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**ATTITUDE SHIFT, APPROVAL NEED AND LATENT OF
PSYCHOLOGICAL DIFFERENTIATION**

by Michael W. McCarrey

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Psychology of the University of Ottawa
as partial fulfillment of the require-
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CURRICULUM STUATORUM

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INTRODUCTION

From time to time the question of consistency of functioning in diverse psychological areas has become prominent as evidenced by the abundance of studies investigating its implications. One such stream of research is that led by the differentiation construct of Herman Witkin and his colleagues. More recently, Cross and Marlowe have initiated another approach wherein a motivational parameter, need for social approval, is seen as an underlying factor for behavioral consistencies in several areas. At the same time, several models of attitude change, such as the congruity model of Osgood and Tannenbaum, appear manifestly unconcerned with the question of individual differences or various personality correlates prompted by intra-personal consistency.

The present study then seeks to relate these areas by investigating the possible relationships between both congruity shift of attitude and need for social approval, and extent of psychological differentiation. In so doing it may be possible on the one hand to modify the congruity principle of Osgood and Tannenbaum so that it relates to the extent of differentiation of the individual who decodes the communications content while on the other hand to determine whether extent of approval need is inversely related to degree of psychological differentiation.

The literature pertaining to the three models is reviewed in the first chapter in three sections and the problem and experimental hypotheses are presented in a fourth and final section. Chapter two presents the experimental design employed to investigate the hypotheses in which the operational definitions, the measuring instruments, the subject pool, the experimental procedure and, finally, the statistical techniques are presented and discussed. In the final chapter the results of the experiment are presented and discussed in three sections.

The reliability data of the measurement procedures is first presented and discussed after which the data pertaining to the null hypotheses is recorded and discussed. Limitations of the present study and implications for future research are suggested following which the summary and conclusions of the project are presented in the final section. The appendices include the factor loadings of the semantic differential scales employed in the study, illustrations of the various measuring instruments and procedures utilized, analysis of various summary tables for age and education and, finally, the abstract of the experiment.

CHAPTER 1

REVIEW OF THE LITERATURE

This chapter, which presents the theoretical background of the project, begins by examining the current status of the literature in the areas of Osgood and Tannenbaum's congruity model of attitude change, Crowne and Marlowe's construct of evaluative dependence, and Witkin's differentiation hypothesis. As the three models and the empirical data supporting them are reviewed, it becomes apparent that there are some interesting and compelling convergences which suggest there may be meaningful conceptual links between them. These possible relationships are then elaborated as questions to be explored by the present research and the chapter is concluded with the presentation of the hypotheses in the null form.

1. The Congruity Model of Osgood and Tannenbaum.

The pioneer efforts in the area of attitude change as affected by exposure to communications content appear those of L.L. Thurstone¹ shortly after the formulation of

¹ L.L. Thurstone, "The Influence of Motion Pictures on Children's Attitudes," Journal of Social Psychology, Vol. 2, No. 3, 1931, p. 291-305.

an appropriate method of quantification.² For too long a time afterwards, however, interest has been confined to the overall amount of attitude change as a function of the communications content, rather than with inherent variables operating. Up until a decade ago, as Hovland³ has noted, there had been "practically nothing bearing on the factors responsible for [attitude] change."

However, commencing with Heider's⁴ model of balanced states and continuing with Newcomb's⁵ strain toward symmetry, Osgood and Tannenbaum's⁶ congruity principle and Festinger's⁷ theory of cognitive dissonance, researchers have been more intent on establishing conceptual frameworks of cognitive dynamics which attempt to isolate and identify the factors involved in attitude change.

2 L.L. Thurstone and M.J. Chave, The Measurement of Attitudes, Chicago, University of Chicago Press, 1929, xii-97 p.

3 Carl Hovland, "Changes in Attitude through Communications," Journal of Abnormal and Social Psychology, Vol. 46, No. 3, 1951, p. 424.

4 Fritz Heider, "Attitudes and Cognitive Organization," Journal of Psychology, Vol. 21, No. 1, January 1946, p. 107-112.

5 Theodore Newcomb, "An Approach to the Study of Communicative Acts," Psychological Review, Vol. 60, No. 6, 1953, p. 393-404.

6 C.E. Osgood and Percy H. Tannenbaum, "The Congruity Principle in the Prediction of Attitude Change," Psychological Review, Vol. 62, No. 1, 1955, p. 42-55.

7 L. Festinger, A Theory of Cognitive Dissonance, Evanston, Ill., Row, Peterson Inc., 1957, 427 p.

Efforts by men such as these have continued so that there number at this time over a dozen models of attitude change. Of these the congruity model remains unique, accompanied as it is by the semantic differential measurement process which allows for relatively precise measurement of the magnitude and direction of predicted attitude change.

The work of Osgood and Tannenbaum on attitude theory and measurement is an outgrowth of research on experimental semantics, particularly the development of more objective methods for measuring meaning. From their viewpoint, the "meaning" of a concept corresponds to its location in a semantic space defined chiefly by three factors or dimensions and the attitude toward a concept is its projection into one of these dimensions defined by Osgood, Suci and Tannenbaum,⁸ as "evaluative."

Turning now to the congruity model itself, the stage is set for its operation when a "source" makes some evaluative statement, frequently termed an assertion, about some referent object or "concept" in a message that is decoded by the individual reading the communication content. Osgood elaborates the congruity model when he posits:

⁸ Charles E. Osgood, George J. Suci and Percy D. Tannenbaum, The measurement of meaning, Urbana, University of Illinois Press, 1957, p. 190.

When inconsistent cognitive elements are forced together by a linguistic assertion, stress is produced which is proportional to the inconsistency; and the stress produces cognitive modifications which [...] serve to re-establish cognitive consistency.⁹

Thus, two signs eliciting different attitudes, say A very favorable and B mildly unfavorable, when linked together via an assertion, cause a stress to be generated which can render A a little bit more unfavorable and B a bit more favorable.

The major assumption underlying the congruity model is that judgmental frames of reference tend toward maximal simplicity¹⁰ and so when change of evaluation occurs, it occurs in the direction of increased congruity with the existing frame of reference. Congruence, in the context of attitude measurement, refers to the state wherein the evaluative reactions pertaining to two signs are equally intense when they are linked by an assertion.¹¹ Following this argument, two signs linked by an associative assertion would be held evaluatively congruent provided they were judged equally polarized by the individual who decodes the assertive statement.

9 C.B. Osgood, "Cognitive Dynamics in the Conduct of Human Affairs," Public Opinion Quarterly, Vol. 67, No. 1, 1960, p. 359.

10 Osgood and Tannenbaum, Op. Cit., p. 43.

11 Osgood et al., Op. Cit., p. 203.

In an experiment designed to test this hypothesis empirically, Tannenbaum¹² exposed 405 undergraduate university students of mean age twenty-one years, to six experimental and four "filler" sources followed by the same number of concepts on an evaluative form of the semantic differential. Five weeks later, the same subjects were given realistic newspaper clippings containing positive or negative assertions involving the source concept pairs. Immediately after this second exposure, the subjects were again asked to judge the sources and concepts on the same evaluative form of the semantic differential. The direction of attitude change was as predicted in every case while the predicted and actual magnitude of the shift correlated at $r = 0.91$.

In another study, Kerrick¹³ had one hundred college undergraduate women judge photographs and captions in isolation and then, later, combined as composites, on the same evaluative form of the semantic differential. Her findings indicate that congruity principle predictions and obtained judgments had a product moment correlation of 0.95. Nevertheless, it is also reported that when both picture and

¹² Percy H. Tannenbaum, Attitudes Towards Source and Concept as Factors in Attitude Change Through Communications, unpublished doctoral thesis presented to the Graduate College, University of Illinois, Urbana, Ill., 1953, iv-102 p.

¹³ Jean S. Kerrick, "News-Pictures, Captions and the Point of Resolution," Journalism Quarterly, Vol. 36, No. 2, 1955, p. 163-168.

caption were judged as favorable in isolation, the effects in combination served to summate rather than balance according to congruity theory.

In a third study, Rose¹⁴ combined the media of motion picture and sound track in a study similar to Kerrick's, using 165 junior college students and found the congruity model to closely predict the point of resolution of most combined stimuli. Yet here again, summation was observed in instances similar to those in the study by Kerrick. It would seem the congruity model yields less adequate results when multiple channel communication is involved.

Osgood and Tannenbaum note the most significant variables relevant to the direction and magnitude of attitude shift to be:

- a) the existing attitude towards the source,
- b) the existing attitude towards the concept,
- c) the nature of the evaluating assertion which relates the source and concept in the message.¹⁵

As a consequence of experimentation with the congruity principle a number of factors which affect its operation have come to demand attention. These Osgood, Suci and Tannenbaum¹⁶ list as:

¹⁴ L.D. Rose, Attitude as a Function of Discrepancy Resolution in Multiple Channel Communication, unpublished doctoral thesis presented to the Faculty of Graduate School of Stanford University, Stanford, Cal., 1964, 121 p.

¹⁵ Osgood and Tannenbaum, Op. Cit., p. 42.

¹⁶ Osgood et al., Op. Cit., p. 212-216.

a) The Contiguity of Signs in Assertions.- The authors mention no specific research on this topic directly yet expect that as a modifier such as 'lazy' is displaced away from its nominal object 'athlete' in various syntactical constructions, the effect on the meaning of 'athlete' will decrease.

b) Intensity of Assertion.- The authors anticipate that as the copula joining two concepts links them in a more tightly binding manner, the congruity effect should be greater. A recent study by McCarrey and Chagnon¹⁷ provides support for this expectation in that greater intensities of assertion were accompanied by greater attitude shift up to a point, beyond which increased intensities of assertion did not produce still greater attitude shift. There would thus appear evidence for a curvilinear relationship between the intensity with which source and concept are related and the accompanying attitude shift.

c) The Credulity of Assertion.- The congruity hypothesis assumes that subjects believe the assertions presented them. The authors make no mention of studies in this area and suggest¹⁸ a rough after-the-fact correction

17 M. McCarrey and Gilles P. Chagnon, "Intensity of Assertion and the Congruity Principle," Journal of Social Psychology, Vol. 76, No. 1, 1968, p. 69-74.

18 Osgood and Tannenbaum, Op. Cit., p. 48.

for assertion they intuitively feel to be quite tenuous, such as the assertion 'Eisenhower supports communism.'

Fortunately, an illustration of the effect of credulity is afforded by a study of Hovland and Weiss¹⁹ who, working outside the congruity framework, investigated the influence of source credibility on communication effectiveness. The authors concluded that changes in opinion are significantly related to the perceived trustworthiness of the source used in the communication. Although the weight of Hovland and Weiss's contribution is reduced due to the absence of a standardized measuring instrument and to the extremely high attrition rate which reduced the initial group of 223 to sixty-one subjects, the influence of credibility remains a subtle factor in attitude change experimentation.

d) The Relevance of Source to the Concept.- Osgood et al. expect the relevance of the signs to influence the magnitude of the congruity effect. Support for this contention is furnished in a study by Kerrick²⁰ who used eighty university undergraduates in journalism as subjects. In a standard pre- and post-test design Kerrick reports "relevant"

19 Carl I. Hovland and Walter Weiss, "The Influence of Source Credibility on Communication Effectiveness," Public Opinion Quarterly, Vol. 15, No. 4, Fall 1951, p. 635-650.

20 Jean S. Kerrick, "The Effect of Relevant and Non-Relevant Sources on Attitude Change," Journal of Social Psychology, Vol. 47, No. 1, 1956, p. 15-26.

situations tended to produce greater attitude change than "non-relevant" situations and that the congruity principle usually predicts attitude change more effectively when the source is relevant to the concept. The author interprets her data as supporting the fact of a source's effectiveness when communicating in an area of competence or familiarity.

c) Meaning of the Copula.- Osgood et al. mention that in many cases the assertive link itself has meaning apart from its linking function. Although no empirical support appears in the literature, the authors cite the instance of the copula "lied about" and note that beyond the dissociative relation between the two sign. in the assertion, there is the implied declaration that the source is a liar.

In summarizing the literature on Osgood's congruency model of attitude change then, it can be said to be a fairly accurate one in some instances, while in others, such as multiple channel communication, it is generally not as satisfactory. Furthermore, the effectiveness of quantitative prediction using the congruency principle has been shown in some instances and suggested in others to be contingent upon the operation of other situational parameters such as contiguity, intensity, credulity, and so on. One thing which appears to detract from the elegance of the model is that it seems bolstered by two after-the-fact modifications, one involving a correction for incredulity and the other an assertion constant; neither of which follows from the model itself.

Looking towards the proposed study now and the differentiation construct of within et al.²¹ it may be noted in passing that in the literature no personality variables have been considered with respect to the operation of Osgood's congruity model, and this, it is felt, constitutes a significant omission as it is in individuals, having distinct uniqueness from each other, that shifts in attitudes toward congruence do arise.

It is proposed then, as part of this study to extend the congruity hypothesis of Osgood et al. so that it relates to a significant and well documented personality construct; psychological differentiation. Extended consideration of both the theoretical and empirical foundations of psychological differentiation will be given in the third section of this chapter. However, a statement of purpose at this time is not felt superfluous.

Osgood et al. have stated the congruity principle in the following form:

whenever two signs are related via an assertion, the mediating reaction characteristic of each shifts towards congruence with that of the other, the magnitude of the shift being inversely proportional to the intensities of the interacting reactions.²²

²¹ H.A. Within, M.B. Dyk, M.F. Petersen, J.H. Goodenough and G.A. Karp, Psychological Differentiation, New York, Wiley, 1962, xii-410 p.

²² Osgood et al., op. cit., p. 207.

In this study it is suggested in addition that: whenever two signs are related via an assertion, the mediating reaction characteristic of the concept shifts towards that of the source, the magnitude of the shift being inversely related to the degree of psychological differentiation of the individual decoding the communications content. This proposition seems logically consistent with *within's* concept of differentiation as that investigator²³ has suggested that more differentiated individuals possess better developed internal frames of self-reference which allow for interaction with the world from the position of a more autonomous agency rather than fused with it. In the context of the proposed study then, those individuals who prove to be better able to maintain their attitudinal judgments with relative independence of expressions of important others are anticipated to be more highly differentiated than those who are more influenced by the expressions of important others. In other words, it is anticipated that when the same assertion containing incongruent attitudinal referents is presented to a group of individuals, those who manifest lesser consequent attitude shift towards congruity will reflect significantly greater psychological differentiation than those individuals who manifest greater attitude shift towards congruity.

23 *within et al.*, *Op. Cit.*, p. 149.

Although, as it has been mentioned, there do not appear any attempts in the literature to relate Osgood's congruity model of attitude shift to extent of psychological differentiation, there is a stream of research which has investigated persuasibility and susceptibility to external standards, and the concomitant degree of articulation of experience. It is to these that consideration will now be given.

Harriett Linton²⁴ had fifty-three male undergraduate students take several measures of mode of perception as well as: 1) a self-constructed test of change in autokinetic judgments so as to conform to the responses of a confederate, 2) a self-constructed test of the extent to which a subject's reasoning conforms to his attitudes rather than to logic alone, and 3) a self-constructed test of attitude change after reading appropriate attitude modification communications attributed to prestige sources. The author carried out a factor analysis of her data and isolated four factors, two of which involved both social and cognitive variables. The nature of the tests with high loadings on what Linton called Factor A would appear to support the hypothesis that subjects

²⁴ Harriet B. Linton, Relations Between Mode of Perception and the Tendency to Conform, unpublished doctoral thesis presented to the Faculty of the Graduate School of Yale University, New Haven, 1952, 72 p.

with a global field approach tend to adapt their views to conform with those of important others. However, of the situations which the author might have expected to load significantly on Factor A only the attitude change variable failed to appear. Linton interprets her results as supporting the thesis that modes of perception closely reflect a central tendency to conform which may or may not emerge in a specific conformity test, as several variables, rather than a single trait or suggestibility," are involved.

In a subsequent re-analysis of her data, Linton and Graham²⁵ noted that subjects whose attitudes did shift towards conformance with the opinions in the communications content, were significantly more field dependent than those who showed no attitude change at the C.01 level. One can speculate that possibly the consideration and use of a recognized attitudinal model and standardized measuring instrument might have lendec greater consistency to the reported findings with respect to attitude shift.

²⁵ Harriet B. Linton and Elaine Graham, "Personality Correlates of Personality, in I.L. James, et al., (eds.), Personality and Persuasibility, New Haven, Yale University Press, 1959, p. 76-94.

Summarily then, this study and others^{26,27,28} in this area appear to suggest that the use of external standards in the definition and maintenance of judgments tends to be relatively greater in the case of individuals of relatively global cognitive structure as tapped by several of within's measures. The data, however, lacks some consistency in the area of attitude change and it is hoped the proposed study may shed some light in this area. It has been noted that the congruity model of Osgood and Tannenbaum provides a fairly accurate model of attitude change and that its relationship to the extent of psychological differentiation of the subject has remained unexplored.

To this end it is anticipated that when an assertion containing incongruent attitudinal referents is presented to a group of individuals, those who manifest greater attitude shift towards congruity will also concomitantly reflect a

26 Sarnoff Medwick and R. Sheffer, personal communication, in H.A. Witkin, H.B. Dyk, J.F. Paterson, P.R. Good-enough and S.A. Kerp, Psychological Differentiation, New York, Wiley, 1962, p. 151.

27 D.M. Jackson, Stability in Resistance to Field Forces, unpublished doctoral dissertation presented to the Faculty of Graduate School of Purdue University, Lafayette, Ill., 1955, 93 p.

28 Iris Sanguilano, An Investigation of the Relationship between Perception of the Upright in Space and Several Factors in Personality Organization, unpublished doctoral thesis presented to the Faculty of Graduate Studies, Fordham University, New York, 1951, 87 p.

significantly more global field approach as opposed to those who manifest lesser attitude shift.

