and distributions were placed in appendix C.

fulfill the experimental conditions sought in this study.

As a first step in examining the strength of group identification used to promote opinion conformity, a comparison was made between the number of retained opinion intensities opposed by majority positions and the number of unopposed opinion intensities also retained. If conformity trends were present, the number of opposed opinion intensities retained on the retest opinionnaire would be smaller than the number of intensities sustained in the absence of majority opposition. Table IV, below, shows the results of a variance analysis of the two distributions of retained intensities.<sup>1</sup> The total number of retained

TABLE IV  
VARIANCE ANALYSIS OF RETAINED INTENSITIES ON  
MAJORITY OPPOSED AND NON-OPPOSED ITEMS

	Sum of Squares	degrees of freedom	Mean Squares	F ratio
Means	1035	1	$\frac{1035}{21} = 49.3*$	
Within	<u>1047</u>	<u>50</u>		
Total	2082	51		

\*significant at the .001 level  
intensities among majority opposed items was 357, while the

1. The distributions and computation were included in appendix C.

non-opposed items totaled 571. The operation of opinion conformity trends was suggested, but not entirely verified, by this decrease in retained opinion intensities upon majority opposition.

Since the opinionnaire contained three response intensities per item, the subjects had access to alternative responses under the majority opposition conditions. Instead of maintaining their original opinion intensities or accepting the majority opinion positions, the subjects could reduce the intensity of their opinions but still disagree with the majority designations. Secondly, they were also able to select the indifferent response and thereby take up a position of neutrality. Consequently, it was necessary to compare the frequency of actual conforming responses to the frequency of the alternative responses among majority opposed opinions.

As shown in appendix C, a variance analysis of the conforming and alternative response distributions revealed an F ratio of 1.08. The ratio did not reach statistical significance at the .05 level of confidence. The subjects reacted by either reducing the intensities of their first opinions or by assuming opinion neutrality almost as frequently as they actually conformed to the majority opinion intensities. Evidently, the amount of group identification, aroused among the subjects, was not sufficient to produce

strong pressures toward majority opinion conformity.

#### TESTING OF HYPOTHESES

The initial hypothesis predicted an inverse relationship between hostility ratings from Rorschach content and the frequency of intense opinions. In order to test this hypothesis, five subjects, who exhibited medium amounts of Rorschach hostility, were removed from the experimental group. Nine high hostility individuals were then compared to twelve low hostility subjects with regard to the frequency of strong agreement or strong disagreement opinions prior to introduction of the majority opinion intensities.

The mean number of strong agreement and strong disagreement opinions in the high hostility group was 8. The low hostility group showed a mean strong response of 14. Although the mean difference of 6 intense responses corresponded to the predicted direction of response frequencies, the difference is not statistically significant at the .05 level of confidence. A Fisher t ratio of 1.79 was obtained from the small sample test of difference.<sup>1</sup> Therefore, the hypothesis that individuals who obtain high hostility scores on the Hostility Scale for Rorschach Content will display intense opinions less frequently than individuals

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1. Refer to appendix C for data frequencies and computations.

who obtain low hostility scores, must be rejected.

The second hypothesis anticipated the retention of more intense opinions by low hostility persons when opposing majority opinion intensities were introduced. Comparison of the first and second opinionnaire presentations revealed that the mean number of retained intense opinions was 2 within the high hostility group; while the mean number of intense opinions retained by the low hostility group was 4. The mean difference again proceeds in the expected direction, but this difference is obviously not statistically significant. Thus, the second hypothesis which predicted that the high hostility group would retain fewer intense opinions than the low hostility group when opposed by majority opinion intensities, must also be rejected.

The third hypothesis, predicting more conformity reactions to majority opposition by high hostility individuals without regard to opinion intensity levels, also was not verified. The mean frequencies of opinion conformity to majority opposition, as shown in appendix C, were equal for the two groups. Average conformity frequencies of 11 were obtained from both the high and low hostility groups. Hence, the hypothesis that high hostility individuals would conform to majority opinions, regardless of opinion intensity levels, more frequently than low hostility individuals, was rejected.

Inasmuch as quantities of Rorschach hostility were not significantly related to the frequencies of opinion intensities, the data from the experimental group were re-examined with attention directed to other Rorschach determinants which might prove to be related to opinion frequencies. As a consequence of the additional analysis, significant correlations were obtained between two main determinants in Rorschach responses and the frequencies of opinion conformity.

The twenty-six subjects of the experimental group gave an average of eleven conforming opinion on the retest opinionnaires. Persons below average in conformity exhibited more achromatic shading, C', and inanimate movement, m, main determinants in their Rorschach protocols. The Pearson product-moment correlation between opinion conformity frequency and C' determinants is  $-.45$ . The correlation is significant at the  $.02$  level of confidence. The m determinants correlate  $-.28$  to opinion conformity frequencies. The correlation is significant at the  $.05$  level of confidence. The m determinants are interpreted as indicators of tension concerning impulse control within the personality framework. The C' determinants point to hesitant or cautious reactions to the environment. For the latter individual, emotional impacts from the environment do not lead to impulsive behavior. Evidently, the response

hesitancy of individuals displaying C' determinant accumulations, erects greater resistance to the opinion conformity pressures used in this study. Upon application of stringent opinion conformity pressures, the impulse inhibition, shown by m determinants, might not be adequate for conformity resistance. Future investigations might more fully clarify the relationship between opinion intensity frequencies and these personality traits.