In the following section, attention will be focused on the theoretical and experimental supports for the second independent variable, need for social approval.

2. Need for Social Approval.

That responses to personality test items cannot always be taken at face value have been a source of frustration to psychologists almost since the birth of the first personality test. As early tests proved to have somewhat low predictive validity²⁸ it became prevalent to view tendencies to censor or dissimilate as constituting sources of error, rather than true variance; and a number of stratagems were employed to minimize or control them.²⁹

Approaching the problem from a different vantage point, Cronbach³⁰ proposed that response bias originates from the personal test-taking habits of the subject to respond to

28 A. Ellis, "The Validity of Personality Questionnaires," Psychological Bulletin, Vol. 43, No. 5, 1946, p. 335-440.

29 Paul E. Meehl and S.A. Hathaway, "The E Factor as a Suppressor Variable in the MMPI," Journal of Applied Psychology, Vol. 30, No. 5, 1946, p. 525-564.

30 L.J. Cronbach, "Response Sets and Test Validity," Educational and Psychological Measurement, Vol. 6, No. 4, 1946, p. 475-494.

aspects of the situation other than the specific content of the test items. Essential to Cronbach's conception of response sets is the consideration given now to the meaning of the test to the individual, of the test items, and of being tested in the first place.

An investigation by Edwards,³¹ following up on some of the notions of Cronbach, explored the relationship between the social desirability of personality-test items and the probability of their being acknowledged by individuals in self-description, and obtained a correlation of 0.87.

Until quite recently the major index of the social desirability response set has been the Social Desirability Scale developed by Edwards³² which consists of selected items from the various MMPI scales and the Manifest Anxiety Scale³³ of Taylor, which met the criterion that they were judged unanimously by ten raters as the socially desirable responses. Crowne and Marlowe,³⁴ however, note the high subsequent

31 A.L. Edwards, "The Relationship Between Judged Desirability of a Trait and the Probability that the Trait Will Be Endorsed," Journal of Applied Psychology, Vol. 37, No. 2, 1953, p. 90-93.

32 -----, The Social Desirability Variable in Personality Assessment and Research, New York, Dryden Press, 1957, 271 p.

33 Janet Taylor, "A Personality Scale of Manifest Anxiety," Journal of Abnormal and Social Psychology, Vol. 46, No. 2, 1953, p. 285-290.

34 David P. Crowne and D. Marlowe, "A New Side of Social Desirability Independent of Psychopathology," Journal of Consulting Psychology, Vol. 24, No. 4, 1960, p. 349-354.

negative correlations between Edwards' Social Desirability Scale and such MMPI scales as psychasthenia, schizoid traits and suggest difficulties in interpretation. In view of low correlation with the MMPI Lie Scale it is possible, these authors contend, that high scores on the Edwards' Social Desirability Scale reflect in fact the social desirability response set or relative freedom from the pathology in question or anxiety involved in the content of the items. The authors continue that personality test responses should not be used at the same time to establish the existence of a social desirability response set and as personality description.

Crowne and Marlowe, in addition, have explored the motivation that might lead individuals to respond in a socially desirable fashion in an attempt to furnish a rationale for this widely encountered response set. These investigators have postulated that people tend to respond in favorable, socially desirable terms in order to achieve the approval of others. Accordingly, Crowne and Marlowe³⁵ define social desirability as behavior motivated by a need for approval and the expectancy that approval can be attained by behaving in culturally acceptable manners. Conformity, they suggest, embodies a class of

³⁵ David F. Crowne and L. Marlowe, The Approval Motive: Studies in Evaluative Dependence, New York, Wiley, 1954, p. 40.

behaviors engaged in by individuals seeking to satisfy a need for social approval as well as other things.

Noting that response-bias research has been subject to the weakness due to the inherent confounding of test-item content with determining stylistic tendencies, such as need for social approval, Crowne and Marlowe suggest that response-set measures should be related to relevant and independent behavioral criteria. To this end, basing themselves on the premise of consistency of psychological functioning, these investigators note that individual differences in the need for social approval would imply behavioral differences in other non-test situations and so a series of experiments were carried out to test the validity of the construct.

Faced with the earlier mentioned difficulties in interpretation of the social desirability scale of Edwards, these authors developed a measure themselves such that items were included if they met the following criteria: a) unanimously judged by ten experienced raters as reflecting cultural approval, b) be untrue of virtually all people, and c) have minimal correlations with measures of psychopathology and extreme anxiety.

Looking at the results of several studies, it would appear that individuals who typify a social-desirability response set, as tapped by the Marlowe-Crowne Need for Social

Approval Scale, tend to be more conforming,³⁶ cautious and persuasible³⁷ than those who describe themselves in less favorable terms. They appear to manifest greater amenability to social influence as reflected by: a) higher favorability of their attitudes towards an extremely dull and repetitious task,³⁸ b) greater verbal conditionability, both directly and vicariously,³⁹ and c) more frequent manifestations of social conformity,⁴⁰ among other things. In reviewing their findings, Crowne and Marlowe suggest that basically the literature illustrates a relation between a self-evaluative style and what Reisman⁴¹ has termed "other-directed" behavior.

36 Bonnie Strickland and D.P. Crowne, "Conformity Under Conditions of Simulated Group Pressure as a Function of the Need for Social Approval," Journal of Social Psychology, Vol. 53, No. 1, 1967, p. 171-181.

37 A.R. Salmon and D.P. Crowne, "The Need for Approval, Improvisation and Attitude Change," unpublished paper read before Midwestern Psychological Association, Chicago, 1967.

38 D. Marlowe and D.P. Crowne, "Social Desirability and Response to Perceived Situational Demands," Journal of Consulting Psychology, Vol. 75, No. 1, 1961, p. 109-115.

39 D.P. Crowne and Bonnie Strickland, "The Condition of Verbal Behavior as a Function of the Need for Social Approval," Journal of Abnormal and Social Psychology, Vol. 63, No. 2, 1961, p. 395-401.

40 D.P. Crowne and L. Liverant, "Conformity Under Varying Conditions of Personal Commitment," Journal of Abnormal and Social Psychology, Vol. 66, No. 6, 1962, p. 547-555.

41 David Reisman, The Lonely Crowd, New Haven, Yale University Press, 1950, 1-315 p.

Crowne and Marlowe's construct has not missed serving as the object of criticism, however. While Rorer⁴² is impressed at the authors' breadth of experimentation with respect to their construct, he notes instances of inadequate discussion of findings which do not follow their anticipation, such as the case in which both low-and-high need for approval subjects failed to manifest verbal conditioning. Other authors^{43,44} too are impressed by the scope of behavioral correlates and feel these support the need for social approval construct.

Looking towards the proposed study once more, it is anticipated that there exists a relationship between the manifested evaluative dependence of an individual and the concomitant degree of psychological differentiation of the individual. More specifically, it is anticipated that individuals manifesting a high need for social approval will concomitantly reflect less articulated psychological differentiation when compared to individuals manifesting a low

⁴² Leonard G. Rorer, "People to Study Tests and Tests to Study People," Contemporary Psychology, Vol. 11, No. 6, 1966, p. 168.

⁴³ G.S. Klein, Harriet Barr and D.L. Wolitzky, "Personality Structure," Annual Review of Psychology, Vol. 18, Palo Alto, Annual Reviews Inc., 1967, p. 506.

⁴⁴ J.S. Wiggins, "Personality Structure," in Annual Review of Psychology, Vol. 19, Palo Alto, Annual Reviews Inc., 1968, p. 305.

need for approval. This expectation appears theoretically consistent with the reasoning of both Crowne and Marlowe and Witkin et al. Firstly, Crowne and Marlowe⁴⁵ suggest that the high need individual, as illustrated by his greater amenability to outside influence, tends to look outside himself for cues which suggest how he might act so as to gain approval. Secondly, in a somewhat similar fashion, Witkin et al.⁴⁶ posit that individuals of global field approach, lacking a more complete sense of separate identity and more developed internal frames of self-reference, will tend to rely more heavily on the guidance and support offered by others in their environment. Accordingly then, in this study, it is possible that the high need individual will have more difficulty in a task which requires the separation of an object from the perceptual field in which it is embedded, because of his tendency to rely more heavily on the external field and less on his own internal bodily cues and sensations. Consequently then, it is hypothesized that individuals characterized by high need for social approval will concomitantly reflect a lesser degree of psychological differentiation when compared with individuals characterized by low need for approval.

⁴⁵ Crowne and Marlowe, Op. Cit., p. 190.

⁴⁶ Witkin et al., Op. Cit., p. 155.

The literature relevant to a possible relationship between need for social approval and psychological differentiation shall now be examined.

Pemberton,⁴⁷ in a factor analytic study employing tests loading on Thurstone's flexibility-of-closure factor as well as a large number of personality measures, found measures reflecting attitudes of dependence on others to be related to perceptual performance. College students who, in Witkin's terminology, were field dependent tended to be "dependent on the good opinion of others," and socially outgoing, while subjects of more analytical field approach were more "ambitious and logical, and theoretically oriented."

Bell⁴⁸ approached the problem of dependence on the social environment and cognitive style in a different fashion. She developed an attitudinal self-rating scale on the basis of Reisman's concept of inner-directed and other-directed attitudes so that one end of the scale reflected the inner-directed orientation while the opposite tapped the other-directed orientation. This scale and a battery of perceptual

⁴⁷ Carl L. Pemberton, "The Closure Factors Related to Temperament," Journal of Personality, Vol. 21, No. 2, 1952, p. 159-175.

⁴⁸ Elaine G. Bell, Inner-Directed and Other-Directed Attitudes, unpublished doctoral thesis presented to Faculty of Graduate College of Yale University, New Haven, 1955, 96 p.

tests were administered to a group of college undergraduates and the author reports that field dependent subjects tended to score significantly towards the other-directed, and field independent towards the inner-directed pole of the scale, at the 0.01 level.

Gordon,⁴⁹ using psychiatric patients as subjects, reports that field dependant subjects (as indexed by the Rod-and-Frame Test) tended to view themselves on a modified Thurstone scale, and be viewed by their physician in charge, as socially dependent to a significantly greater degree than field independent subjects.

These findings are consistent with certain evidence of Crutchfield et al.⁵⁰ who correlated checklist and Q-sort items with extent of psychological differentiation as tapped by the Rod-and-Frame Test. Those Army Air Force captains who were classified as "concerned with good impression, prevarious, and considerate" tended to be of global cognitive style; while those classified as "effective leader, self reliant" typified a more articulated mode of field approach. In addition,

⁴⁹ B. Gordon, An Experimental Study of Dependence-Independence in a Social and Laboratory Setting, unpublished doctoral thesis presented to the Faculty of Graduate Studies of the University of Southern California, 1955, 1:1.

⁵⁰ M.S. Crutchfield, D. G. Woodworth and Ruth Allerton, "Perceptual Performance and the Effective Person," Personnel Laboratory Reports, Lackland Air Force Base, Texas, 1956, ASTIA Document No. AD 151039.

those reflecting 'coolness and distance with respect to others, and lack of awareness of social stimulus values,' manifested an extremely field independent approach.

More recently, Rosenfeld⁵¹ assessed need for social approval using the Marlowe-Crowne scale, and made offfield approach using the Red-and-Frame Test and Thurstone's Embedded Figures Test. With fifty male college students as subjects, the hypothesized relationship between strong approval motivation and extent of psychological differentiation was supported when the Red-and-Frame Test was employed but not when the Embedded Figures Test was used. The author tends to feel that "although the FT results somewhat clouded the picture,] by virtue of the RT results, a significant relationship between field dependence and need for social approval has been demonstrated."⁵² This conclusion follows Rosenfeld's position that the Thurstone figures do not tap the variable of cognitive style as well as the tests of Witkin et al.

In retrospect then, while not completely consistent, the literature reviewed appears to reveal some interesting similarities between high need for social approval individuals and individuals of more global, less differentiated field

⁵¹ John M. Rosenfeld, Some Perceptual and Cognitive Correlates of the High Need for Social Approval Personality, unpublished doctoral thesis presented to the Graduate School of Ohio State University, Columbus, 1963, vii-142 p.

⁵² Ibid., p. 74-75.

approach. Such convergences suggest there may be meaningful conceptual links between these two areas of research and lend analogical support to the anticipation that individuals manifesting high need for social approval will reflect at the same time a more global, less differentiated mode of field approach than individuals manifesting less need for social approval.

In the next section, consideration will be given to the theoretical and experimental findings basic to the dependent variable, psychological differentiation or cognitive style.

3. Psychological Differentiation.

Over two decades ago, Asch and Witkin^{53, 54, 55, 56} presented significant evidence which supported the interpretation

⁵³ S.E. Asch and H.A. Witkin, "Studies in Space Orientation: I, Perception of Upright with Displaced Visual Fields," Journal of Experimental Psychology, Vol. 38, No. 3, 1948, p. 325-337.

⁵⁴ -----, "Studies in Space Orientation. II, Perception of the Upright with Displaced Visual Fields and the Body Tilted," Journal of Experimental Psychology, Vol. 38, No. 4, 1948, p. 455-477.

⁵⁵ H.A. Witkin and S.E. Asch, "Studies in Space Orientation: III, Perception of the Upright in the Absence of a Visual Field," Journal of Experimental Psychology, Vol. 38, No. 5, 1948, p. 603-614.

⁵⁶ -----, "Studies in Space Orientation: IV, Further Experiments in Perception of Upright With Displaced Visual Fields," Journal of Experimental Psychology, Vol. 38, No. 6, 1948, p. 762-782.

that an individual's ability to judge the vertical in space is determined primarily by upright objects in the surrounding visual field, and secondarily upon inner bodily cues and sensations.

This finding, along with evidence of enduring individual differences between subjects in their performances on Witkin's rather ingenious tests of space orientation,⁵⁷ led to the formulation of the field dependence-field independence continuum. These tests have in common the task wherein a subject is required to separate an item from its field, whether the item be a simple rod, a geometric design, or a body in space. Those subjects who had trouble separating figure from ground were termed field dependent because of their difficulty in disregarding the influence of the visual field.

Other persons, on the other hand, were more able to perceive independently of the surrounding visual field when asked to separate an item from its context, and were termed field independent. Their successful performances on Witkin's measures were considered to reflect an analytical field approach, wherein parts of the field are thought to be experienced as discrete and the field as an organized structured whole.

⁵⁷ H.A. Witkin, "The Nature and Importance of Individual Differences in Perception," Journal of Personality, Vol. 18, No. 2, 1949, p. 145-170.

with the passage of time and considerable experimentation, Witkin and his colleagues⁵⁰ began to feel that the weight of evidence supported the conclusion that the dimension of field dependence-independence constituted a reflection of the individual's overall perceptual approach, noting consistency of performance in a variety of perceptual situations.

The authors continued to find consistency in performance, however, in areas other than strictly perceptual, so that a number of personality correlates of field dependence-independence began to emerge. Briefly, field dependent subjects tended to typify relatively less analytic ability in intellectual and problem-solving tasks; to be less active in dealing with the environment; to have less control over their own impulses; to have less self-esteem; and to have a less differentiated body image. On the other hand, subjects who typify the field independent approach were noted to be better able to solve tasks demanding analytic abilities; to have more awareness and control over their own impulses; to be more active in relation to the environment; to have greater self-esteem; and a more highly differentiated body image. Subsequently, Witkin et al. note that "These patterns suggest

⁵⁰ H.A. Witkin, H.B. Lewis, M. Jertzman, K. Machover, P. Messner and S. Wapner, Personality Through Perception, New York, Harper, 1954, p. 491-492.

consistency in psychological functioning which pervades the individual's perceptual, intellectual, emotional, motivational, defensive, and social operations.⁵⁹

From extensive cross-sectional and longitudinal studies, Witkin and his colleagues have noted parallel developmental differences in both perceptual performances and the related personality characteristics. From this standpoint then, and congruent with Werner's⁶⁰ orthogenetic principle of differentiation from global to articulated, Witkin⁶¹ postulates that the field dependence-independence continuum provides an index of the extent of overall psychological differentiation of the individual. In a subsequent review of his work, Witkin stresses that:

Progress from global to articulated, which comes about with growth, occurs not only in perception, [...] but in thinking as well. Articulated experience is a sign of developed differentiation in the cognitive sphere. Development of experience of self also shows a progression from global to articulated; and here again greater articulation signifies greater differentiation.⁶²

59 Witkin et al., Psychological Differentiation, p. 4.

60 H. Werner, Comparative Psychology of Mental Development, New York, Science Editions, 1948, xii-564 p.

61 Witkin et al., Psychological Differentiation, p. 5.

62 J.A. Witkin, 'A Cognitive Style Approach to Cross-Cultural Research,' International Journal of Psychology, Vol. 2, No. 4, 1967, p. 234-235.

Within continues:

The fact that the various indicators of developed differentiation tend to 'go together' in the same person suggests that they are not discreet achievements of separate channels of growth but rather diverse expressions of an underlying process of development toward greater psychological complexity.⁶³

By differentiation then, within refers to the degree of complexity of a personality system's structure and continues that a high degree of differentiation implies a more clear separation of what is identified as belonging to self and what is identified as belonging to the environment. This "segregation of self" helps permit greater determination of behavior from within, as opposed to a more or less enforced reliance on external nurturance, typical of the relatively undifferentiated state. More autonomous functioning these authors contend,⁶⁴ is made possible through the intermediary constructs of more developed internal frames of self-reference, and a more highly developed sense of separate identity. The broad concept of psychological differentiation then, has reference to a polarity of global versus articulated functioning which cuts across traditional psychological areas and provides a basis for conceptualizing self-consistencies in personality structure.

⁶³ Ibid., p. 235.

⁶⁴ Within et al., Psychological Differentiation, p. 134.