## CHAPTER V

### SUMMARY AND CONCLUSIONS

A large portion of opinion and attitude studies have emphasized the sociological factors effecting the acquisition, retention, and change of opinions. Much less has been uncovered concerning the psychological elements contributing to the individual's expression and retention of opinions. Personality traits, in particular, have not been fully studied in connection with opinion intensity research. Viewing the problem of opinion intensity from the standpoint of personality traits has been somewhat discouraged by both the inconclusive data obtained in the attempts to relate projective test findings to overt behavior and the absence of a standard scale by which the opinion intensities of one individual may be reliably compared to the opinion intensities of another individual.

Some of the contradictory implications suggested by the various studies relating projective tests to overt behavior can be attributed to the employment of widely differing samples of the population. The study of Smith and Coleman found a curvilinear correlation between Rorschach

hostility and the physical release of hostility among boys in a remedial reading class; while Finney and Murstein obtained direct variations between Rorschach hostility and the behavioral expression of hostility. Furthermore, the data of Stone pointed to an inverse relationship between Rorschach hostility and the overt hostility of military prisoners.

The hypnotic induction of anger in the investigation by Counts and Mensh did not reveal any significant changes in the amount of hostile content perceived in Rorschach inkblots, even though the color and form responses were notably distorted under the experimental conditions. The study indirectly confirmed Stone's hypothesis that hostile behavior expression and hostile perceptions in Rorschach records were inversely related, since the subjects displaying the larger degree of behavioral hostility after hypnotic anger suggestions did not reveal equivalent increases in the hostile content of the Rorschach.

Inspection of behavior correlates to Rorschach shading determinants by Allerhand, again illustrated a direct variation of texture determinants to behavioral signs of anxiety in conflict and non-conflict situations. Here, the subjects were keenly aware of their anxieties. Nevertheless, the behavioral anxieties were also indicated by the Rorschach protocols. Hence, contentions that Rorschach data exposes covert dimensions of personality

cannot be interpreted as a denial of the test's capacity to unveil traits associated with consciously directed behavior.

The revisions of Elizur's Rorschach Content Test for hostility and anxiety instituted by Murstein increased the reliability of the instrument, and also made the test more applicable to non-patient populations. Subsequent research, utilizing the revised scale may serve to clarify some of the experimental inconsistencies encountered in the efforts to relate Rorschach content to overt behavior.

In reviewing attitude and opinion research, it was noted that the reliability and validity comparisons of rating scales, inventories, and biographical accounts indicated equivalent precision of measurement by the three methods. However, rating scales and inventories became the preferred tools of opinion research because they reduced the chance of scoring errors. Scoring efficiency was less readily attained with the biographical procedure.

Conclusions from the attitude studies of Jenness and Murphy and Likert indicated that intelligence and scholastic achievement were small, but relatively stable, components influencing attitude formation and modification. The findings of Purcell suggested a small negative correlation between intelligence and the frequency of intense opinions. The conclusions remained tentative in view of the selective

sample of the population to which the study was applied.

Numerous studies in the literature linked opinion changes and conformity to such factors as, the amount of opinion support accorded subjects. The work of Luchins and Luchins significantly demonstrated the function of support upon judgements of an objective problem. The participants' judgements were readily relinquished in favor of the majority viewpoint when a total absence of opinion support was evident. The extent of conformity decreased in proportion to the increase in the number of group members sharing the subjects' opinions.

Hardy analyzed the function of social non-support in opinion conformity with regard to the psychological need for affiliation. The presence of strong affiliative needs opinion conformity to social issues under the social non-support conditions, but persons with low affiliative needs also changed their opinions if persuasive group discussions were introduced.

In addition, McKeachie's experiment, which presented group norms of social attitudes to several group-centered and lecturer-centered college classes, found conformity increased in the latter group when group norms could not be perceived directly from open votes. Apparently, the absence of group cohesion in the lecturer-centered classes promoted acceptance of group norms reported by the lecturer.

At any rate, this study indicated that the strength of opinion conformity pressure was regulated by both the means of perceiving group norms, and the nature of the group to which the norms were presented.

Moreover, the contradictory conclusions concerning the extent of opinion conformity to majority and expert opinions, suggested that conformity was also influenced by the type of group from which opinion norms were derived. Marple found conformity to majority opinion was preferred when subjects responded to economic and political issues. On the other hand, Burt and Falkenburg Jr. obtained more conformity to expert opinions when religious issues were studied.

The study of Smith, Bruner, and White yielded important information about the role of personality defenses in attitude formation. From case history data, psychological tests, and interviews, the investigators discovered that attitudes were frequently the product of an individual's rejected covert strivings. When externalized, these strivings narrowed the person's perception of values and objects. Attitudes thus developed from this limited perception of an issue.

Finally, the respective studies of Nelson, Lorge, and Wilke pointed out several factors which might influence opinion changes independently of the particular experimental

conditions. After fourteen years, Nelson's retest of college students revealed that the unmarried subjects were generally more radical in their political views than their married peers. Also, subjects educated in southern institutions remained more conservative in their attitudes. Lorge discovered that individuals over forty years of age manifested more attitude consistency than younger people possessing equivalent intelligence. Lastly, Wilke demonstrated the differences between the effectiveness of a speaker, a loudspeaker, and printed matter in changing the attitudes of college students. A speaker was most influential, while printed communications were least effective in changing opinions.

In accord with the paramount conclusions from the literature reviewed, the current study was designed to examine the frequencies with which strong, moderate, and indifferent levels of opinion intensity occurred among individuals who varied in their tendencies to perceive hostile content in Rorschach inkblots. Opinions regarding criminal punishment, marriage and divorce, religion, and juvenile delinquency were elected for study, rather than political and economic issues. It was felt that the test-retest design of the study would be better protected from interfering opinion changes caused by intervening events of national and international significance.

In order to secure a normal distribution of hostility scores within an emotionally healthy segment of the population, the study was applied to American Negroes, representing a minority group in the culture. Furthermore, efforts were made to depress the effect of intelligence differences upon the frequencies of opinion intensities, by selecting forty-seven subjects who had acquired two or more years of college education.

The instructions to the subjects, during administration of the Opinionnaire of Social Issues, served two purposes. It was hoped that the request for the subjects to record opinion intensities according to their usual feelings toward national social problems, in general, would be useful in erecting a reference point of opinion intensity for the subjects. Secondly, on retesting, group identification and the desire to conform to the specified majority opinion intensities were stimulated in the experimental group, by stressing the racial, religious, and educational similarities of the group members. Rorschach administrative instructions were utilized to equalize the length of the records secured, so that the hostile perceptions could be scored by means of The Hostility Scale for Rorschach Content. Later, the hostility raw scores were transformed into McCall T scores.

From the first responses of the entire sample to the opinionnaire, constructed as thirty-two pairs of antagonistic

statements, data were acquired for the calculation of item reliability. The instrument's items correlate  $-.30$  to the total opinionnaire. Retesting the twenty-one subjects of the control group with an unaltered opinionnaire, disclosed a total reliability correlation of  $.83$ , employing the Spearman Brown split half method.

Since the subjects received individual Rorschach tests and also, were given false majority opinion intensities on the experimental group retest, opinion conformity could not be measured by modification of views during group discussion. Therefore, the strength of opinion conformity, induced by promoting group identification, had to be statistically examined. Each subject in the experimental group received a retest opinionnaire, containing majority opinion intensities which opposed his initial opinion intensities fifty per cent of the time. An analysis of variance between the number of retained intensities opposed and not opposed by majority designations, revealed a significant reduction in the opposed item category. However, a variance analysis, which compared the number of actual conformity responses to the number of indifferent and lowered opinion intensity responses, did not yield a significant F ratio. Evidently, the arousal of group identification among the subjects, was not an efficient procedure for creating opinion conformity pressure.

In order to test the hypotheses, five subjects with

medium T scores of hostility, were excluded from the group. Nine high hostility and twelve low hostility individuals remained. The first hypothesis, predicting an inverse relationship between hostility and the frequency of intense opinions, prior to the introduction of majority opinion intensities, was tested by comparing the mean frequencies of intense opinions in the two groups. A mean difference of 6 intense responses, proceeded in the expected direction, but was not statistically significant. Hence, the hypothesis, predicting an inverse relationship between hostility and initially intense opinions, was rejected. A second hypothesis anticipated the retention of fewer intense responses by the high hostility group, in the presence of opposing majority opinion intensities. A mean difference of 2 retained intense opinions was obtained. This insignificant difference demanded rejection of the second hypothesis. Finally, it was predicted that more conformity to majority opinions would occur within the high hostility group, irrespective of the original levels of opinion intensity. Since no difference was found between the average conformity frequencies of the two groups, the third hypothesis was also rejected.

The results of the study failed to verify a relation of hostile perceptions in Rorschach inkblots to the frequency of opinion intensities. However, the experimental

design contained several defects, which, if eliminated, might unveil some association between the two variables. First, the method employed to induce opinion conformity was too weak, in view of the ways available for the subjects to avoid complete opposition to the majority opinion intensities. Either development of stronger conformity pressures by a social non-support type of group discussion, or removal of the indifferent response from the opinionnaire, would improve the design. Even though increasing the amount of conformity pressure would be more likely to provide statistically significant opinion changes; substitution of the indifferent response category by a slight agreement and slight disagreement intensity level, might be more useful in the study of hostility. Under the latter circumstances, the subjects would be placed in a forced-choice situation, since compliance with the majority opinion or some degree of resistance to conformity would be the only response possibilities.

Another shortcoming in the study was the failure to take into account the subjects' own perceptions of their personality traits. The Murstein experiment, cited in chapter II, reported less overt expression of hostility, in ego-threat situations, from persons who possessed insight into their personalities. The data trends, supporting the study's predictions, might have reached statistical

significance, if consideration for the presence or absence of subject insight had been combined with the quantification of hostility.