In retrospect then, within the framework of their system, Witkin and his associates have operationally defined extent of psychological differentiation in terms of how an individual performs on certain tasks; several of which tap how well a person can separate an item from the surrounding field. In the visual sphere then, a more differentiated individual is typified by an analytical or articulated cognitive style, or field independent mode of perceiving both himself and his environment, while a less differentiated individual is one who is typified by a more diffuse or global cognitive style, or field dependent mode of perception. Differentiation thus serves as a construct for conceptualizing communality of behavior in several areas of psychological functioning. In the differentiation hypothesis, Witkin holds that at any point in time, there is a certain consistency of structure such that with greater articulation of experience of the world, there is associated greater articulation of experience of the self, and this latter in terms of more highly developed internal frames of self-reference and a more highly developed sense of separate identity, among other things.

Criticisms of within's work have been voiced in that certain authors^{65,66} are concerned with a possible "biasing effect" in Within's methodology. These authors suggest that the perception-personality relationships could have been influenced by the experimenter's prior knowledge concerning the subject's perceptual performance. Gardner,⁶⁷ on the other hand, feels that Within's term differentiation seems to imply more generality than is warranted, as he notes that several studies have indicated that certain problem-solving and verbal skills, which clearly require a great degree of differentiation, were not found to relate to Within's measures of differentiation. Zeigler,⁶⁸ too, notes concern as he reports that many of the empirical relationships found between Within's perceptual measures and certain other tests could be due the common relationship between all the scores and "general intelligence," as defined by standard intelligence tests. To this last contention, however, Within replies that:

65 W.M. Holtzman, "Review of H.A. within, H.B. Lewis, M. Hertzman, K. Machover, P. Meisner and S. Warner, Personality Through Perception," American Journal of Psychology, Vol. 68, No. 3, 1955, p. 501-504.

66 A. Gruen, "A Criticism and Re-evaluation of within's Perception and Perception-Personality Work," Journal of General Psychology, Vol. 56, No. 1, 1957, p. 73-93.

67 R.W. Gardner, "Book Reviews," American Journal of Psychology, Vol. 76, No. 2, 1963, p. 190.

68 L. Zeigler, "A Measure in Search of a Theory," Contemporary Psychology, Vol. 8, No. 4, September 1963, p. 134.

The significant relation frequently reported between measures of field dependence and total intelligence test scores is 'carried' largely by those portions of intelligence tests which require analytical functioning.⁶⁹

Most recently, Yamada⁷⁰ has investigated the 'common denominator' relationship between tests of intelligence and measures of field approach and has found support, although not unanimous, for it. Despite the possible earlier methodological weaknesses and possible premature over-extension of the breadth of the psychological differentiation construct, its value as a heuristic model is paid tribute by the sheer abundance of data it articulates and synthesizes. Indeed, it is felt Yamada⁷¹ makes a pertinent observation when he notes that strong critique is a reflection of viable theory building. In this study then, the dimension of field dependence-independence is assumed to provide an index of the extent of psychological differentiation.

In the next section, the possible relationships between both attitude shift toward congruity and need for social approval, and extent of psychological differentiation will be presented in question form and the null hypotheses stated.

⁶⁹ Witkin et al., Psychological Differentiation, p. 80.

⁷⁰ K. Yamada, Extent of Psychological Differentiation as Related to Intelligence, unpublished doctoral thesis presented to the Faculty of Psychology of the University of Ottawa, Ontario, 1968, viii-120 p.

⁷¹ Ibid., p. 17.

4. The Problem and Theoretical Hypotheses.

Before proceeding with the statement of the problem, it is felt it may be helpful to reiterate some of the convergences between the various areas of research.

Firstly, it has been noted that the use of external standards in the formation and maintenance of judgments appears an underlying characteristic of individuals who manifest: a) comparatively greater attitude change in certain situations; b) relatively higher need for social approval; and c) a relatively lesser extent of psychological differentiation. Again, it has been noted that greater suggestibility and conforming behavior appears as a characteristic in all three areas. In addition, it would appear an "other-directed" as opposed to "inner-directed" orientation appears common to persons who manifest greater attitude shift, high need for social approval, and a relatively global extent of differentiation. From convergences such as these it is suggested that: a) individuals who manifest greater attitude shift are functioning with a lesser degree of psychological differentiation than are those who manifest lesser attitude shift; and b) individuals who manifest high need for social approval are functioning with a lesser degree of psychological differentiation than are those who manifest low need for social approval.

Focusing on the overall problem then, this study seeks to investigate the following questions. Firstly, is the magnitude of attitude shift toward congruity inversely related to the extent of psychological differentiation of the individuals decoding the communications message? More specifically, are those individuals who manifest greater attitude shift toward congruity, concomitantly less differentiated or of more global field approach than those who manifest lesser attitude shift toward congruence? Secondly, is the degree of need for the approval of significant others also inversely related to the extent of psychological differentiation of the individual? Once again, more specifically, are those individuals who manifest high need for social approval, concomitantly of less differentiated or more global field approach than those who manifest low need for social approval? And lastly, do the attitudinal and motivational variables combine in such a way as to produce an effect unattributable to either acting in isolation?

It is suggested that when a group of individuals is divided into four sub-groups: 1) high attitude shift-high need for social approval; 2) high attitude shift-low need for social approval; 3) low attitude shift-high need for social approval; and 4) low attitude shift-low need for social approval; a rank order will occur in terms of field dependence performance. That is, the sub-group manifesting

higher scores in measures both of attitude shift and approval need would be most field dependent, typifying a global, lesser extent of differentiation. On the other hand, the sub-group manifesting low scores on both attitude shift and approval need measures would be most field independent, typifying an articulated, higher degree of differentiation. It is anticipated further that the sub-groups manifesting high scores on attitude shift and low scores on approval need and vice versa, will fall within the range between the prior mentioned groups as in these cases the effects anticipated from the attitude shift-differentiation relationship appear in contradiction to the effects anticipated from the evaluative dependence-differentiation relationship.

To investigate these questions the following experimental null hypotheses are put forth:

1. There is no statistically significant difference between persons classified as manifesting greater concept-shift of attitude toward congruity and those classified as manifesting lesser concept-shift of attitude in extent of psychological differentiation as measured by portable Rod-and-Frame Test performances.
2. There is no statistically significant difference between persons classified as manifesting high need for social approval and those classified as manifesting low need for social approval in extent of psychological differentiation as measured by portable Rod-and-Frame Test performances.

3. There is no statistically significant interaction effect between the attitudinal (greater versus lesser concept-shift of attitude) and motivational (high versus low need for social approval) variables in extent of psychological differentiation as measured by portable Red-and-Frame Test performances.

In order to test these hypotheses, the following experimental design was established.

CHAPTER II

EXPERIMENTAL DESIGN

The design of this project is presented in this chapter in five sections. In the first, the variables under investigation will be defined relative to their measurement process and an example of a typical assertion shall be cited. Following these operational definitions, the tools used in the study are described and the criteria for their selection are given along with some tangible support for their validity and reliability. The subjects who participated in the study are described in section three and in section four the experimental procedures are outlined. This chapter is then concluded with a brief description of the statistical procedures used in the analysis of the results.

1. Operational Definitions.

As Osgood¹ has suggested that magnitudes of predicted attitude shift are largest when sources are perceived as highly polarized and concepts relatively neutral, this condition was sought in the present experiment. Accordingly, a source is said to be the object of a highly polarized attitude if its semantic differential score lies between 12 and 14.

¹ C. I. Osgood, personal communication, 1965.

or -12 and -18. A score within these ranges requires the use of at least four out of six extreme scale positions which the rater is instructed to use if he feels the item to be 'extremely' related to the appropriate end of the scale.

On the other hand, a concept is said to be the object of a relatively neutral attitude if its semantic differential score lies between plus 6 and minus 6. A score at the extremes of this range is obtained by the subject's use of the scale positions adjacent to the neutral position for all ratings. These scale positions are to be used when the rater feels the item to be 'slightly' related to either end of the scale. In this connection it was observed by this writer that raters were consistent in the use of the scales to the extent that no score was found in this range that was due to the algebraic sum of fairly intense ratings of different polarity.

A source is defined as the subject of an assertive sentence in which it characteristically takes an evaluative position about a particular item which is called a concept. Thus, in the assertion "John F. Kennedy favors investigations by congressional committees," John F. Kennedy is the source, favors is the assertive copula, and investigations by congressional committees is the concept.

Looking now at concept-shift of attitude toward congruity, an individual shall be classified as manifesting greater attitude shift if the difference between his semantic differential rating of a concept in isolation and in combination with a polarized source is greater than 3 scale units. On the other hand, an individual was classified as manifesting lesser attitude shift toward congruity if the difference between his semantic differential rating of a concept in isolation and in combination with a polarized source is less than 3 scale units. In the absence of a recognized cut-off score for the attitudinal variable, 3 scale units was chosen as it constituted the median attitude change score for the subject-pool, thereby permitting equal numbers in each sub-group. Paralleling this line of reasoning, an individual was classified as manifesting high need for social approval if his score on the Marlowe-Crowne Need for Social Approval Scale exceeded 15.1, while individuals scoring below this point were classified as manifesting low need for social approval. Here again, 15.1 constituted the median score for the subject pool, thereby affording equal numbers of subjects above and below it. In the following section, the instruments used in the quantification of the variables shall be discussed.

2. The Tools.

Attention will be directed to the tools employed in the study of attitude shift toward congruity, need for social approval, and extent of psychological differentiation. To this end, a) a selection questionnaire, b) the semantic differential, c) the Marlowe-Crowne Need for Social Approval Scale, d) the portable Rod-and-Frame Test, and e) the Cris S.A. Higher Form A were used.

a) The Selection questionnaire.- Since this study concerns itself with concept-shift of attitude when sources are highly polarized and concepts relatively neutral, it was necessary to obtain and employ sources and concepts which met these conditions relative to the subject-pool involved. To this end, a selection questionnaire was constructed whose purpose was to obtain an overall index of the attitude a subject held with respect to a large number of potential sources and concepts.

A graphic type rating scale was constructed in accordance with the practice recommended by Guilford.² A single continuous bi-polar horizontal scale was designed with the five cues: Favor, Slightly Favor, Neutral, Slightly Disapprove, and Disapprove, placed beneath. The subjects

² J.F. Guilford, Psychometric Methods, New York, McGraw-Hill, 1954, p. 267.

were asked in the instructions to indicate their response by placing a checkmark on that part of the scale which corresponded with the way they felt generally towards the presented item.

This bi-polar scale was scored using nine categories which were not of equal width. In this manner, finer discriminations in the more polarized regions of the scale were afforded. The six-inch line was sub-divided into a half-inch category at each extremity while the region between these was broken down into seven equal divisions of $7/10$ ths of an inch each. The numerical value assigned to each category increased by one going from right to left so that the extreme right-hand category had a value of minus 4 and the extreme left-hand category had a scale value of plus 4.

The following considerations were taken into account in the choice of sources and concepts from the field of political personages and daily events. It was necessary for the subject-pool to have rather polarized attitudes towards the sources for the latter to be effective when combined with relatively neutral concepts. Earlier research¹ has supported this paradigm as conducive to attitude change when the sources and concepts were drawn from the area of prominent

3 M. McCarrey and Gilles P. Chagnon, "Intensity of Assertion and the Congruity Principle," Journal of Social Psychology, Vol. 76, No. 1, 1968, p. 69-74.

figures and daily events in the instance where the subjects comprised a fairly well educated and mature group.

Accordingly, the following method was used to choose sources and concepts which would be included in the selection questionnaire. Firstly, a previously employed⁴ list of twenty-three potential sources and twenty-nine potential concepts culled from the Britannica Book of the Year 1964⁵ and the Britannica Book of the Year 1965⁶ was edited to remove fifteen potential sources and potential concepts. These items least fulfilled the criterion that sources be relatively polarized and concepts neutral with respect to the subjects in the earlier study. In their place were added eight potential sources and eight potential concepts chosen from the events of the year 1967 as reported by the Britannica Book of the Year 1967⁷ and Facts on File 1967.⁸

The concomitant criterion for inclusion on the selection questionnaire was the judged credible possible combination of each potential concept with at least two potential

⁴ Ibid., p. 69-74.

⁵ Britannica Book of the Year 1964, Chicago, Encyclopedia Britannica Inc., 1964, 1-895 p.

⁶ Ibid., 1965, 1-896 p.

⁷ Ibid., 1967, 1-832 p.

⁸ Facts on File 1967, Vol. 1, New York, Facts on File Inc., 1967, 1-503 p.

concepts. These judgments were made by the experimenter in each case.

The order of presentation of the potential sources and concepts is illustrated by the sample booklet in Appendix 2 and was the same for all booklets. To gauge an index of the consistency with which subjects responded on the selection questionnaire, four items randomly chosen were repeated in each booklet. The repeated items were constant for all booklets.

That such a selection questionnaire constitutes a valid and reliable measuring instrument has received little investigation due to its restricted use. Nevertheless, a selection questionnaire of this nature was employed by the undersigned⁹ and a group of ninety-eight subjects of mean age thirty-four years showed average deviations per scale judgment of 0.60 scale units over an interval of three days. Using the evaluative form of the semantic differential as a criterion, adequate predictive validity of the selection questionnaire appears reflected by a product moment correlation between scores on these two measures of $r = 0.75$ for a group of fifty-five males in the earlier cited study.

b) The Semantic Differential.- This instrument constituted the means for the measurement of concept-shift

⁹ McFarrey and Chagnon, op. cit., p. 67-74.

of attitude in this study. Therefore, because of its importance to the project, consideration will now be given to the reason for its use, to some indications of validity and reliability, and to the reasons governing the choice of the bi-polar adjectival scales.

As the tool developed specifically for the measurement of meaning and with attitude operationally defined as the projection of the meaning of an item onto the evaluative dimension of semantic space, the semantic differential would appear a highly relevant and useful tool. Furthermore, since the congruity model itself was borne out of experimental work on the semantic differential, it was felt this study, using the same model, should utilize the same instrument. In this way, the project could maintain a certain consistency with other research on both the measurement process and the congruity theory itself. To be effective an instrument is required to be more than relevant, however; validity and reliability are essential for the interpretation of results and so starting with validity, these two properties of the semantic differential shall now be examined and some tangible evidence presented.

A number of authors^{10,11,12} have reported satisfactory evidence of the validity of the semantic differential and Moss,¹³ in his review of studies bearing on semantic differential research, notes the trend of consistency with which it quantifies meaning in a very useful manner. However, the matter of quantification introduces a necessary characteristic of an instrument such as the semantic differential; namely, the validity of its scaling assumptions, and so attention will now be directed towards these.

To investigate the scaling assumptions that 1) there are equal intervals within each bi-polar scale, and that 2) there are equal intervals between the scales, Messick¹⁴ had one hundred college undergraduates judge twenty concepts

10 Charles E. Osgood, George J. Suci and Percy H. Tannenbaum, The Measurement of Meaning, Urbana, University of Illinois Press, 1957, p. 193.

11 Jane A. Kelly and Leon B. Levy, "The Discriminability of Concepts Differentiated by Means of the Semantic Differential," Educational and Psychological Measurement, Vol. 21, No. 1, Spring 1961, p. 53-58.

12 Austin E. Grigg, "A Validity Study of the Semantic Differential Technique," Journal of Clinical Psychology, Vol. 15, No. 2, April 1959, p. 179-181.

13 D. Scott Moss, "Current and Projected Status of Semantic Differential Research," The Psychological Record, Vol. 10, No. 1, January 1960, p. 47-54.

14 Samuel J. Messick, "Metric Properties of the Semantic Differential," Journal of Educational and Psychological Measurement, Vol. 17, No. 2, 1957, p. 206-206.

over nine most frequently used semantic differential scales. Employing the method of successive intervals the author notes that although there is an apparent inequality of units within any one of the scales the interval sizes tend to be consistent between scales. That is to say, the same categories tend to be either too large or too small in similar amounts over all scales. Also it was noted that the origin falls in approximately the same place on all scales. Messick concludes that little distortion would be introduced by using successive integers as category mid-points for these scales and notes "it seems reasonable to conclude that the scaling properties implied by the semantic differential have some basis other than mere assumption."¹⁵

These findings find further support from the study by Cliff¹⁶ who had 216 university undergraduates rate all combinations of nine adverbs and fifteen adjectives along a self-constructed scale running from most unfavorable to most favorable. The experimenter reports that adverbs such as "slightly," "quite" and "extremely" combine multiplicatively with adjectives such as "good," "pleasant" and "ordinary" in determining scaling locations for judgments along the

¹⁵ *Ibid.*, p. 206.

¹⁶ Norman Cliff, "Adverbs as Multipliers," *Psychological Review*, Vol. 66, No. 1, January 1959, p. 27-43.

eleven-step scale. Scale values of the combinations were found using the method of successive intervals. In his conclusions Cliff points out, 'in a very real sense 'extremely good' may be said to be about one-and-a-half times as good as 'good'.¹⁷ The author interprets his results as supporting the hypothesis that the common adverbs of degree (as used on the semantic differential) multiply the intensity of the adjectives they modify.

In addition to showing evidence of its validity it is further necessary for an effective measuring instrument to manifest stability over time and so the reliability of the semantic differential shall be next considered.

In discussing some of the older test-retest research, Osgood et al.¹⁸ report a study in which 135 college undergraduates judged six concepts over six evaluative scales on two occasions separated by five weeks. Test-retest coefficients ranged from 0.87 to 0.93.

However, because the correlation coefficient does not take into account the absolute differences between the means of the two tests the authors¹⁹ point to its inadequacy as an index of stability over time for the type of data given by

17 Ibid., p. 42.

18 Osgood et al., Op. Cit., p. 192.

19 Ibid., p. 127.

the semantic differential. Accordingly, the authors estimate reliability by determining the absolute scale deviations between test and retest. These deviations are ranked in absolute size from smallest to largest and the frequency of each deviation of a given size is recorded in terms of the percentage of the total sample it represents. The proportion of the time a deviation greater than or equal to each size deviation can be expected is computed and functions in the role as a confidence level.

In reviewing the considerable reliability data on the semantic differential, Osgood et al.²⁰ note that absolute scale deviations between test and retest of more than 1.50 and 2.00 scale units are significant at the 0.05 level while for groups a shift of one-half a scale unit is significant at the same level.

Further tangible support for the reliability of the semantic differential is afforded by the study by Norman²¹ who specifically set out to investigate its stability over groups and time. Defining a unit discrepancy as a change in a given rating of one scale unit, he mentioned one can compute the maximum number possible in a second administration. The

²⁰ Ibid., p. 320.

²¹ Warren T. Norman, "Stability Characteristics of the Semantic Differential," American Journal of Psychology, Vol. 72, No. 4, 1959, p. 581-584.

number of unit discrepancies actually appearing in a second administration may then be expressed as a percentage of the maximum (hereafter referred to as the ΔMU).

Using fifteen males and fifteen females chosen at random from 540 and twenty concepts chosen at random from 360 in an atlas set, he employed twenty scales given a total N of 12,000. The author reports the ΔMU to be 23 for the two administrations which were separated by four weeks. In this case, approximately 40% of the ratings remained the same, 35% changed by one scale unit, while 25% changed by two or more scale units. The average shift was 1.0% scale positions. In conclusion, Norman adds:

It would appear that a rather high degree of time and sampling stability exists for the Semantic Differential for groups of subjects chosen from an undergraduate population.²²

The undersigned²³ have noted that this stability may extend to subjects from a graduate school population as average deviations per scale reading ranging from five-tenths to six-tenths of a scale unit have been found for fourteen randomly chosen subjects of mean age 32 years judging fourteen items on 6 evaluative scales over an interval ranging from twenty minutes to 3 days.

²² Ibid., p. 584.

²³ McCarry and Chagnon, Op. Cit., p. 71.

That the semantic differential would seem to provide a valid and reliable index to the location of the attitude object along a general evaluative continuum is offered support by the studies mentioned. It would appear to correlate fairly well with the standard tools of this field and be relatively stable over time. The work on the validity of the scaling assumptions would indicate that although exact equality of intervals within a scale would not seem achieved, the observed deviations tend to be consistent over scales and thus there is some support for summation over scales. For these reasons the semantic differential was deemed to have sufficient precision as a measuring instrument for this study. The basis on which the scales were chosen shall now be considered.

As attitude has been operationally defined as the projection of the meaning of a concept onto the evaluative dimension of semantic space, high loading on the evaluative factor with minimal loading on the remaining factors was the primary criterion. Also to be considered, however, was the judged relevance of the scales to the set of sources and concepts employed. The scales best meeting these criteria are presented in Appendix 1, which shows the rotated loadings on the other main factors as well. It may be noted that four filler scales were employed in addition to the six experimental scales. Two of these fillers are highly loaded on the activity factor while the two others are highly loaded on

the potency factor. These filler scales were added to the others to avoid an excess of repetition in the judgments placed by the subjects and were not used in the calculations.

All scales took the familiar form of being defined by one of a pair of bi-polar terms at each end of a seven-step continuum. The order of the scales was the same for all items to be judged, such that the six evaluative scales were separated by the filler scales, except for the last two scales which were both evaluative. In order to avoid the establishment of a set to check continually at one end of the scales, the direction of the polar terms was reversed for consecutive evaluative scales.

These scales were presented in printed form. That is to say, the basic format was photo-copied and reproduced by offset lithography while the sources and concepts in isolation and in combination were added later by letterpress. The particular item to be rated was presented in 14-point Eusebius upper case typeface at the top of each page, and the scales were presented beneath it. There was a page for each item or combination and the form for all items and combinations was the same. Copies of the various booklets made up of these forms are presented in Appendix 3.

c) The Marlowe-Crowne Need for Social Approval Scale.- This scale of Crowne and Marlowe was selected as the measure of behavior reflecting a need for approval of

other people as it appears the most relevant and closely connected instrument with respect to the need for social approval construct. Consequently, it is felt its use would most effectively ensure that the tool employed actually 'id relate to behavior most directly illustrative of the particular theoretical variable because it was constructed by the authors specifically for that purpose. It may be seen in Appendix 4.

In terms of the construction of the scale, a number of current personality inventories were consulted with the result that Crowne and Marlowe plus ten judges assembled a scale of fifty items which met the criteria of representing culturally approved modes of behavior, were untrue of nearly all people, and had minimal contamination by virtue of being symptomatic of anxiety and/or psychopathology. This scale was then edited to thirty-three items using an item analysis procedure with seventy-six college undergraduate students as subjects. These items were found to discriminate at the 0.05 level or better between high and low total scores.

The authors²⁴ reported a number of studies which cast light on the construct validity of their instrument through investigation of its behavioral correlates. Many of these

²⁴ David P. Crowne and D. Marlowe, The Approval Motive: Studies in Evaluative Dependence, New York, Wiley, 1964, p. 39-165.

have been previously mentioned on pages 19 and 20 of this study and will not be repeated at this time.

In retrospect, individuals who display a social desirability set on the Marlowe-Crowne scale appear more conforming, cautious and persuasible, and their behavior tends to be more normatively anchored, than persons who depict themselves less enthusiastically on the scale. From these studies there appear indications that one may infer variations of motivational structure centering around dependence on the favorable evaluations of others from an individual's characteristic approach to the Marlowe-Crowne scale.

Despite the number of studies which have employed the Marlowe-Crowne scale it is difficult to find concrete reference to the reliability of the scale as a psychometric tool. The authors²⁵ themselves report test-retest and internal consistency coefficients of reliability of $r = 0.88$ for fifty-seven undergraduate students over a four-week interval. For a shorter one-week interval, Fisher²⁶ reports a reliability estimate of $r = 0.84$ for ninety male and fifty-seven female undergraduate students. To provide more

25 Ibid., p. 24.

26 G. Fisher, "Normative and Reliability Data for the Standard and Cross-Validated Marlowe-Crowne Need for Social Approval Scale," Psychological Reports, Vol. 20, No. 1, 1967, p. 174.

information concerning this aspect of the consistency over time of the Marlowe-Crowne scale, especially with respect to a graduate school population, a pilot project was carried out and a test-retest estimate of reliability of $r = 0.75$ was determined for thirty-three males over a three-week interval.

For the purposes of the present study it would appear the Marlowe-Crowne Need for Social Approval Scale has sufficient validity and reliability as reflected by the cited empirical findings.

d) The Portable Rod-and-Frame Test.-- The pioneer and standard measure of mode of field approach has been the standard Rod-and-Frame Test. However, use of that instrument is made difficult by the requirement that a totally darkened room be employed. In order to overcome this problem, very recently P.K. Oltman²⁷ has developed a portable Rod-and-Frame Test which is of table-top size, does not require a darkroom, and at the same time purports to be a valid measure of the field dependence-independence dimension.

The apparatus consists of a headrest placed at the end of a rectangular enclosure which functions as the frame and which can be tilted to 28° to the left or right. The

²⁷ Philip K. Oltman, "A Portable Rod-and-Frame Apparatus," Perceptual and Motor Skills, Vol. 28, No. 2, 1968, p. 503-506.

walls of the enclosure are of translucent plastic, and a tilting rod is visible at the end of the enclosure opposite to the headrest. The subject's view is restricted to the interior of the enclosure by means of a curved plastic shield attached to the headrest. Between trials, a black curtain is placed between the subject and the inside of the enclosure.

The sides of the enclosure were of 12 x 24 x 1/8 inch white acrylic plastic sheets, with matte finish on one side, and were assembled with aluminum corner mouldings so that the dull surfaces of the sheets are on the inside of the enclosure. The inside of the end of the enclosure was made into a frame by the affixing of black plastic strips so that they extend 1/8th inch beyond each edge. The whole enclosure rests on rollers so that it can be tilted to either the left or the right. The headrest consists of an aluminum casting and is mounted on the 24 x 36 inch base facing the open end of the enclosure. The curtain was constructed of black velveteen attached to a curved wire loop which pivots on the headrest so as to pass from under the shield to a point about the subject's field of vision when an attached handle is turned. Weights were sewn into the bottom edge of the curtain so that it hung down well when it was raised and so that it tucked away entirely when it was in the lowered position.

The rod is visible at the opposite end of the enclosure and consists of a strip of black plastic, $3/4 \times 11$ inches, glued to a 22-inch diameter disk of $3/4$ inch plywood which has a white matte inner surface and which rotates about the same axis as the enclosure. On the back of the disc, a protractor is fixed so that deviations from the vertical can be read. The apparatus was constructed so that no marks, screw-heads, or other irregularities appear on the inside of the enclosure or on the black rod and frame which might allow subjects to make their responses artificially consistent.

In view of some quality control problems with some of the portable units, P.K. Oltman has developed an inspection procedure to check that the apparatus is in good working order thus promoting the validity of the data gathered. This procedure was followed and it may be found in Appendix 5.

The portable Rod-and-Frame Test evaluates an individual's perception of the vertical with respect to a rod within the field of a tilted square frame. With the frame tilted the examiner moves the rod until the subject judges it to be vertical with respect to the walls of the room in which he was sitting. For successful performance on this test, the subject must "pull out" the rod from the context of the tilting frame by referring to his own inner body cues and sensations. Witkin and his colleagues²⁸ report

²⁸ H.A. Witkin, R.B. Dyk, H.F. Fatterson, L.H. Goodenough, and S.A. Karp, Psychological Differentiation, New York, Wiley, 1962, p. 35-37.

that large deviations of the rod from the true vertical when the rod is judged as vertical indicate a relatively global degree of differentiation, or mode of experiencing the environment (frame); whereas, a negligible discrepancy between true vertical and judgment of verticality indicates an analytical, more developed degree of differentiation, or mode of experiencing the environment (rod experienced as discrete from the frame).

The administration of the portable Rod-and-Frame Test consisted of presenting the subject, who sat on a straight wooden chair with no armrests and with his hands clasped in his lap, with the black rod and frame in tilted positions. The task for the subject was to get the rod in the judged vertical position on each of eight trials. An individual's score was the mean of the summed degrees of deviation from the vertical over all trials. The administration procedure, including instructions to the examinee, which was standardized by Oltman was followed in this study and may be found in Appendix 5.

There was, however, one deviation from the standard administration procedure in this study. The complete apparatus was tilted seven degrees to the left as the subject faces it. This innovation was made in an attempt to increase the variance of the scores on the apparatus for it was suspected that scores obtained on a fairly sophisticated group

such as that employed in the study would tend to bunch together somewhat in the relatively field independent range. Evidence for such an expectation is furnished by the studies of Yamada²⁹ and Rosenfeld³⁰ where the standard apparatus was used.

That the standard Box-and-Frame Test displays considerable stability over time has been repeatedly demonstrated by high split-half coefficients^{31,32,33} and test-retest³⁴ estimates of reliability. That such is also true for the portable apparatus has received little empirical support due to the recency with which it has been available for use. However, some early signs appear encouraging. Altman³⁵

29 Kerry Yamada, Extent of Psychological Differentiation as Related to Intelligence, unpublished doctoral thesis presented to the Faculty of Psychology of the University of Ottawa, Ontario, 1963, viii-160 p.

30 John A. Rosenfeld, Some Perceptual and Cognitive Correlates of the High Need for Social Approval Personality, unpublished doctoral thesis presented to the Faculty of Graduate Studies of Ohio State University, Columbus, 1963, vii-147 p.

31 Witkin et al., Op. Cit., p. 40.

32 Yamada, Op. Cit., p. 65.

33 D. Hellkamp, Extent of Psychological Differentiation Among Male Hospitalized Schizophrenics Classified Along the Process-Reaction and Delusional-Hallucinatory Dimensions, unpublished doctoral thesis presented to the Faculty of Psychology of the University of Ottawa, Ontario, 1967, p. 67.

34 Witkin, et al., Op. Cit., p. 40.

35 Altman, Op. Cit., p. 505.

reports a Spearman-Brown split-half reliability estimate of $r = 0.96$ for eighty male and eighty-three female college undergraduate students. In a pilot project for the present research, a corrected split-half coefficient of $r = 0.89$ was determined for seventy-one male graduate students of mean age thirty-three years. In addition, preliminary pre-testing has indicated non-significant effects due learning and fatigue over ninety-six trials for three male subjects.

Evidence supporting the validity of the standard Red-and-Frame Test as an appropriate measure of extent of psychological differentiation is afforded by the data which have found it to correlate significantly with other indices of differentiation, such as articulation of the body concept, sense of separate identity, and specialization of defenses.³⁶ Karp,³⁷ in a factor analytic study of eighteen perceptual tests using 150 college undergraduates, noted the Red-and-Frame Test to load 0.78 on factor one which had been defined as analytic ability or the ability to overcome embeddedness. That the portable Red-and-Frame Test likewise constitutes a valid measure of extent of psychological differentiation is

36 H.A. Within, "Psychological Differentiation and Forms of Pathology," Journal of Abnormal Psychology, Vol. 70, No. 4, 1965, p. 319-324.

37 S.A. Karp, "Field Dependence and Overcoming Embeddedness," Journal of Consulting Psychology, Vol. 27, No. 4, 1963, p. 294.

given some empirical support in that Oltman³⁸ reports inter-correlations of 0.90 and 0.89 for eighty male and eighty-three female college undergraduate students between the portable and standard measures.

In summary, it is suggested the portable Mag-and-Frame Test will continue to demonstrate adequate validity and reliability for research purposes and that the reason for the limited evidence at present is due to the recency with which it has been available to other researchers.

e) The Otis, Higher Form A.-- The inclusion of a standard measure of intelligence in the present study was prompted by the previously mentioned (pages 31 and 32) controversy concerning the relationship of general intelligence to mode of field approach. The Otis was selected because of its rather widespread use as well as its comparative ease of administration and scoring. The standard thirty-minute time limit was employed in this study.

That the Otis manifests sufficient reliability for research purposes has been consistently demonstrated by the high coefficients of test-retest reliability ranging from 0.90 to 0.97³⁹ and most recently 0.89.⁴⁰ In addition,

38 Oltman, Op. Cit., p. 505.

39 D.E. Super and John O. Crites, Appraising Vocational Fitness, New York, Harper and Row, 1962, p. 104.

40 Yamada, Op. Cit., p. 50.

adequate validity is reflected by correlations of .55 and .59⁴¹ when the criterion of school achievement was used, and of .50 to .55 when the Stanford-Binet was used as criterion. The STL, therefore, was deemed to manifest sufficient validity and reliability for the purposes of this experiment.

In the next section attention will be given to the individuals who participated as subjects in the research project.

3. The Subjects.

Sex differences in extent of psychological differentiation constitute one of the most consistent trends in the literature,⁴² in that females tend to be significantly more field dependent as compared to males in a variety of groups of differing educational and socio-economic backgrounds.^{43,44} For this reason, the subject-pool for this experiment consisted of males only. Another possible contaminating subject

⁴¹ Super and Crites, Op. Cit., p. 104-105.

⁴² Witkin et al., Op. Cit., p. 214.

⁴³ H.A. Witkin, "Psychological Differentiation and Forms of Pathology," Journal of Abnormal and Social Psychology, Vol. 70, No. 5, 1965, p. 319.

⁴⁴ S.A. Karp, L.S. Foster and A. Goodman, "Differentiation in Alcoholic Women," Journal of Personality, Vol. 31, No. 5, 1963, p. 386-393.

variable concerns the effects of known brain dysfunction⁴⁵ and so subjects with reported head injury or serious infection were not included in the experiment.

With these considerations in mind, a total of 170 male subjects participated in this project, all of whom were following courses in education or psychology at the University of Ottawa in 1968. Ninety per cent were noted to be either practicing teachers or administrative personnel, while the remaining ten per cent were college undergraduate students. As the testing program involved four group and one individual testing sessions, and as participation was of a voluntary nature, attrition proved to be high so that eighty-four subjects were excluded as they missed at least one test administration. Of the remaining eighty-six, six more were excluded at random in order to achieve equal numbers of cell entries in the analysis of variance design when the operation definitions of high and low attitude shift and need for social approval were applied.

Table I presents the means, standard deviations and ranges for the total subject-pool and each sub-group for age and years of schooling. In summary, the average subject was

⁴⁵ A. Baily, F. Mustayer and A. Kristofferson, Alcoholism, Brain Damage, and Perceptual Dependence, Quarterly Journal for the Study of Alcoholism, Vol. 22, No. 4, 1961, p. 307-393.

Table I.-

Means, Standard Deviations and Ranges for the Total Subject-Pool and Each sub-Group for Age and education.

Group	N	Age			Education		
		Means	S.D.	Range	Means	S.D.	Range
Low Approval Need							
Low Attitude Shift	20	34.5	5.3	1-58	15.3	1.4	13-19
Low Approval Need							
High Attitude Shift	20	31.6	6.2	19-48	15.6	1.2	14-17
High Approval Need							
Low Attitude Shift	20	33.0	7.7	23-50	10.0	0.7	15-17
High Approval Need							
High Attitude Shift	20	29.5	6.8	19-45	15.7	1.6	13-19
Low Approval Need	40	33.0	8.3	19-58	15.4	1.2	13-19
High Approval Need	40	31.6	7.6	19-50	15.5	1.4	13-19
Low Attitude Shift	40	34.1	8.6	19-58	15.7	1.1	13-19
High Attitude Shift	40	30.5	6.7	19-48	15.4	1.4	13-19
Total Subject-Pool	80	32.3	8.0	19-50	15.0	1.3	13-19

a thirty-two year old male college graduate educator who had volunteered for this project.