Although the proposed hypotheses of the study were not supported by the experimental evidence, a significant correlation of  $-.45$  was found between achromatic main determinants in the Rorschach records and the frequency of opinion conformity. In relation to this study, the accumulations of main achromatic determinants seemed to indicate very cautious reactions to the perceived environmental conditions. Perhaps, opposition from majority opinions had little emotional impact upon these individuals. If so, spontaneous abandonment of their considered opinions was not likely to occur. Another investigation would be necessary to determine whether cautiousness tended to prevent opinion conformity because these individuals usually consider such issues more carefully, before stating their opinions; or because, the cautiousness actually denoted a restriction in emotional response to social situations. Since the interpretation of achromatic shading determinants has not been fully developed,<sup>1</sup> a study comparing the Rorschach and TAT protocols of these conformity resistant people, would be fruitful. Possibly, some connection could be discerned between the TAT affiliative needs and Rorschach achromatic

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1. Bruno Klopfer, I, p. 275.

shading responses.

The data also revealed a  $-.28$  correlation between the inanimate movement main determinants and frequency of opinion conformity. However, this determinant appeared to be less effective in maintaining resistance to opinion conformity. Inanimate movement determinants have been interpreted as tension, arising from conflicts between the individual's impulses and environmental circumstances. Consequently, the individual might react to majority opinion opposition by inhibiting his own desire to accept the majority viewpoint, as a means of sustaining emotional control. A future study, designed to vary the degree of conformity pressure exerted upon the subjects, might successfully demonstrate, whether or not, inhibition of impulses actually relate to opinion conformity in this manner. A certain degree of conformity pressure would eventually extinguish resistance by inhibition. Presumably, a smaller degree of conformity pressure would overcome the inhibitive type of resistance to opinion conformity than would be needed to counteract the cautious type of resistance, mentioned previously.

Of course, the scope of the foregoing contentions, concerning Rorschach hostility functions, and the conclusions, regarding achromatic shading and inanimate movement determinants, must be greatly restricted. The selective procedure, implemented to acquire suitable subjects for this

investigation, could not justify broad conclusions or generalizations to the population, as a whole. In fact, decisive statements in this study would be applicable only to the colored, Protestant, college educated, portion of the population. An additional investigation of the connections between Rorschach inkblot perceptions and the frequency of opinion intensities must be conducted upon more representative samples of the total population, before any generalizations of conclusions would be permissible.

APPENDIX A

THE OPINIONNAIRE OF SOCIAL ISSUES

Vocation \_\_\_\_\_ (check one) Single  
Married Sex \_\_\_\_\_ Code # \_\_\_\_\_  
Education \_\_\_\_\_ Divorced  
Widowed Age \_\_\_\_\_ Religion \_\_\_\_\_

The following statements are presented to obtain your opinions about several significant social problems. After reading each statement, circle the item below which corresponds to your amount of agreement or disagreement with each statement. If you have no opinion on the subject, circle the indifferent item.

1. An unhappy marriage can always be stabilized by having children, if the couple has no children.

Strongly agree Agree Indifferent Disagree Strongly disagree

2. Church attendance is absolutely necessary for an individual to have good character and lead a good life.

Strongly agree Agree Indifferent Disagree Strongly disagree

3. The character of today's youth is no worse than the character of the youth of two or three decades ago.

Strongly agree Agree Indifferent Disagree Strongly disagree

4. Since the processes of legal prosecution can be in error, the sentence of capital punishment for crimes should be abolished.

Strongly agree Agree Indifferent Disagree Strongly disagree

5. The only effective method for curbing the rising divorce

rate is to increase the requirements in obtaining marriage licenses.

Strongly agree Agree Indifferent Disagree Strongly disagree

6. There is plenty of justification for a belief in life after death.

Strongly agree Agree Indifferent Disagree Strongly disagree

7. The driver who persists in exceeding established speed limits should be jailed like other criminals.

Strongly agree Agree Indifferent Disagree Strongly disagree

8. Broken homes, especially those in which the father is absent, are the primary causes of juvenile delinquency.

Strongly agree Agree Indifferent Disagree Strongly disagree

9. The divorce incidence has increased over the past 50 years primarily because of the recent economic independence of women.

Strongly agree Agree Indifferent Disagree Strongly disagree

10. Whenever religious beliefs oppose scientific theories, religion should be allowed precedence.

Strongly agree Agree Indifferent Disagree Strongly disagree

11. The degree of punishment for the same crimes often varies considerably from state to state. Steps should be undertaken to produce uniformity of the laws between states.

Strongly agree Agree Indifferent Disagree Strongly disagree

12. Slum clearance is the only way to eliminate juvenile delinquency.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree  
13. Adultery and desertion are the only valid reasons for  
    permitting a divorce.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree  
14. It is worse for a woman to be guilty of immoral conduct  
    than for a man.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree  
15. There is more justice in the United States with regard to  
    crime than any other nation in the world.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree  
16. The interference of relatives into a marriage is rarely,  
    if ever, the sole cause of a divorce.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree  
17. Juvenile delinquency has become a problem because the  
    communication media, newspapers, movies, etc., tend to  
    glamourize criminal activities.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree  
18. God has complete control over all the events in the  
    universe.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree  
19. Our current prison methods punish, but do not improve the  
    characters of inmates. The prison system needs complete  
    revision.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree  
20. Holding parents and legal guardians punishable for the

delinquent acts of their children would be the most effective approach to this problem.