The procedure through which this subject-pool participated in the project shall be discussed next.

4. The Procedure.

As the author was required to participate in the administration and scoring of all tests employed in this study, a precautionary measure to reduce a possible 'biasing effect' was carried out. That is, before the paper-and-pencil measures were corrected, they were assigned a code number while in the portable Red-and-Frame Test administration procedure, only names were used. The experimenter thus was unable to recall a subject's performance on a prior measure during the administration and scoring of a subsequent test.

To counteract possible order effects, the Marlowe-Crowne Need for Social Approval Scale and the portable Red-and-Frame Test were administered so that each appeared an equal number of times in each administration position. The selection questionnaire and both versions of the semantic differential were handled as a block attitude change procedure and this block of tests also appeared in each position, an equal number of times.

All tests, with the exception of the portable Rod-and-Frame Test were administered in group settings and on each occasion the examiner was assisted in the passing out of and collection of the test material. Subjects were told they were participating in an on-going research project whose primary purpose was that of gauging public opinion and personal reactions and the trying out of novel means to that end. The portable Rod-and-Frame Test was introduced in a subsequent session as a newly acquired perceptual apparatus on which it was then necessary to initiate a norm gathering procedure. The administration of the portable Rod-and-Frame Test followed the standardized procedure developed by Ultman, a copy of which is included in Appendix 5. The group tests were administered following the usual procedure outlined by the respective authors in which the instructions were read aloud while the examinees followed in their test booklets. Questions were dealt with at the appropriate times after which subjects began the testing proper.

The attitude change procedure will now be discussed in more detail as several decisions concerning test content were taken. Firstly, the selection questionnaire was completed by thirty-three subjects who comprised two groups randomly chosen from the total of five groups. A copy of this questionnaire may be found in Appendix 2. Eight days later, the entire subject-pool rated the selected sources and

concepts in isolation on the first form of the semantic differential. These experimental sources and concepts are presented in Table II along with their aggregate selection questionnaire scores for the thirty-three subjects. These selected pairs constituted the best approximation to the criterion that sources be judged as highly polarized while concepts be judged as relatively neutral. A copy of this first form of the semantic differential may be found in Appendix 3.

Three weeks later, the entire group was asked to rate the concepts in light of assertions involving the appropriate highly polarized sources on the same evaluative form of the semantic differential. To construct effective assertions, it was necessary to turn to prior research⁴⁶ to obtain a copula that would afford maximum concept-shift of attitude. From this earlier study "favors" was selected as the experimental assertive copula as it appears to constitute the optimum intensity of assertion for maximizing subsequent attitude shift. A sample copy of this second form of the semantic differential may be found in Appendix 3. The analysis of the data was carried out after all the testing was completed using the techniques outlined in the next section.

⁴⁶ McCarrey and Chagnon, Op. Cit., p. 67-74.

Table II.-

Aggregate Selection Questionnaire Scores for the Source-Concept
Pairs Chosen for Inclusion on the Semantic Differential.
(N = 33)

Sources	Concepts	Aggregate Scores	
John F. Kennedy	the International Civil Service	92	12
U Thant	Canadian relations with Andorra	86	18
Rev. Martin Luther King	the National Urban League	81	15
Madame Vanier	the Secular Affairs Institute	76	20
Pope John XXIII	the Bulgarian Baptist Convention	74	20
Prime Minister Trudeau	the Current Retail Sales Expansion	72	14
Premier Castro	Maritime Trusteeship	-39	20
Barry Goldwater	Soviet Bloc Diplomats	-46	-3
Stokely Carmichael	the International Labor Organization	-49	20

5. Analysis of Beta.

In order to score the selection questionnaires the categories in the nine-step scale were assigned scale values starting from minus 4 on the right, to plus 4 on the left, so that the neutral position earned a score of 0. These values were summed over the thirty-three subjects to find an aggregate score for each potential source and concept.

The neutral position on the semantic differential scales was assigned a scale value of 0 while values of plus 1, plus 2, and plus 3 were given to successive intervals on the positive side of neutral, and minus 1, minus 2, and minus 3 were assigned to successive intervals on the negative side. Each page of six evaluative scales yielded a summed score for the particular item judged which could range from plus 18 to minus 18.

As the semantic differential scores in this study constitute variance on the evaluative dimension preeminently, D scores were obtained by subtracting the score of a concept in isolation from the score it obtained when it was judged in the light of an assertion espoused by a highly polarized source. The resulting D scores were then classified as manifestations of high or low concept-shift towards congruity by employing the operational definitions on page 59. Similarly, the scores obtained from the Marlowe-Crowne

An estimate of the stability of the measuring instruments was made by calculating a product-moment coefficient of correlation between test-retest scores for the Marlowe-Crowne scale, the Otis, and the portable Red-and-Frame Test. The reliability of the selection questionnaire and the two forms of the semantic differential were estimated following the Percentage Maximum Unit Discrepancy (PMUD) technique of Norman which was outlined on pages 48 and 49 of this report. In addition, internal consistency estimates were obtained on the selection questionnaire, the two forms of the semantic differential, and the portable Red-and-Frame Test.

To test for significance of differences on mean portable Rod-and-Frame Test performances under the two conditions of attitude shift and approval need, a two-way (2 x 2) analysis of variance model, with fixed effects modeled after Miner's⁴⁷ design was utilized.

In the event a significant t ($p < .01$) ratio was found in the overall analysis of variance, the difference between pairs of means was judged significant at the 0.01 level if it exceeded the critical value given by the product

47 B.J. winer, Statistical Principles in Experimental Design, New York, McGraw-Hill, 1962, p. 220-241.

of studentized range statistic⁴⁸ and the standard error of a single mean. Homogeneity of variance was checked using the $F_{\max}$ statistic⁴⁹ and it was noted the assumption was not violated by the data.

To check on any systematic concomitant variation between attitude shift, approval motivation, and the variables of intelligence, age and schooling, separate two-way (2 x 2) analyses of variance⁵⁰ with fixed effects were carried out.

The results of these analyses are presented and discussed in the following chapter.

48. Ibid., p. 642-647.

49. Ibid., p. 639, 653.

50. Ibid., p. 203-206.

CHAPTER III

PRESENTATION AND DISCUSSION OF RESULTS

In the first section of this chapter the reliability estimate data for both the selection questionnaire and the two forms of the semantic differential is presented. Immediately followed by that pertaining to the remaining measures. Following these remarks, the results of the project are reported and, in the third section, these findings are discussed in the light of the null hypotheses. Limitations of the present study and some implications for future research are suggested, following which the summary and conclusions of the project are presented in the final section.

1. Reliability Data.

The reliability estimates for the selection questionnaire and the two forms of the semantic differential shall be presented in terms of the percentage maximum unit discrepancy (%MUD) technique developed by Norman,¹ and presented on pages 48 and 49 of this report. Two test-retest estimates were computed in an attempt to gauge the consistency with

1 S.T. Norman, "Stability Characteristics of the Semantic Differential," AMERICAN JOURNAL OF PSYCHOLOGY, Vol. 72, No. 4, 1959, p. 581-584.

which the tools were employed by the subjects of this experiment. The first estimate (retest I) was obtained when subjects judged the same items twice during one testing session. The second estimate (retest II) was obtained, on the other hand, when subjects judged the same items on two different occasions.

The reliability of the selection questionnaire was indexed by having ten randomly chosen subjects from the thirty-three complete the questionnaire twice over a four-day interval. From the N of 140 readings (10 subjects x 14 items) it can be seen from Table III that the probability a rating will shift by more than two scale units on the nine-step scales is at the three per cent level while the average deviation per scale reading was 0.30 scale units.

In addition, the consistency with which the selection questionnaire was employed was sampled by having all thirty-three subjects rate four randomly chosen items in the questionnaire twice. The retest items were the same for all subjects and were included towards the end of the series of items in the questionnaire. In this case, the Σ MUD of the 132 ratings (33 subjects x 4 items) was 7.3, and the probability that a given rating might fluctuate by two or more scale positions was at the four per cent level approximately.

To gauge an index of the retest II type for the first form of the semantic differential, nine subjects randomly

Table III.-

Estimates of Reliability for the Selection Questionnaire and the Two Forms of the Semantic Differential.

	Selection Questionnaire		Semantic Differential Form I		Semantic Differential Form II	
	Retest	Retest	Retest	Retest	Retest	Retest
	I	II	I	II	I	II
N (subjects)	33	16	30	9	80	9
n (items)	4	14	1	13	1	13
k (scales)	1	1	6	6	6	6
Readings (n x n x k)	132	140	240	572	240	572
% Max. Unit Discrepancy*	7.3	7.9	5.5	5.6	5.5	6.5
% of invariant readings	72.0	73.1	74.0	72.3	71.0	63.3
% of Readings which shifted by 1 scale unit	24.0	19.9	16.0	22.4	16.0	11.4
% of readings which shifted by 2 scale units	3.2	4.9	4.5	5.1	2.6	4.7
% of Readings which shifted by more than 2 scale units	0.6	3.0	2.6	0.7	0.4	0.6
Average deviation per scale reading	0.37	0.36	0.37	0.35	0.35	0.27

* $\% \text{MUD} = \frac{\text{Arithmetic Sum of Actual Scale Shifts}}{\text{Arithmetic Sum of Total Possible Scale Shifts}} \times 100$

chosen from the overall group completed this booklet twice over a one-day interval. Here the $\%MUD$ was 3.0 for the N of 972 ratings (9 subjects x 10 items x 6 scales), while the probability that a given rating might vary by more than two scale units was less than the one per cent level. The average deviation per scale unit was slightly more than one third of a scale unit giving the ratings considerable stability over the admittedly brief time interval.

An estimate of the retest I type was obtained by including one of the experimental items twice in every booklet. The reliability item was varied for each booklet so that approximately four consistency formats of six scales each were fashioned for each experimental item judged. As is illustrated in Table III the $\%MUD$ was 0.5 for the N of 240 ratings (80 subjects x 1 item x 6 scales) while the probability that a given rating changed by more than two scale positions was at the three per cent level approximately.

For the second form of the semantic differential in which concepts were judged in the light of endorsements by polarized sources, a retest II reliability estimate was obtained by having nine randomly chosen subjects complete the booklet twice over a one-day interval. The obtained $\%MUD$ was 6.5 for the N of 972 ratings (9 subjects x 10 items x 6 scales) and the probability that a given rating might vary by two or more scale positions was at the five per cent

level approximately. The average deviation per scale reading was slightly greater than one quarter of a scale unit, once again reflecting considerable stability of the ratings over a fairly brief time interval.

Once again, a retest I estimate of reliability was determined by repeating an item in each test booklet. The reliability item was varied over the eighty test booklets so that there were approximately nine consistency formats of six scales for each item. For the N of 240 ratings (80 subjects x 1 item x 6 scales) the $\bar{X}$ MDD was 5.5 while the probability that a given rating would shift by more than two scale units was less than the one per cent level.

In view of the fact that the average deviation per scale reading was found to fluctuate between one quarter and four-tenths of one scale unit approximately, it may be appropriate to add that the stability with which the subjects employed these instruments would appear rather high. The stability estimates reported compare favorably with those in the literature^{2,3} when those obtained over similarly brief time intervals are consulted.

2 C.C. Osgood, Percy n. Tannenbaum and George Suci, The Measurement of Meaning, Urbana, Ill., University of Illinois Press, 1957, p. 134.

3 M.W. McCarrey and Gilles Chagnon, "Intensity of Assertion and the Congruity Principle," Journal of Social Psychology, Vol. 76, No. 1, 1968, p. 71.

The reliability of the Marlowe-Crowne scale was indexed by having thirty males, comprising one group selected at random, take the scale twice over a three-week interval. The obtained test-retest coefficient was $r = 0.72$ ($p < 0.01$); which, together with the earlier mentioned test-retest coefficient of 0.75 ($p < 0.01$) obtained in the pilot project, serves to reflect adequate reliability for the scale. These indices, however, do not compare favorably with that reported in the literature,⁴ especially in view of the longer time interval for the latter.

Both internal consistency and test-retest estimates were calculated for the portable Red-and-Frame Test. A split-half coefficient of $r = 0.62$ ($p < 0.01$) was calculated for the entire subject-pool. The Spearman-Brown correction formula for obtaining a reliability estimate for the total test was then applied which increased the coefficient of reliability to 0.90 ($p < 0.01$). The test-retest coefficient was determined for a sub-group of thirty subjects who volunteered to take the test twice over a two-week interval and was found to be $r = 0.65$ ($p < 0.01$). These findings are similar to those reported by Witkin et al.⁵ concerning the standard apparatus

⁴ David L. Crowne and F. Marlowe, The Approval Motive: Studies in Evaluative Dependence, New York, Wiley, 1964, p. 24.

⁵ H.A. Witkin, R.B. Dyk, H.F. Faterson, D.A. Goodenough and S.A. Larp, Psychological Differentiation, New York, Wiley, 1967, p. 40.

yet do not appear quite as high as the earlier portable data of Oltman.⁶

A randomly chosen group of twenty-eight subjects completed the Otis twice over a one-month interval and yielded a test-retest estimate of reliability of $r = 0.88$ ($p < 0.01$) which is similar to data in the literature.^{7,8}

In retrospect, it would appear the internal consistency and test-retest stability with which the subject-pool employed the instruments of this study were adequate for research purposes.

3. Presentation of Results.

The relationships among the different experimental and concomitant variables involved in this study are put forth in Table IV which gives the correlation matrix for Otis L₄, age, education, portable Rod-and-Frame Test, attitude shift and approval need scores. While it may be noted from inspection of the table that neither age nor

6 P.K. Oltman, "A Portable Rod-and-Frame Apparatus," Perceptual and Motor Skills, Vol. 26, No. 2, 1968, p. 505.

7 L.E. Super and John C. Crites, Appraising Vocational Fitness, New York, Harper and Row, 1962, p. 104.

8 K. Yamada, Extent of Psychological Differentiation as Related to Intelligence, unpublished doctoral thesis presented to the Faculty of Psychology of the University of Ottawa, Ontario, 1960, p. 46.

Table IV.-

Intercorrelations Between Otis IQ, Education, Age, Portable RFT, Attitude Shift and Approval Need Scores. (N=60)

	Education	Age	Portable RFT	Attitude Shift	Approval Need
Otis IQ	-0.03	-0.03	-0.42**	-0.47**	-0.30*
Education		0.37*	0.30	-0.13	0.15
Age			-0.03	-0.03	-0.13
Portable RFT				0.53**	0.00
Attitude Shift					-0.04

a N for the Otis = 42 subjects.

* $p < 0.05$

** $p < 0.01$

years of schooling correlate significantly with the experimental variables, on the other hand this α does appear significantly related to all three experimental variables. It would appear then that the brighter the individual tends to be, the less he tends to manifest: a) high approval need; b) greater attitude shift toward congruity, and c) a global degree of psychological differentiation. On the other hand, such correlations should be viewed with caution as they constitute descriptive indices only and have validity that is restricted by the constraints of this study.

Table V summarizes the analyses of variance for the concomitant variables of intelligence, age and education and it may be noted that the various sub-groups did not vary significantly on these variables. The more complete summary tables for the analyses of variance for intelligence, age and education may be found in Appendix 6.

Table VI presents the summary table for the analysis of variance for the portable Box-and-Frame Test performances and Table VII presents the differences in mean perceptual performance accompanying the appropriate experimental conditions. From inspection of these tables it can be seen that it was necessary to reject the null condition in the case of hypothesis one; however, it was not possible to do so for hypotheses two and three. More specifically, it was necessary to reject the null hypothesis that there is no statistically

Table V.-

Representation of F Ratios as a Summary of the Analyses of Variance Using Intelligence, Age and Education as Criterion Variables. (N=30)

Source of Variation	Intelligence ^a	Age	Education	$F_{.05}(1,76)$
Approval Need	4.08 ^a	3.23	0.06	3.97
Attitude Shift	2.73 ^a	0.56	0.10	3.97
Interaction	0.42 ^a	2.51	3.75	3.97

^a N=32 for intelligence analysis and $F_{.05}(1,27)=4.28$

Table VI.-

Summary Data for the Analyses of Variance Using the Portable
Red-and-Frame Test Performances for the Total
 Subject-Pool as the Criterion Variable.

Source of Variation	SS	df	MS	F	$F_{.99}(1,76)$
Approval Need	6.04	1	6.04	0.77	6.96
Attitude Shift	71.59	1	71.59	9.11**	6.96
Interaction	5.74	1	5.74	0.73	6.96
Within Cell	597.62	76	7.86		
Total	679.99	78			

** $p < 0.01$.

Table VII.-

Differences in Mean Perceptual Performance Between High and Low Levels of Attitude Shift for Each Level of Approval Need.

	Greater Attitude Shift	Lesser Attitude Shift	Diff.
High Approval Need	4.69	3.34	1.35
Low Approval Need	4.67	2.25	2.42**

** $P < 0.01$ as $S_{29.99}(2,76) = 2.32$

significant difference between persons classified as manifesting greater concept shift of attitude and those classified as manifesting lesser concept shift of attitude on extent of psychological differentiation as measured by portable Mod-and-Frame Test performances.

In order to investigate the extent of psychological differentiation of these subjects in the top and bottom thirds of the independent variable distributions, the perceptual performance of forty individuals whose attitude shift scores were less than 3.1 or greater than 6.0 and those whose approval need scores were less than 12.6 or greater than 17.1, was analyzed via the analysis of variance. Table VIII presents the resultant summary data for the analysis, while Table IX gives the differences in mean perceptual performance under the appropriate experimental conditions for these extreme groups.

Once again, the results warrant the rejection of hypothesis one, but not that of hypotheses two and three. From these latter tables it would appear the results of the extreme groups emphasize the trends of the overall subject pool in a more dramatic fashion.