Strongly agree Agree Indifferent Disagree Strongly disagree

21. Since marriage is an institution in which couples are joined for life, no reason can justify granting divorces.

Strongly agree Agree Indifferent Disagree Strongly disagree

22. The members of all religions in the world actually worship the same deity.

Strongly agree Agree Indifferent Disagree Strongly disagree

23. The plea of temporary insanity should be removed from court recognition since it only aids criminals in evading justice.

Strongly agree Agree Indifferent Disagree Strongly disagree

24. Sex education courses in high schools only encourage immoral types of delinquency among adolescents.

Strongly agree Agree Indifferent Disagree Strongly disagree

25. The increasing divorce rate is the result of marriages among very young people who are too immature to realize and accept marital responsibilities.

Strongly agree Agree Indifferent Disagree Strongly disagree

26. To insure the development of good character in future citizens, public schools should teach non-sectarian religion.

Strongly agree Agree Indifferent Disagree Strongly disagree

27. Treatment of criminals in the United States is too harsh.

Strongly agree Agree Indifferent Disagree Strongly disagree

28. The personal conduct exemplified by parents and adult relatives influences adolescent behavior more than any other single factor.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

29. A good character can be maintained solely by the individual's code of ethics; religious beliefs are not necessary.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

30. Since the theft of money and material goods constitutes about 83% of the known crimes in the U.S.A., elimination of physical needs by social agencies would drastically reduce crime.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

31. Divorce rates will continue to increase because the present ease in traveling has resulted in more marriages between persons from very different educational and cultural backgrounds.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

32. Delinquency is increasing because parents no longer use corporeal punishment often enough in rearing children.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

33. Having children will seldom prevent the collapse of an unhappy marriage.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

34. Any person with normal intelligence can have good character and lead a good life without any form of

religious guidance.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

35. Corruptive influences in our modern society are producing youth with less character when compared to the youth of two or three decades ago.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

36. States which employ capital punishment have fewer incidences of murder. This fact alone justifies maintaining the penalty of capital punishment.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

37. It is very doubtful that stricter requirements for obtaining marriage licenses would have any effect upon divorce rates.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

38. Belief in a personal God is an idea sustained by people who wish to ignore the impersonal nature of the universe.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

39. The present methods used to deal with speeding drivers are sufficient to handle the problem.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

40. Lack of discipline in the home produces juvenile delinquency regardless of whether the home is broken or not.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

41. Since more married than single women are employed over periods of time, the economic independence of women has

not contributed significantly to the divorce rate increases.

Strongly agree Agree Indifferent Disagree Strongly disagree

42. Whenever religious beliefs oppose science, cultural progress is needlessly hindered.

Strongly agree Agree Indifferent Disagree Strongly disagree

43. Any attempt to create uniformity of laws between states is unethical. Each state has the right to conduct criminal courts as desired if federal laws are not violated.

Strongly agree Agree Indifferent Disagree Strongly disagree

44. Slum clearance will not lessen juvenile delinquency because the problem is not actually related to physical needs.

Strongly agree Agree Indifferent Disagree Strongly disagree

45. Physical or mental cruelty complaints are valid reasons for granting divorces.

Strongly agree Agree Indifferent Disagree Strongly disagree

46. It is equally bad for a man to be guilty of immoral conduct as for a woman.

Strongly agree Agree Indifferent Disagree Strongly disagree

47. The cultural lag of the legal profession plus political graft have undermined justice regarding crime in the United States.

Strongly agree Agree Indifferent Disagree Strongly disagree

48. The communication media, movies, newspapers, etc., provide

more wholesome than harmful information for the nation's youth.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

49. In-law difficulties most often lay the foundation for the failures in marriage.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

50. All events in the universe proceed according to scientific principles by means of physical and chemical forces.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

51. Current prison methods are adequately rehabilitating criminals for readjustment in society.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

52. Juveniles who persist in committing illegal acts should be treated like adult criminals regardless of their ages.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

53. All of the reasons presently accepted by the courts are sufficient reasons for granting divorces; no legal changes are needed.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

54. Only members of the Hebrew and Christian religions worship the true deity.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

55. Temporary insanity is a real mental difficulty and should be carefully considered in all criminal cases.

Strongly agree    Agree    Indifferent    Disagree    Strongly disagree

56. High school instruction on sex provides adolescents with an excellent foundation for developing emotional maturity.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree

57. Higher divorce rates are due to the pressures of modern living rather than to the immaturity of married couples.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree

58. Religious teaching is the sole responsibility of parents and churches and definitely outside of the authority of public schools.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree

59. The U.S.A. has always treated its criminals too leniently.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree

60 Adolescent behavior is always more deeply influenced by the customs of their own age group than by parental example. Parents alone cannot cope with delinquency.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree

61. No one can develop good character without maintaining some definite religious beliefs.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree

62. Since criminals express their feelings for society through crime, merely reducing the physical needs of underprivileged people will not curtail criminal activity.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree

63. Differing cultural and educational backgrounds between

married couples have little or no relation to the  
increase of divorces.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree

64. Corporeal punishment is not needed to obtain proper  
conduct from children and its use will not prevent  
juvenile delinquency.