Table VIII.-

Summary Data of the Analysis of Variance Using as the Criterion
Variable Portable Rod-and-Frame Test Performances of Forty
Subjects in the Upper and Lower Thirds of the
Independent Variable Distributions.

Source of Variation	SS	df	MS	F	F _{.99(1,36)}
Approval Need	3.38	1	3.38	0.39	7.36
Attitude Shift	141.94	1	141.94	16.28**	7.36
Interaction	0.16	1	0.16	0.02	7.36
Within Cells	313.76	36	8.72		
Total	459.24	39			

** $P < 0.01$.

Table IX.-

Differences in Mean Perceptual Performance Between High and Low Levels of Attitude Shift for Each Level of Approval Need for the Forty Subjects in the Extreme Thirds Subject-Pool.

	Greater Attitude Shift	Lesser Attitude Shift	Diff.
High Approval Need	6.60	2.96	3.64**
Low Approval Need	6.14	2.25	3.89**

** $P < 0.01$ as $S_{\bar{x}} t_{.99}(2,36) = 3.59$

concluding this section, Table X presents the descriptive data concerning the perceptual performance of the subjects in the various experimental conditions of this study. Included therein are the ranges, means, standard deviations and standard error of the means for the total subject-pool and the extreme thirds subject-pool with the appropriate sub-groups for each. From inspection of this table it may be noted that the relative ordering of mean perceptual performance falls in the anticipated fashion. That is to say, individuals manifesting either low attitude shift or low approval need tended to perform better on the portable Rod-and-Frere Test than did individuals manifesting either high attitude shift or high approval need.

In the same fashion it may be noted that subjects who manifested both low approval need and low attitude shift simultaneously, tended to be most field independent while subjects who manifested both high approval need and high attitude shift tended to be most field dependent. The expectation that individuals of low approval need but high attitude shift or high approval need but low attitude shift would tend to give perceptual performances which fell between the earlier mentioned more extreme groups was also upheld. It must be added, however, that only effects accompanying the differences of classification for the

Table X.-

Ranges, Means, Standard Deviations and Standard Error of the Means
for Portable Rod-and-Frame Test Performances for the Total
Subject-Pool, and Forty Subjects in the Extreme Thirds
Subject-Pool and the Various Sub-Groups for Each.

	Total Subject-Pool					Extreme Thirds Subject-Pool				
	N	Range	Mean	σ	σ_M	N	Range	Mean	σ	σ_M
Low Approval Need Low Attitude Shift	20	0.50- 4.37	2.25	1.17	0.27	10	0.88- 4.80	2.25	1.27	0.42
Low Approval Need High Attitude Shift	20	1.87-13.38	4.68	3.38	0.77	10	1.75-13.38	2.95	1.47	0.49
High Approval Need Low Attitude Shift	20	1.25-11.72	3.33	2.37	0.54	10	1.25- 5.63	6.14	3.62	1.21
High Approval Need High Attitude Shift	20	1.25-14.74	4.60	3.39	0.78	10	1.50-14.74	6.60	3.83	1.28
Low Approval Need	40	0.50-13.38	3.46	2.81	0.45	20	0.88-13.38	4.19	3.34	0.77
High Approval Need	40	1.25-14.74	4.01	3.00	0.48	20	1.25-14.74	4.77	3.42	0.78
Low Attitude Shift	40	0.50-11.72	2.79	1.95	0.31	20	0.88- 5.63	2.60	1.39	0.32
High Attitude Shift	40	1.25-14.74	4.60	3.38	0.54	20	1.50-14.74	6.37	3.73	0.86
Total	80	0.50-14.74	3.72	2.91	0.33	40	0.88-14.74	4.40	3.38	0.54

attitudinal variable were statistically significant in this experiment.

The results presented in this section shall be discussed in the section to follow.

3. Discussion of Results.

By way of introducing this section, the data concerning the possible relationship between attitude shift and extent of psychological differentiation shall first be discussed after which that concerning approval need and extent of psychological differentiation shall be considered. Following this, some implications bearing on the differentiation hypothesis will be explored.

The data presented in Tables VI to IX tend to contraindicate the null condition existing in this experiment between attitude shift as conceptualized using the model of Osgood and Tannenbaum and as measured by the semantic differential on the one hand, and witkin's construct of extent of psychological differentiation as measured by the portable Red-and-Frame Test on the other. To illustrate the information presented in the tables, Figures 1 and 2 were constructed and it can be noted that those individuals who manifested lesser attitude shift tended to manifest a more articulated degree of differentiation while those who showed greater attitude shift tended to reflect a more global extent of differentiation.

Psychological Differentiation

**Mean Portable
Rod-and-Frame Test
Scores**

Figure 1.- Psychological Differentiation as Given by Mean Portable Rod-and-Frame Test Scores vs. Concept Shift of Attitude as Given by Semantic Differential Mean Difference Scores for the Total Subject-Pool.

Psychological Differentiation

Mean Portable
Rod-and-Frame Test
Scores

Figure 2.- Psychological Differentiation as Given by Mean Portable Rod-and-Frame Test Scores vs. Concept Shift of Attitude as Given by Semantic Differential Mean Difference Scores for the Extreme Thirds Subject-Pool.

In other words, those subjects more influenced by the endorsement of important others likewise tended to be more influenced by the context of the perceptual field while those who were more able to resist the communications content were likewise more able to resist the contextual influence of the visual field.

There appears then evidence to support the extension of the congruity model with respect to extent of psychological differentiation. More specifically, it would appear that in this study at least, when two incongruent attitudinal referents were related via an assertion, the mediating reaction pertaining to the concept shifted in a fashion which was inversely related to the degree of differentiation of the individual who decoded the communications content.

This finding may be viewed in the light of Witkin's⁹ rationale for the more articulated field approach which suggests that more differentiated individuals possess better developed internal frames of self-reference which allow for interaction with the world from the viewpoint of a more self-governing position rather than inseparable from it.

Assuming consistency of perceptual-cognitive functioning, it would follow then that individuals who were better able to maintain their attitudinal judgments with

9 Witkin et al., Op. Cit., p. 149.

relative independence of important others would also reflect concomitantly a more articulated degree of personality differentiation than those who were more influenced.

Another factor of commonality between persons who showed greater attitude shift and those who reflected a more global degree of differentiation may be the less complete sense of separate identity which within¹⁰ attributes to persons of global field approach. With this condition in effect, it appears logical that, lacking a more complete sense of separate identity, these individuals would lack the required independence to impartially evaluate and resist the attitudinal incongruity presented them. It is possible then that the pressure to achieve congruity is more highly felt due to the lesser extent of personal autonomy and so consequently this strain to congruity is resolved via greater attitude shift towards the balanced state. More articulated individuals on the other hand, who do possess a more complete sense of separate identity may have the necessary autonomy to accommodate the cognitive inconsistency when presented with incongruent attitudinal referents and so consequently manifest less attitude shift. This appears consistent with the more finely developed cognitive structures of the more articulated individual who may be able to call upon several other

10 Ibid., p. 155.

cognitions of differing polarity to balance out or overcome the incongruity embodied in the communication content. More global persons may not have equivalent access to such an accumulation of varied cognitions and so be unable to resolve incongruity in this way.

On the other hand, it is possible that both global and articulate persons experience equivalent strain toward congruity but differ by virtue of the means taken towards its resolution. This is to suggest that the more articulated individual may tend to approach the problem of incongruity by judging the assertion itself to be untrue and so consequently manifest lesser attitude shift, while maintaining maximal simplicity of judgmental frames of reference--an essential characteristic, according to Osgood.¹¹ Or, the more differentiated individuals may tend to approach the situation of incongruity by discrediting the source of the communication or by differentiating between the source as known in the past and as presented in the communication, or by a number of other methods which reduce cognitive inconsistency but which do not necessarily involve large magnitudes of attitude change. Persons of more limited differentiation may not have as much access to these alternatives to reduce

¹¹ C.E. Osgood and Percy H. Tannenbaum, 'The Congruity Principle in the Prediction of Attitude Change, Psychological Review, Vol. 62, No. 1, 1955, p. 43.

incongruity because of their more global cognitive structure, and so may have to shift their attitudes, at least temporarily, to achieve a more balanced state.

The findings in this area may also be reflections of what David Reisman¹² terms an "inner directed-other directed" continuum of personal orientation. Using this optic, it may be that individuals who were less able to resist the influence of an important source and less able to disregard the influence of the visual field were in each case illustrating an other-directed orientation. Conversely, the maintenance of attitudes with relative independence of expressions of significant others and the judgment of verticality with greater independence of the visual context may both be manifestations of an inner-directed orientation.

It would appear that this study raises more questions than it attempts to answer, yet these questions, it is felt, constitute intriguing avenues for future research.

The significant trends concerning attitude shift and degree of differentiation were not echoed by the data concerning approval need and psychological differentiation, as the findings reported in Tables VI and VIII do not warrant rejection of the second null hypothesis. Although perceptual performances of subjects of high approval need tended to

¹² David Reisman, The Lonely Crowd, New Haven, Yale University Press, 1950, p. 14-22.

reflect the anticipated lesser degree of differentiation as compared to those of lower need for social approval, these tendencies did not reach sufficient magnitude to attain statistical significance at even the 0.05 level. This result does not appear to fit in with the several convergences brought to light in the literature review pertaining to individuals of higher approval need and more global psychological differentiation.

It is possible, however, that the null condition may exist between these two specific variables in some situations and a recent study tends to support such a contention.

Goldstein et al.¹³ had thirty alcoholic males take the Rod-and-Frane Test as well as a variety of psychological and social dependency measures, including the Marlowe-Crowne scale. All tests were intercorrelated and the results factor analyzed with the result that no clear-cut common factor that could be called "dependency" could be found. Moreover, the intercorrelation between measures of approval need and differentiation was 0.10 ($p > 0.05$). These investigators concluded that a negligible degree of commonality existed in

13 G. Goldstein, G. Neuringer, Carolyn Keiff and Carolyn H. Walley, "Generalization of Field Dependency in Alcoholics," Journal of Consulting and Clinical Psychology, Vol. 32, No. 5, 1964, p. 560-564.

their sample between field dependence-independence and the other measures of intra- and inter-personal dependency.

Elliot¹⁴ too investigated the possible relationship between measures of differentiation and dependence on other people using 128 college undergraduate students. This researcher reports persons of global cognitive style showed greater uncertainty in situations of incongruity, but did not manifest greater behavioral dependence than persons of more articulated field approach. Elliot tends to feel that the primary reference of the field dependence construct to be a tendency to react with greater affective and cognitive disruption to situations marked by unusualness, incongruity or lack of structure in general. The results of the present investigation too may tentatively be interpreted as supporting the view that psychological differentiation appears more an index of autonomy of complex cognitive processes than of dependency on other persons. Latent of differentiation might then be anticipated to relate to attitude shift and not to approval motivation because of the more immediate linkage between attitudes and cognitive structure.

¹⁴ Rogers Elliot, 'Interrelations Among Measures of Field Dependence, Ability, and Personality Traits,' Journal of Abnormal and Social Psychology, Vol. 63, No. 1, 1961, p. 27-36.

A most recent study by Zytowski et al.,¹⁵ using sixty-two male undergraduate students, hypothesized a relationship between more global differentiation and manifest interests in other people. No support was obtained in favor of the hypothesis. Extending Elliott's idea slightly, once again it could be that the psychological differentiation construct is more an index of autonomy of cognitive processes than interest based on dependence on other persons. Such a contention, as all in this section, is tentative however, and awaits the subsequent verification or rejection of future experimental investigation.

Shifting the focus of discussion to the Marlowe-Crowne scale itself, it could be that despite the earlier reported evidence concerning its validity as a measuring instrument, the inconsistency of results obtained using it may be due the differential validity of item content for differing groups. Goldfried¹⁶ has carried out a cross-validation of the scale with one hundred college undergraduate males and females with the outcome that only approximately

15 D.G. Zytowski, D.H. Mills and Claude Paape, "Psychological Differentiation and the Strong Vocational Interest Blank," Journal of Counseling Psychology, Vol. 16, No. 1, 1969, p. 41-44.

16 Marvin H. Goldfried, "A Cross-Validation of the Marlowe-Crowne Social Desirability Scale Items," Journal of Social Psychology, Vol. 64, No. 2, 1964, p. 137-145.

half of the items in the original scale were able to discriminate beyond chance. It could be that the use of the cross-validated form would generate greater consensus in the research where it is used as an index of approval motivation.

The results of this study may have implications regarding the generality of the differentiation hypothesis of Witkin and his colleagues. For evidence was found to support inverse covariation between measures of differentiation and of attitude shift but not between measures of differentiation and approval need. Clearly, however, Witkin's rationale would anticipate extent of differentiation to be related to both attitudinal and motivational parameters.¹⁷ Should future studies continue to fail to support that expectation, serious doubt may in fact be raised as to how many traditional psychological areas are directly bisected by extent of psychological differentiation. It may be that Elliott points to a significant interpretation when he suggests, as has been mentioned earlier, that increased differentiation reflects a greater autonomy of higher cognitive functioning rather than less salient dependency need structure. A limitation of the present study is felt to be the absence of a factor analytic approach wherein the factorial composition of attitude shift, approval need and differentiation

17 Witkin *et al.*, *op. cit.*, p. 4.

could be delineated so that possible commonalities could be exposed. In such a fashion it might be possible to substantiate the possibility that attitude shift and psychological differentiation are more highly saturated with perceptual cognitive factors than is evaluative dependence so that they tend to be related while the latter is not.

In retrospect then, the findings of the present study tended to support the notion that Osgood's model of attitude shift can be modified so as to relate to the extent of psychological differentiation of the persons receiving the communications content. Under the conditions of the experiment, evidence was found to support the contention that individuals who illustrate greater attitude shift also reflect a more global degree of differentiation while those who manifest lesser attitude shift also reflect a more articulated extent of psychological differentiation. The expectation then that concept-shift or attitude would be inversely related to extent of differentiation was upheld by the data of this study.

On the other hand, no conclusive support was obtained for the expectation that a measure of differentiation would also inversely be related to a measure of approval need. In addition, given the four sub-groups classified as: low approval need-low attitude shift; low approval need-high attitude shift; high approval need-low attitude shift; and

high approval need-high attitude shift, no conclusive support was obtained to support the expectation that the high approval need-high attitude shift group would be least differentiated, while the low attitude shift-low approval need group would be most differentiated, with the high approval need-low attitude shift and low approval need-high attitude shift groups falling in between them on the differentiation continuum.

SUMMARY AND CONCLUSIONS

A review of the literature in the areas of attitude shift, approval need and psychological differentiation revealed several convergences on the basis of which it was anticipated that subjects who showed greater attitude shift toward congruity, within the context of Osgood and Tannenbaum's congruity model, would also reflect a lesser degree of psychological differentiation than subjects who showed lesser attitude shift. It was also anticipated that individuals who showed greater need for social approval would concomitantly reflect a lesser degree of differentiation than individuals of lesser approval need. To ascertain possible interaction effects of the attitudinal and motivational variables the subjects were classified into four sub-groups and it was suggested that the high approval need-high attitude shift group would be least differentiated, and the low approval need-low attitude shift group would be most differentiated, while the high approval need-low attitude shift and low approval need-high attitude shift groups would lie between them with respect to extent of differentiation.

A subject-pool of eighty male education and psychology students of mean age thirty-two years judged a number of

selected sources and concepts in isolation first and then in combination after a three-week interval. Items were selected via a pre-test and were chosen such that they best approximated the criteria that: a) sources be highly polarized; b) concepts be relatively neutral; and c) source-concept assertions be judged credible. Subjects also volunteered to take the Marlowe-Crowne scale and the portable Mod-and-Frame Test such that each measure appeared an equal number of times in each position. On the basis of semantic differential difference scores and Marlowe-Crowne approval need scores, the eighty subjects were classified into four groups of twenty subjects each: low approval need-low attitude shift, low approval need-high attitude shift, high approval need-low attitude shift, high approval need-high attitude shift. Subsequently, the perceptual performance of forty individuals falling in the upper and lower thirds of the independent variable distributions were investigated with ten subjects in each cell. Using this design, the following hypotheses were tested:

1. There is no statistically significant difference between persons classified as manifesting greater concept-shift of attitude toward congruity and those classified as manifesting lesser concept-shift of attitude in extent of psychological differentiation as measured by portable Mod-and-Frame Test performances.

2. There is no statistically significant difference between persons classified as manifesting high need for social approval and those classified as manifesting low need for social approval in extent of psychological differentiation as measured by portable Rod-and-Frame Test performances.
3. There is no statistically significant interaction effect between the attitudinal (greater versus lesser concept-shift of attitude) and motivational (high versus low need for social approval) variables in extent of psychological differentiation as measured by portable Rod-and-Frame Test performances.

On the basis of results obtained it was necessary to reject the first null hypothesis, while hypotheses two and three could not be similarly so rejected. Evidence was therefore obtained to support the extension of Osgood and Tannenbaum's congruity principal in that congruity shift of attitude appeared inversely related to extent of psychological differentiation. On the other hand, evidence was not obtained in favor of significant effects due approval need or the interaction of attitude shift and approval need. The inability to find significant effects due approval need was discussed as a possible result of differential validity of scale-item content. On the other hand, tentatively granting that the null condition does exist between approval need and differentiation, the overall results of this study were discussed as implying that psychological differentiation appears more an index of autonomy of complex perceptual-cognitive processes than of approval need structure. It

was suggested that a factor analytic approach to the problem be taken so that one could investigate the hypothesis that attitude shift and psychological differentiation are more highly saturated with perceptual-cognitive factors than is evaluative dependence with the outcome they tend to covary while the latter does not.

In the final analysis then, the results of this study gave evidence of an inverse relationship between attitude shift and extent of psychological differentiation but not of a relationship between approval need and extent of differentiation. Should this outcome be replicated by future research, serious doubt may be raised as to the number of traditional psychological areas that are manifestly related to extent of psychological differentiation. Clearly, the present study spells out the need for future research regarding the generality of the construct of psychological differentiation.