Strongly agree   Agree   Indifferent   Disagree   Strongly disagree

## APPENDIX B

### THE HOSTILITY SCALE FOR RORSCHACH CONTENT

#### General Considerations

A person's hostility score is the sum of the scores of all hostile perceptions on the Rorschach. It assumes strict comparability in the number of responses between subjects. Generally speaking, as the perceptions move from abstract or vague expressions to more active, violent ones, the point scores increase.

#### One Point

(a) Predatory animal or part of a predatory animal seen with no accompanying description. Examples; lion, tiger, hyena, gorilla, manta ray. Not a bear or eagle, as these are too popular.

(b) An implement of destruction or of war or of such an instrument, seen in a dormant state. Examples; tank, gun sawed in half, jet bomber.

(c) Something that is not ordinarily considered a weapon but which is capable of piercing, cutting, crushing, or hammering kinds of action, perceived in a dormant state. Examples; wire cutter, pliers, vise, ice tongs, hammer,

claws, pincers, horns.

(d) Parts of the anatomy perceived which are capable of wrecking havoc. Examples; teeth, claws, pincers, horns.

(e) People or animals eating food.

#### Two Points

(a) Something not ordinarily considered a weapon seen in a piercing, crushing, squeezing, or hammering kind of action. Examples; a stake hammered into the ground; something gripped in a vise; acid seeping through metal, or poison dripping.

(b) A finger pointing.

(c) A human or animal described as fierce, aggressive, dangerous, or evil. Examples; boar rushing aggressively forward; evil-looking spider; fierce looking hawk.

(d) Human or animal figures leering. The presence of an eye or eyes peering or watching.

(e) Bisected animal; a cut spinal cord; an animal laid open; an animal pinned to something. The implication is that the action has occurred in the past and is somewhat impersonal. If the animal is given a name and is said to have just been injured or there is implication of injury, score as a wounded animal.

(f) Explosion or fire without excessive accompanying description. Examples; volcano erupting with fire and smoke; remnants of an explosion; a house on fire; a match burning.

(g) Stained blots; paint splattered; ink splattered; big puddles. If constructive action is used to save the response, do not score. For example, "looking like the paint a painter uses to wipe his brush with to try out new colors," is not scored.

(h) Some perception of people or animals in derogatory positions or shapes. Examples; monsters, monster with a pointed head, a court jester with an elfin head.

(i) The lair of a predatory animal, a spider web, evil cobwebs.

#### Three Points

(a) Human symbols being injured. Example; the statue of a man with the head broken off.

(b) An unfavorable human characteristic. Examples; piano-legged fat ladies, angry people, frowning people, stupid-looking people, vicious, crazy, dumpy, etc. Fatness, skinniness, or baldness are not scored unless the implication is derogatory.

(c) Implements of war exploding, or explosions or fire with excessive detail. Examples; cannons firing; a volcano erupting with fire and smoke and molten lava pouring down, fire tearing through woods hungrily eating up the timber.

(d) Any injury to an insect, including death. If implications are that the insect has been dead for a long time and is decayed, do not score. Examples of scorable responses; squashed insects, a mangled butterfly.

(e) A dog howling or barking. If barking at an object with vicious intent, score three points. If barking at nothing in particular, score two points.

#### Four Points

(a) Two animals or humans in some competitive struggle but not fighting in anger. Examples; two bears vying for a piece of fish; two guys wrestling or boxing.

(b) Two or more people or animals angry at each other; they may be seen as quarreling, but not taking action leading to violence.

(c) Impersonal conflict. Example; "This red reminds me of war." If people are involved it becomes a fight and is scored five.

(d) Blood in any manner or description is scored at least four points. If the blood is connected with an animal or human injury, score five points.

(e) Any animal which is committing predatory action.  
Example; a lion stalking a deer.

(f) The following animals which are considered symbols of predatory living; black-widow spiders, a praying mantis.

#### Five Points

(a) A wounded person or animal, (not insects). They may be seen as shot, flowing blood, gashed, mangled, etc. An animal or human perceived merely as dead is not scored.

(b) Two or more humans or animals fighting, but not to the

death, with no mention of injury or gore.

(c) Violence depicted without showing a personal causal element. Examples; a woman with the head cut off; a man severed in two. If the perception is of a person without a head but there is no mention of injury, do not score at all. Example; a woman with no head.

#### Six Points

(a) Two or more animals in a gory struggle, with blood or injuries and/or death occurring. Score five points for an animal seen as wounded without a description of a struggle.

#### Seven Points

(a) Two humans seen in hostile or destructive action toward each other, with death occurring, or blood flowing, etc.