BIBLIOGRAPHY

Crowne, David P., and David Marlowe, The Approval Motives: Studies in Evaluative Dependence, New York, Wiley, xii-233 p.

This book consists of a review and integration of close to twenty research studies. The theoretical development begins with the problem of response sets and personality inventories and leads to the postulation of a motivational state reflected in test-taking behaviors. The range and scope of studies is impressive. However, a shortcoming consists of inadequate interpretation of data which does not follow the experimenters' anticipations.

Elliott, Rogers, "Interrelationships Among Measures of Field Dependence, Ability, and Personality Traits," Journal of Abnormal and Social Psychology, Vol. 63, No. 1, 1961, p. 27-36.

Elliott examined the construct "field dependence" in terms of certain expectations derived from the literature, and studied the relationship between various tests of field dependence and variously measured personality traits. His is one of a number of studies which views Witkin's construct as more an index of autonomy of complex cognitive processes than of personality traits and motives.

Linton, Harriet B., Relations Between Mode of Perception and the Tendency to Conform, unpublished doctoral thesis presented to the Faculty of Graduate School of Yale University, New Haven, 1952, 72 p.

In this study, scores on several perceptual, attitudinal and conformity measures were factor analyzed and two factors were identified which loaded on both social and cognitive variables. However, of the situations which Linton might have expected to load significantly on Factor A, only the attitude change variable failed to appear.

Osgood, Charles E., George J. Suci, and Percy H. Tannenbaum, The Measurement of Meaning, Urbana, Illinois, The University of Illinois Press, 1957, 342 p.

To do research involving the semantic differential without an intimate acquaintance with this book is inconceivable. It is of keynote relevance to this project in that it presents a full development of the congruity principle and its limiting parameters as well as the theoretical constructs underlying the semantic differential measurement process. A great deal of data on the validity and reliability is contained in the book but the lack of a subject index renders its consultation more difficult.

Tannenbaum, Percy H., Attitudes Toward Source and Concept as Factors in Attitude Change Through Communication, unpublished doctoral thesis presented to the Graduate College of the University of Illinois, Urbana, Illinois, 1953, iv-102 p.

Tannenbaum was the first to provide tangible support for the predictive power of the congruity model. His experiment considered those variables believed to be most significant with respect to the magnitude and direction of attitude change in a specific situation and served as the point of inspiration for this project. It is an example of an efficient design as both source and concept-shift were studied in both associative and dissociative communications.

Witkin, Herman A., H.D. Dyke, H.F. Paterson, D.H. Goodenough and G.A. Karp, Psychological Differentiation, New York, Wiley, 1962, xii-418 p.

The second major publication of Witkin and his colleagues. In this book numerous personality correlates of the field dependence-independence continua are reported as evidence for an underlying consistency within the individual. This consistency is conceptualized under the title of psychological differentiation.

APPENDIX 1

ROTATED FACTOR LOADINGS OF EXPERIMENTAL AND FILLER SCALES

APPENDIX 1

Rotated Factor Loadings of Experimental and Filler Scales.

Scales	Evaluative	Potency	Activity
Experimental:			
good-bad	0.88	0.55	0.09
fair-unfair	0.83	0.08	-0.67
clean-dirty	0.72	-0.25	0.03
pleasant-unpleasant	0.82	0.05	-0.26
valuable-worthless	0.79	0.04	0.13
tasty-distasteful	0.77	0.15	-0.11
Filler:			
large-small	0.16	0.01	0.34
strong-weak	0.15	0.12	0.20
fast-slow	0.01	0.01	0.50
active-passive	0.14	0.01	0.59

Charles E. Osgood, George J. Suci, and Percy H. Tannenbaum, The Measurement of Meaning, Urbana, Illinois, University of Illinois Press, 1957, p. 37.

APPENDIX 2

THE SELECTION QUESTIONNAIRE

APPENDIX 2

SELECTION QUESTIONNAIRE

NAME _____ CIRCLE M or F
Surname Christian Names M or S

DATE OF BIRTH: _____ AGE: _____
Day Month Year Years MONTHS

BIRTHPLACE: _____
City Province or State Country

LANGUAGE: _____
Native Others you fluently use.

EDUCATION: _____
Grade or Degree Institution Date
Completed

Vocation: _____
Nature Where Employed?

APPENDIX 2

PUBLIC OPINION QUESTIONNAIRE

The purpose of this questionnaire is to find out how a large number of persons, like yourselves, feel about some public personages and topics of the day. The questionnaire asks you to rate the way you feel about these personages and topics by placing an X at that point on the scale (the line) which best shows the way you feel about the particular item. You can answer in the following manner;

If your first impressions are that the item (the personage or topic) is quite good or desirable in most respects, as far as you are concerned, mark an X on the scale in the vicinity of Favor. Precisely where you place your X depends on how favorable the item is to you - the more favorable your impressions are, the more you might place your X to the left;

X				
Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove

If you feel the item is only slightly good or a little but desirable in your eyes, (but not neutral) you should place your X in the vicinity of Slightly Favor;

X				
Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove

If you feel indifferent or really couldn't care less one way or the other about the person or topic, you should place your X at Neutral in the middle of the scale. If you feel the item to be the tinest bit good or bad you should mark a bit to the right or left of the middle;

X				
Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove

APPENDIX 2

If you feel the item is a little bit unfavorable or slightly undesirable on the overall as far as you are concerned, mark in the vicinity of Slightly Disapprove;

X

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
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On the other hand, if you feel the person or topic quite wrong or rather undesirable on the overall, mark an X in the vicinity of Disapprove - the more you disapprove, the further you might mark to the right on the scale;

X

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
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In using the opinion scale, find first the general region on the line which shows how you feel about the item and secondly decide what spot in that region shows more accurately how you feel.

NOTE: About some of the items you may know very little - nevertheless please try to decide whether your general feeling tends to be a tiny bit favorable or unfavorable.

Some other points to remember;

- (1) Never put more than one check-mark on a scale,
- (2) Answer each of the questions - do not omit any.

Sometimes you may feel as though you've had the same item before on the questionnaire. In any event, do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the questionnaire. Make each item a separate and independent judgement. Please try to convey your own opinions-- what these items mean to you. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the items, that we want. On the other hand, please do not be careless, because we want your true impressions.

If you have any questions, please ask them now.

APPENDIX 2

1.-How would you rate your overall feeling towards
PREMIER CASTRO?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
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2.- How would you rate your overall feeling towards
THE INTERNATIONAL LABOUR ORGANIZATION?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
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3.-How would you rate your overall feeling towards
INTERNATIONAL LAW MEETINGS?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

4.-How would you rate your overall feeling towards
CULTURAL RELATIONS WITH KUWAIT?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

5.-How would you rate your overall feeling towards
MADAME VANIER?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

APPENDIX 2

6.-How would you rate your overall feeling towards
CULTURAL EXCHANGE WITH RUSSIA?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

7.-How would you rate your overall feeling towards
RUNAWAY GOLD SPECULATION?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

8.-How would you rate your overall feeling towards
THE SECULAR AFFAIRS INSTITUTE?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

9.-How would you rate your overall feeling towards
PRESIDENT JOHNSON?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

10.-How would you rate your overall feeling towards
THE COMMISSION FOR CONVENTIONAL ARNAMENTS?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

APPENDIX 2

11.-How would you rate ye your overall feeling towards
POPE JOHN XXIII ?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

12.-How would you rate ye your overall feeling towards
ANGLO-CHINESE JOINT AGREEMENTS?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

13.-How would you rate ye your overall feeling towards
THE COUNCIL OF EUROPE?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

14.-How would you rate ye your overall feeling towards
SIOKEY CARMELOTTA?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

15.-How would you rate ye your overall feeling towards
THE FORD FOUNDATION?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

APPENDIX 2

16.-How would you rate your overall feeling towards
GOVERNOR GENERAL MICHENER?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

17.-How would you rate your overall feeling towards
THE NATIONAL URBAN LEAGUE?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

18.-How would you rate your overall feeling towards
SOVIET-BLOC DIPLOMATS?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove D
-------	-------------------	---------	------------------------	-----------------

19.-How would you rate your overall feeling towards
THE CURRENT RETAIL SALES EXPANSION?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

20.-How would you rate your overall feeling towards
COMMITTEES ON URBAN AFFAIRS?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

APPENDIX 2

21. How would you rate your overall feeling towards
UNION

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

22. How would you rate your overall feeling towards
TUNISIAN POLICE

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

23. How would you rate your overall feeling towards
THE BURGUNDIAN BAPTIST CHURCH

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

24. How would you rate your overall feeling towards
MAYOR

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

25. How would you rate your overall feeling towards
THE BURGUNDIAN BAPTIST CHURCH

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

APPENDIX 2

26.--How would you rate your overall feeling towards
REV. MARTIN LUTHER KING?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

27.--How would you rate your overall feeling towards
QUEEN ELIZABETH?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

28.--How would you rate your overall feeling towards
THE CANADIAN SALE OF WHEAT TO CUBA?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

29.--How would you rate your overall feeling towards
PRESIDENT JOHN F. KENNEDY?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

30.--How would you rate your overall feeling towards
RELATIONS WITH YEMEN?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

APPENDIX 2

31.--How would you rate your overall feelings towards
SIR WINSTON CHURCHILL?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

32.--How would you rate your overall feeling towards
INVESTIGATIONS BY CONGRESSIONAL COMMITTEES?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

33.--How would you rate your overall feeling towards
CANADIAN RELATIONS WITH AMERICA?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

34.--How would you rate your overall feeling towards
THE PROPOSED SALE OF SURPLUS WEAPONS?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

35.--How would you rate your overall feeling towards
PREMIER KOSYGIN?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

APPENDIX 2

36.--How would you rate your overall feeling towards
THE BRITISH CABINET SYSTEM?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

37.--How would you rate your overall feeling towards
JACQUELINE KENNEDY?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

38.--How would you rate your overall feeling towards
THE FORD FOUNDATION?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

39.--How would you rate your overall feeling towards
BARRY GOLDWATER

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

40.--How would you rate your overall feeling towards
MR. PIERRE E. TRUDEAU?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

41.--How would you rate your overall feeling towards
RECENT FINANCIAL DEVELOPMENTS?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

42.--How would you rate your overall feeling towards
THE INTERNATIONAL CIVIL SERVICE?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

43.--How would you rate your overall feeling towards
INTERNATIONAL LAW MEETINGS?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

44.--How would you rate your overall feeling towards
GOVERNOR GENERAL MICHENER?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

45.--How would you rate your overall feeling towards
THE INTERNATIONAL MONETARY FUND?

Favor	Slightly Favor	Neutral	Slightly Disapprove	Disapprove
-------	-------------------	---------	------------------------	------------

APPENDIX 3
SEMANTIC DIFFERENTIAL - FORM I

NAME _____ CIRCLE M or F
Surname Christian Names M or S

DATE OF BIRTH: _____ AGE: _____
Day Month Year Years Months

BIRTHPLACE: _____
Place Province or State Country

LANGUAGE: _____
Native Others you fluently use.

EDUCATION: _____
Grade or Degree Institution Date
Completed

VOCATION: _____
Nature Where Employed?

APPENDIX 3

The purpose of this study is two-fold -- to try to find out how students such as yourselves feel about certain issues and personalities in the news today, and, secondly, to try out a novel instrument which we think can get at these feelings.

What you are asked to do is to judge a number of concepts (issues and personalities, etc.,) against a series of descriptive scales. There will be 20 such concepts to judge, and each will be judged against 10 scales. Thus, you will find at the top of each of the following pages the concept that is to be rated, and below it will be a series of 10 scales, each defined by a pair of adjectives. You will also note that each scale has seven steps.

In order to illustrate how to use the scales and what each of the seven steps means, consider the following example:

Suppose you were asked to rate the concept of THE STRIFE IN LAOS and suppose further that one of the scales was

gentle____:____:____:____:____:____:____violent

Now, if you felt that the concept was very closely related to one end of the scale, you would check like this:

gentle____:____:____:____:____:____: X violent

OR

gentle X :____:____:____:____:____:____violent

If you felt it was quite, but not very closely related, you would check like this:

gentle____: X :____:____:____:____:____violent

OR

gentle____:____:____:____:____: X :____violent

If you felt it was only slightly related to one side, you would check like this:

gentle____:____:____:____: X :____:____violent

OR

gentle____:____: X :____:____:____violent

APPENDIX 3

If you felt it was equally related to both sides of the scale or if you felt it was completely unrelated, you would check like this:

gentle ____:____:____: X :____:____:____ violent

Some other important points to remember:

- (1) Never put more than one check-mark on each scale,
- (2) Check each concept on every scale -- do not omit any,
- (3) In making your check-marks, make sure they fall in the middle of the spaces and not on the boundaries between spaces

THIS	NOT THIS
____: <u>X</u> :____:____:____	____:____:____: <u>X</u> ____:____

Sometimes you may feel as though you've had the same item before on the test. In any event do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the test. Make each item a separate and independent judgement. Please try to convey your own opinions-- what these items mean to you. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the items, that we want. On the other hand, please do not be careless, because we want your true impressions.

If you have any questions, please ask them now.

APPENDIX 3

PREMIER CASTRO

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

APPENDIX 3

THE INTERNATIONAL CIVIL SERVICE

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

APPENDIX 3

BARRY GOLDWATER

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

APPENDIX 3

THE SECULAR AFFAIRS INSTITUTE

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

APPENDIX 3

STOKELY CARMICHAEL

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

APPENDIX 3

CANADIAN RELATIONS WITH ANDORRA

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

APPENDIX 3

JOHN F. KENNEDY

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

APPENDIX 3

THE CURRENT RETAIL SALES EXPANSION

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

MADAME VANIER

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

THE NATIONAL URBAN LEAGUE

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

APPENDIX 3

U THANT

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

APPENDIX 3

THE INTERNATIONAL LABOUR ORGANIZATION

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

PRIME MINISTER TRUDEAU

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

APPENDIX 3

MARITIME TRUSTEESHIP

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ : unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ : slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ : clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ : weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ : distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ : passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ : good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ : small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ : unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ : valuable

REV. MARTIN LUTHER KING

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

APPENDIX 3

THE BULGARIAN BAPTIST CONVENTION

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

APPENDIX 3

SOVIET-BLOC DIPLOMATS

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

CANADIAN RELATIONS WITH ANDORRA

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

POPE JOHN XXIII

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

APPENDIX 3

SEMANTIC DIFFERENTIAL - FORM II

NAME _____ CIRCLE M or F
Surname Christian Names M or S

DATE OF BIRTH: _____ AGE: _____
Day Month Year Years Months

BIRTHPLACE: _____
Place Province or State Country

LANGUAGE: _____
Native Others you fluently use.

EDUCATION: _____
Grade or Degree Institution Date
Completed

VOCATION: _____
Nature Where Employed?

APPENDIX 3

Some weeks ago, you were kind enough to help out in trying out a novel instrument to get at people's feelings about certain issues and personalities in the news. At the same time we were interested in finding out if the instrument works -- and happily enough, it turned out to be a useful tool.

We are now interested in finding out how well it works, which is what we will try to do today with your co-operation.

From newspaper clippings and magazine articles over the past few years we have taken sentences which contain two of the items you have already judged on the former test a month or so ago. This is no accident, as now we want to try out this testing instrument in a situation where people are asked to rate one item in view of the whole news release. An example will clarify this.

At the top of each of the following pages you will see an arrangement similar to either of the following;

Rate; GENERAL DE GAULLE

in the light of the fact that,

GENERAL DE GAULLE OFFERS 100% SUPPORT TO RISING FRENCH EXPORTS.

Now, if you felt the concept (General de Gaulle in the first example - ~~rising French exports in the second~~) was very closely related to one end of the scale in the light of the news release (the complete sentence) you should check like this;

pleasing X : ____ : ____ : ____ : ____ : ____ : ____ annoying

OR

pleasing ____ : ____ : ____ : ____ : ____ : ____ : X annoying

APPENDIX 3

If you felt the concept, in the light of the news release was quite closely related to one or the other end of the scale (but not extremely) you would check like this:

pleasing____:____:____:____:____: X :____annoying

OR

pleasing____: X :____:____:____:____:____annoying

If you felt the concept, in view of the news report was only slightly related to one side as opposed to the other side (but not really neutral), you would check like this:

pleasing____:____: X :____:____:____:____annoying

OR

pleasing____:____:____:____: X :____:____annoying

If you felt the concept in view of the press release was equally related to both sides of the scale, or if you felt it was completely unrelated, you would check like this:

pleasing____:____:____: X :____:____:____annoying

Some other important points to remember:

- (1) Never put more than one check-mark on each scale,
- (2) Check each concept on every scale -- do not omit any,
- (3) In making your check-marks make sure they fall in the middle of the spaces and not on the boundaries between the spaces

THIS

NOT THIS

____:____: X :____:____:____X :____

Sometimes you may feel as though you've had the same item before on the test. In any event, do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the test. Make each item a separate and independent judgement. Please try to convey your own opinions -- what these items, in the light of the press release, mean to you. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the items in view of the news report, that we want. On the other hand, please do not be careless, because we want your true impressions.

If you have any questions, please ask them now.