Critical remarks about the blots themselves are not scored. In the event that a response embodies two or more scorable aspects, only the highest is scored. Examples; "A bloody dissection." Do not score four for blood and two for dissection. Score only the highest value, which is blood.

In case of ambivalence or an attempt to vitiate the hostile implication of the perception, subtract one from what the hostile score would normally be. Exception; If the score would normally be one, the score remains despite the vitiating remark. Example; "This is either a rat or wolf." (Score one, since this score is only one normally,

nothing is subtracted despite the ambivalence.)

APPENDIX C

STATISTICAL FREQUENCIES AND COMPUTATIONS

RAW AND T SCORES FROM THE HOSTILE  
CONTENT OF RORSCHACH INKBLOTS

Experimental Group			Control Group		
frequency	raw scores	T scores	frequency	raw scores	T scores
1	0	31.9	1	3	32.8
1	2	34.7	1	5	35.9
1	3	35.0	1	6	37.5
1	5	38.9	1	8	40.6
2	6	40.3	2	9	42.2
1	8	43.1	1	11	45.3
1	9	44.4	1	12	46.9
4	10	45.9	2	13	48.4
1	11	47.3	1 Mean =	14	50.0
1	12	48.6	1	15	51.6
2 Mean =	13	50.0	2	16	53.1
1	14	51.4	1	18	56.3
1	15	52.8	1	19	57.8
2	16	54.2	1	21	60.9
1	20	59.7	1	26	68.8
1	21	61.1	1	27	70.3
1	23	65.0			
2	28	70.8			
1	31	75.0			

Standard deviation = 6.4

Standard deviation = 7.2

$T = \frac{10(X - M)}{S. D.} + 50$ ; where X is the raw score and M the mean.

## Item Reliability of the Opinionnaire

	Disagreement	Indifferent	Agreement	f	d	fdx	fd <sup>2</sup> x
A	326	37	110	473	1	473	473
I	60	82	57	199	0	0	0
D	298	95	481	<u>874</u>	-1	<u>-874</u>	<u>874</u>
f	684	214	648	1546		-401	1347
d	-1	0	1			xy	
fdy	-684	0	648/	-36		-326	
fd <sup>2</sup> y	684	0	648/	1332		-481	
						110	
						<u>298</u>	
						-399	

$$*r_1 = \frac{xy - \frac{(fdx \cdot fdy)}{N}}{S.D.x \cdot S.D.y}$$

$$r_1 = \frac{\frac{-399}{1546} - \frac{(-401 \cdot -36)}{1546}}{\sqrt{\frac{1347}{1546} - (.20)^2} \cdot \sqrt{\frac{1332}{1546} - (.02)^2}} = -.30$$

$$S.E.r = \frac{1.00 - .09}{7.0}$$

\*Lindquist, E. F., A First Course in Statistics, (Boston, Houghton Mifflin Company, The Riverside Press, 1942), p. 168.

## Total Reliability of the Opinionnaire (split half method)

	SD	D	I	A	SA	f	d	fdx	fd <sup>2</sup> x
SA	1	0	0	22	18	41	2	82	164
A	3	31	11	105	11	161	1	161	161
I	2	19	41	14	1	77	0	0	0
D	15	243	28	28	1	315	-1	-315	315
SD	47	28	0	1	2	<u>78</u>	-2	<u>-156</u>	<u>312</u>

f 68 321 80 170 33 672 -228 952

d -2 -1 0 1 2

fdy -136 -321 0 170 66/-221

fd<sup>2</sup>y 272 321 0 170 132/ 895

$$r_{\frac{11}{22}} = .70$$

$$r_{\text{total}} = \frac{2(.70)}{1.70} = .83$$

$$1.70$$

$$S. E. r = \frac{1.00 - (.83)^2}{4.58} = .07$$

$$4.58$$

xy

44

72

105

22

30

243

188

56

-4

-6

-31

-28

-2

-2

-8

679

VARIANCE ANALYSIS OF RETAINED OPINIONS

Non-opposed Items	(squared)	Opposed Items	(squared)
24	576	21	441
24	576	16	256
16	256	11	121
28	784	22	484
23	529	13	169
30	900	25	625
21	441	5	25
27	729	14	196
26	676	13	169
21	441	16	256
20	400	9	81
26	676	14	196
21	441	14	196
26	676	9	81
19	361	21	441
19	361	12	144
24	576	16	256
26	676	6	36
21	441	18	324
21	441	5	25
10	100	15	225
23	529	13	169
21	441	24	576
19	361	12	144
15	225	6	36
20	400	7	49
571	12923	357	5721

Within Group Squares

$$18643 - \frac{(571)^2}{26} + \frac{(357)^2}{26} = 1047 \text{ with 50 degrees of freedom}$$

Means

$$\frac{(571)^2}{26} + \frac{(357)^2}{26} - \frac{(928)^2}{52} = 1035 \quad F = \frac{1035}{21} = 49 \text{ with 1 degree of freedom}$$

VARIANCE ANALYSIS OF CONFORMING AND ALTERNATIVE  
INTENSITY CHANGES OF MAJORITY OPPOSED ITEMS

Minor opinion Intensity Shifts	Indifferent Responses	Sum (squared)	Opinion Conformity (squared)		
1	2	3	9	18	324
7	2	9	81	18	324
3	0	3	9	17	289
2	4	6	36	17	289
0	3	3	9	17	289
6	4	10	100	16	256
5	5	10	100	15	225
0	3	3	9	15	225
2	6	8	64	15	225
3	10	13	169	14	196
4	4	8	64	10	100
14	2	16	256	10	100
1	0	1	1	9	81
4	6	10	100	9	81
0	13	13	169	8	64
3	0	3	9	8	64
8	1	9	81	7	49
11	0	11	121	7	49
1	0	1	1	6	36
6	7	13	169	6	36
5	7	12	144	4	16
3	10	13	169	4	16
10	0	10	100	4	16
7	1	8	64	3	9
8	7	15	225	1	1
3	5	8	64	0	0
		219	2323	258	3360

Within Group Squares

$$5686 - \frac{(258)^2}{26} - \frac{(219)^2}{26} = 1282 \text{ with 50 degrees of freedom}$$

Means

$$\frac{(258)^2}{26} - \frac{(219)^2}{26} - \frac{(477)^2}{52} = 28 \quad F = \frac{28}{26} = 1.08$$

with 1 degree of freedom

## Testing of Hypothesis I

High Hostility Group T Score	Intense Responses on the First Opinionnaire	
75	1	
71	40	
71	5	Mean = 8
65	0	
61	7	Variance = 127
60	6	
54	7	N = 9
54	6	
53	8	

Low Hostility Group T Score	Intense Responses on the First Opinionnaire	
32	5	
35	14	
35	8	
40	17	Mean = 14
43	15	
44	2	Variance = 9
39	17	
40	37	N = 12
46	8	
46	5	
46	25	
46	12	

$$\text{Fisher } t = \frac{14 - 8}{\sqrt{\frac{127(9) + 12(9)}{19} \cdot (.19)}} = 1.79$$

19 degrees of freedom

## Testing Hypothesis II

## Intense Responses Retained with Majority Opposition

High Hostility T Scores	Responses Retained	Low Hostility T Scores	Responses Retained
75	0	32	0
71	12	35	3
71	1	35	5
65	0	39	3
61	1	40	5
60	0	40	13
54	1	43	3
54	1	44	0
53	<u>0</u>	46	2
		46	6
		46	2
		46	<u>2</u>
Mean = 2			
Mean difference = 2		Mean = 4	44

## Testing Hypothesis III

## Responses Conforming to Majority Opinion Intensities

High Hostility T Scores	Conforming Responses	Low Hostility T Scores	Conforming Responses
75	18	32	15
71	8	35	17
71	4	35	10
65	9	39	18
61	14	40	8
60	17	40	4
54	10	43	4
54	6	44	16
53	<u>9</u>	46	15
		46	15
		46	7
		46	<u>6</u>
Mean = 11	95		
Mean difference = 0		Mean = 11	134

## Correlation of Opinion Conformity Frequency to C' Determinants

	0	1	2	3	f	d	fd	fd <sup>2</sup>	y C'
18	2				2	9	18	162	
17	2				3	8	24	192	
16	1				1	7	7	49	
15	3				3	6	18	108	
14		1			1	5	5	25	
10	2				2	1	2	2	
9	1	1			2	0	0	0	
8	2				2	-1	-2	2	
7	1	1			2	-2	-4	8	
6	2				2	-3	-6	18	
4	1		1	1	3	-5	-15	75	
3	1				1	-6	-6	36	
1			1		1	-8	-8	64	
0	1				1	-9	-9	81	

f 19      4      2      1      26           24      824

d -2      -1      0      1

fd -38      -4      0      1/-41

fd<sup>2</sup> 76      4      0      1/ 81

xy

-

4      36  
6      40  
12      14  
10      36  
12      5  
18      4  
62

5  
-140

$$r = \frac{-88 - (.92)(-1.58)}{26} = -.45$$

$$\sqrt{\frac{824}{26} - .85} \cdot \sqrt{\frac{81}{26} - 2.5}$$

xy = -88

$$S.E. r = \frac{1.00 - .67}{26} = .14$$

5.1

## Correlation of Opinion Conformity Frequency to m Determinants

	0	1	2	
18	2			fd = 24
17	3			fd <sup>2</sup> <sub>x</sub> = 824
16		1		
15	3			
14	1			xy -
10	2			
9	1	1		
8	2			4 36
7	1	1		6 48
6	1	1		9 7
4	2	1		25 36
3	1			12 10
1		1		8 4
0	1			18 4
				<hr/> -141
f	20	6	0/ 26	82
d	-2	-1	0	xy = -59
fd	-40	-6	0/-46	
fd <sup>2</sup>	80	6	0/ 86	

$$r = \frac{-59 - (.92)(-1.77)}{\sqrt{\frac{824}{26} - (.85)^2} \cdot \sqrt{\frac{86}{26} - (3.13)^2}} = -.28$$

$$S. E. r = \frac{1.00 - .08}{5.1} = .18$$

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