A: 1001. 3

Rate; MARITIME TRUSTEESHIP

in light of the fact that

PREMIER CASTRO FAVORS
MARITIME TRUSTEESHIP

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

APPENDIX 3

Rate; SOVIET-BLOC DIPLOMATS

in light of the fact that

BARRY GOLDWATER FAVORED
SOVIET-BLOC DIPLOMATS

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

APPENDIX 3

Rate; THE INTERNATIONAL CIVIL SERVICE

in light of the fact that

JOHN F. KENNEDY FAVORED
THE INTERNATIONAL CIVIL SERVICE

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

APPENDIX 3

Rate; THE CURRENT RETAIL SALES EXPANSION

in light of the fact that

PRIME MINISTER TRUDEAU FAVORS
CURRENT RETAIL SALES EXPANSION

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ unfair

fast _____ : _____ : _____ : _____ : _____ : _____ : _____ slow

dirty _____ : _____ : _____ : _____ : _____ : _____ : _____ clean

strong _____ : _____ : _____ : _____ : _____ : _____ : _____ weak

tasty _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful

active _____ : _____ : _____ : _____ : _____ : _____ : _____ passive

bad _____ : _____ : _____ : _____ : _____ : _____ : _____ good

large _____ : _____ : _____ : _____ : _____ : _____ : _____ small

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ unpleasant

worthless _____ : _____ : _____ : _____ : _____ : _____ : _____ valuable

Rate; THE BULGARIAN BAPTIST CONVENTION

in light of the fact that

POPE JOHN XXIII FAVORED
THE BULGARIAN BAPTIST CONVENTION

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

APPENDIX 3

Rate; THE MAIL ORDER SALE OF SURPLUS WEAPONS

in light of the fact that

THE AMERICAN HUNTING ASSOCIATION FAVORS
THE MAIL ORDER SALE OF SURPLUS WEAPONS

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

APPENDIX 3

Rate; CANADIAN RELATIONS WITH ANDORRA

in light of the fact that

U THANT FAVORS
CANADIAN RELATIONS WITH ANDORRA

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

Rate; THE INTERNATIONAL LABOUR ORGANIZATION

in light of the fact that

STOKELY CARMICHAEL FAVORS
THE INTERNATIONAL LABOUR ORGANIZATION

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

APPENDIX 3

Rate; THE SECULAR AFFAIRS INSTITUTE

in light of the fact that

MADAME VANIER FAVORS
THE SECULAR AFFAIRS INSTITUTE

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

APPENDIX 3

Rate; SOVIET-BLOC DIPLOMATS

in light of the fact that

BARRY GOLDWATER FAVORED
SOVIET-BLOC DIPLOMATS

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

APPENDIX 3

Rate; THE NATIONAL URBAN LEAGUE

in light of the fact that

REV. MARTIN LUTHER KING FAVORED
THE NATIONAL URBAN LEAGUE

fair _____:_____:_____:_____:_____:_____:_____unfair

fast _____:_____:_____:_____:_____:_____:_____slow

dirty _____:_____:_____:_____:_____:_____:_____clean

strong _____:_____:_____:_____:_____:_____:_____weak

tasty _____:_____:_____:_____:_____:_____:_____distasteful

active _____:_____:_____:_____:_____:_____:_____passive

bad _____:_____:_____:_____:_____:_____:_____good

large _____:_____:_____:_____:_____:_____:_____small

pleasant _____:_____:_____:_____:_____:_____:_____unpleasant

worthless _____:_____:_____:_____:_____:_____:_____valuable

APPENDIX 4

MARLOWE-CROWNE NEED FOR SOCIAL APPROVAL
SCALE

MARLOWE-CROWNE NEED FOR SOCIAL APPROVAL
SCALE

Personal Reaction Inventory

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally. If, when applied to you, the statement is true, or mostly true, place a check under "T" on the left-hand space before the question. If false, or not usually true, place a check under "F" on the right-hand space.

Remember to give your own opinion of yourself. Please do not omit any questions.

T F

—	—	1. Before voting I thoroughly investigate the qualifications of all candidates.
—	—	2. I never hesitate to go out of my way to help someone in trouble.
—	—	3. It is sometimes hard for me to go on with my work if I am not encouraged.
—	—	4. I have never intensely disliked anyone.
—	—	5. On occasions I have had doubts about my ability to succeed in life.
—	—	6. I sometimes feel resentful when I don't get my way.
—	—	7. I am always careful about my manner of dress.
—	—	8. My table manners at home are as good as when I eat out in a restaurant.
—	—	9. If I could get into a movie without paying and be sure I was not seen, I would probably do it.

T F

- ___ 10. On a few occasions I have given up doing something because I thought too little of my ability.
- ___ 11. I like to gossip at times.
- ___ 12. There have been times when I felt like rebelling against people in authority even though I knew they were right.
- ___ 13. No matter who I am talking to I am always a good listener.
- ___ 14. I can remember playing sick to get out of something.
- ___ 15. There have been occasions when I took advantage of someone.
- ___ 16. I'm always willing to admit when I make a mistake.
- ___ 17. I always try to practice what I preach.
- ___ 18. I don't find it particularly difficult to get along with loud-mouthed, obnoxious people.
- ___ 19. I sometimes try to get even rather than try to forgive and forget.
- ___ 20. When I don't know something I don't at all mind admitting it.
- ___ 21. I am always courteous, even to people who are disagreeable.
- ___ 22. At times I have really insisted on having things my way.
- ___ 23. There have been occasions when I felt like smashing things.
- ___ 24. I would never think of letting someone else be punished for my wrongdoings.
- ___ 25. I never resent being asked to return a favor.

T F

- ___ 26. I have never been irked when people expressed ideas very different from my own.
- ___ 27. I never make a long trip without checking the safety of my car.
- ___ 28. There have been times when I was quite jealous of the good fortune of others.
- ___ 29. I have almost never felt the urge to tell someone off.
- ___ 30. I am sometimes irritated by people who ask favors of me.
- ___ 31. I have never felt that I was punished without cause.
- ___ 32. I sometimes think when people have a misfortune that they only got what they deserved.
- ___ 33. I have never deliberately said something that hurt someone's feelings.

APPENDIX 5

INSTRUCTION, PROCEDURE AND ADMINISTRATION
PROCEDURE FOR THE PORTABLE NOI-AUD-PRIME TYPE

APPENDIX 5

INSPECTION PROCEDURE

Portable Rod-and-Frame Test

1. When the built-in level indicates that the apparatus is level, and with the rod set at 0° with the protractor, check with a second level and square that the rod is indeed vertical (a check-square with internal level can be used). This and subsequent tests of rod calibration will be easier if the frame enclosure is lifted off the rollers and removed. If the rod is not truly vertical with the protractor set at 0° , the line on the clear plastic indicator should be redrawn so that the protractor indicates the true position of the rod.

2. Some protractors may not have been aligned properly on the end disk. Thus, even though the 0° reading may be accurate, the readings at the extremes of the scale may not be. This can be checked by use of a separate level and a 30° - 60° draftsman's triangle. Set apparatus absolutely level with built-in level, set rod to 30° to the right (or left by the protractor, and place triangle hypotenuse against rod with long side vertical. Then use a separate level to check that the long side of the triangle is truly vertical (or that short side is horizontal). Repeat with rod tilted

30° to opposite side. If 30° readings are not accurate, but 0° reading is correct, protractor is not aligned properly around center of rotation of disk. If the discrepancy is slight, it can be ignored. Large discrepancies will necessitate removal of the protractor and its re-attachment so that it revolves on the same center as does the disk. It may be necessary to obtain a new protractor from the manufacturer, if the present one is damaged during removal.

3. Check that rod and frame rotate on same centers. Set both rod and frame 20° left, then 20° right. By inspection the rod should appear to be centered within the frame, with 1/8 in. clearance between each end and the adjacent side of the frame. If the centers of rotation are different for the rod and the frame, adjustment of the size of the rollers with layers of tape may correct the problem. However, this may be difficult, and re-alignment by the manufacturer may be necessary if the misalignment is severe.

4. Frame must tilt exactly 28° in each direction. Using masking tape, attach a 30°-60° draftsman's triangle to the end disk with one of the right angle sides snugly against the side of the rod. Set rod at exactly 28° and rotate frame firmly against stop. Note whether the side of triangle perpendicular to rod is parallel with the bottom side of the frame. Repeat on opposite side. If frame tilts

are not accurate, either file down or build up the stop mounted on the frame disk until the proper tilt is achieved.

5. The subject must be unable to see out of the unit when his head is properly placed in the headrest. Whenever the apparatus is used, the point of the subject's chin should be placed in the chin pad, and the temple pads should be high on the head to avoid contact with ears or glasses. The unit must also be on the edge of a high table, so that the subject does not have either to bend down or lean forward excessively in order to reach the headrest. Have several trial subjects properly place their heads in the headrest and then ask them to try to see out around the eyeshield (without, of course, removing their heads from proper testing position). If subjects can see into the room, the eyeshield should be extended with tape, cardboard, flexible plastic, etc., to block this vision. If such changes are not feasible, a new eyeshield should be constructed or obtained from the manufacturer, if possible. Polyethylene sheet, 1/8 in. thick, is a suitable material.

6. The curtain must open completely, so that no cloth is visible to the subject when it is open. When closed, it should stay closed without being held. If curtain does not open fully, weights should be added to the bottom hem. It may also prove helpful to insert a stiff metal rod through the hem to hold the bottom of the cloth

out to its full width (the rod should be as long as the curtain is wide). The cloth should be completely out of the subject's view when the curtain is open.

If the curtain does not stay closed, a weight on the end of the handle or an elastic band connected from the handle to a hook on the base should be used to hold it. The subject should not be asked either to hold or to operate the curtain. His hands must remain in his lap throughout testing.

An additional note: It is most important that the subject's head remain in the headrest at all times during the testing. It has been found helpful to attach a cord with hooks to each side of the headrest so that it passes around the back of the subject's head. This cord should not be tight and will serve as a reminder should the subject momentarily lean back.

Procedure for Portable RFT - Adults

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Note: Apparatus must be on sturdy table and be level.

Before seating S in front of apparatus:

"In this test we want to find out how well you can determine the upright - the vertical - under various conditions.

"In this box (PRFT) you will see a square frame and within this frame you will see a rod."

"It is possible for me to tilt the frame to the left or the right. I can also tilt the rod to the left or right. I can tilt the frame alone or the rod alone; or I can tilt them both at the same time, either to the same side or to opposite sides."

"When I lower the curtain at the beginning of each trial, I want you to tell me whether the rod and frame are straight up and down - i.e. vertical - or whether they are tilted. In other words, tell me whether the rod and frame are straight with the walls of this room or whether they are tilted."

"Are there any questions?"

Seat S in front of apparatus and adjust headrest. S's hands must be in his lap, not touching table. Tell S to keep his head in the rest at all times. Feet together.

Trial 1: Adjust the frame to 28L and the rod to 23L. Lower curtain. Say to S: "What is the position of the rod and the frame?" (Record S's response.)

If S says the rod is not vertical, say to him:

"I will now turn the rod slowly until you think it is straight with the walls of this room. As I said, I will turn it slowly, and after each turn, tell me whether it has been turned enough or whether you want it turned some more. Just say 'more' or 'enough' after each turn. Please make your decisions quickly and don't be too finicky. Which way shall I move the rod to make it vertical - clockwise or counter-clockwise?"

Now move the rod about 3' at a time opposite to the direction in which the S says it is tilted, until he reports "enough". Ask the S after he reports the rod vertical: "Is the rod now vertical - that is, is it straight with the walls of this room? In other words, is it straight up the way the flagpole outside is."

If the subject should now say that he wants the rod moved some more in either direction, do so. Raise the curtain and record the position of the rod.

If on this first trial, the S reports the rod to be straight at the outset, ask him the question: "Is the rod now vertical, that is, is it straight with the walls of this room?"

In such instances, give the S the instructions concerning the straightening of the rod, as above, on the next trial. If on the next trial, the S again states that the rod is straight at the outset, give him these instructions on the first trial on which he says that the rod is tilted.

Trial 2: Leave the frame at 2dL and adjust the rod to 2dR. Lower the curtain and say to the S:

"Would you tell me now and at the beginning of all subsequent trials whether the rod and frame are straight with the walls of this room, or tilted; and if the rod is tilted, whether the rod should be moved clockwise or counter-clockwise to be made straight."

If the S asks you to turn the rod, do so until he says "enough."

Ask him again: "Is the rod now vertical - that is, is it straight with the walls of this room?"

Do not ask this question on subsequent trials. Raise curtain. Record adjustment. Proceed to next trials.

Trial 3: Frame 2dL Rod 2dL

Trial 4: Frame 2L Rod 2dL

Trial 5: Frame 2dL Rod 2dL

Trial 6: Frame 2dL Rod 2dL

Trial 7: Frame 2dL Rod 2dL

Trial 8: Frame 2dR Rod 2dL

Before S enters the room, be sure frame is straight and curtain up.

If at any time after the rod has been adjusted on a given trial the S should say that he wants it moved some more in either direction, do so.

If the S should take more than 5 seconds on any trial before saying "more" or "enough," tell him: "Please make your decisions quickly."

If the S should repeatedly say "more" or "enough" before the turn of the rod is completed, say to him: "Please wait until I have completed the turn."

Check from time to time to determine whether the S's head is in the proper position in the headrest. Attaching the elastic cord around the back of S's head is recommended.

APPENDIX 6

SUMMARY TABLES OF THE ANALYSES OF VARIANCE WHEN OTIS IQ,
EDUCATION, AND AGE WERE THE CRITERION VARIABLES.

Table II.-

Summary of Analysis of Variance with Otis IQ scores as the Criterion Variable.

Source of Variation	SS	df	MS	F	F _{.95} (1,28)
Approval Need	332.0	1	332.0	4.06	4.26
Attitude Shift	225.2	1	225.2	2.79	4.26
Interaction	34.0	1	34.0	4.12	4.26
Within	2276.9	28	81.31		
Total	2876.7	31			

Table III.-

Summary of Analysis of Variance with Age as the Criterion Variable.

Source of Variation	SS	df	MS	F	F _{.05} (1,76)
Approval Need	198.4	1	198.4	3.30	3.97
Attitude Shift	33.8	1	33.8	0.56	3.97
Interaction	151.3	1	151.3	2.51	3.97
Within	4594.4	76	60.50		
Total	4977.9	79			

Table AIII.-

Summary of Analysis of Variance with Education as the Criterion Variable.

Source of variation	SS	df	MS	F	$F_{.95}(1,76)$
Approval Need	0.11	1	0.11	0.06	3.47
Attitude Shift	0.31	1	0.31	0.18	3.07
Interaction	6.61	1	6.61	3.75	3.07
Within	132.97	76	1.75		
Total	140.0	79			

APPENDIX 7

ABSTRACT OF

Attitude Shift, Approval Need and Extent of
Psychological Differentiation

APPENDIX 7

ABSTRACT OF

Attitude Shift, Approval Need and Extent of Psychological Differentiation¹

This study was carried out to investigate the possibility of an inverse relationship existing between both congruity shift of attitude and need for social approval on the one hand and extent of psychological differentiation on the other. In null form, the three hypotheses were:

1. There is no statistically significant difference between persons classified as manifesting greater concept-shift of attitude toward congruity and those classified as manifesting lesser concept-shift of attitude in extent of psychological differentiation as measured by portable Rod-and-Frame Test performances.
2. There is no statistically significant difference between persons classified as manifesting high need for social approval and those classified as manifesting low need for social approval in extent of psychological differentiation as measured by portable Rod-and-Frame Test performances.
3. There is no statistically significant interaction effect between the attitudinal (greater versus lesser concept-shift of attitude) and motivational (high versus low need for social approval) variables in extent of psychological differentiation as measured by portable Rod-and-Frame Test performances.

Eighty male students of education and psychology of mean age thirty-two years judged a number of sources and

¹ Michael W. McCarrey, doctoral thesis presented to the Faculty of Psychology of the University of Ottawa, Ontario, May 1969, ix-125 p.

concepts selected via a pre-test (such that sources were highly polarized and concepts relatively neutral) once in isolation and then, after three weeks, in combination on the same evaluative form of the semantic differential. Subjects also took the Marlowe-Crowne Need for Social Approval Scale and the portable Red-and-Frame Test such that each measure appeared an equal number of times in each administrative position. The subject-pool was classified into four subgroups of twenty subjects each according to the median scores of the attitude shift and approval need score distributions. Subsequently, the perceptual performance of forty subjects falling in the upper and lower thirds of the independent variable distributions was likewise analyzed via the analysis of variance with ten subjects per cell.

The data allowed rejection of the first null hypothesis but not that of hypotheses two and three. Evidence was thus found to support the modification of the congruity principle of attitude shift in that magnitudes of shift appeared inversely related to extent of psychological differentiation. The lack of significant effects accompanying variations in approval need was seen as possibly reflecting differential item validity of the Marlowe-Crowne scale. On the other hand, granting the existence of the null conditions between approval need and extent of differentiation, an implication of the present study would be the possibility

that psychological differentiation constitutes more a reflection of autonomy of complex perceptual-cognitive functioning than approval need structure. A factor analytic approach was suggested to determine the factorial composition of attitudinal, approval need and differentiation construct variables as a means of exposing extent of commonality among them. Until such evidence is forthcoming, caution may be warranted in terms of the generality of the differentiation construct.

Attitude Shift, Approval Need and Extent
of Psychological Differentiation¹

ERRATA

1. Page 3, second to last line, for 'communication' read 'communications'.
2. Page 15, second paragraph, second line, for 'have' read 'has'.
3. Page 32, first paragraph, fifth line, for 'possible' read 'possibly'.
4. Page 41, third to last line, for footnote '3' read '1'.
5. Page 49, first paragraph, line three, for 'given' read 'giving'.
6. Page 53, first paragraph, line five, for 'enthusiastically' read 'euphemistically'.
7. Page 63, line 11, delete word 'those'.
8. Page 87, Table X, in the tenth column from the right, for '2.95' and '6.14' read '6.14' and '2.96' respectively.
9. Page 120, Table XI, for Total SS '2868.7' read '2878.7'.
10. Page 123, Hypothesis three, line two, for 'between' read 'between'.

¹ Michael W. McCarrey, Unpublished Doctoral Thesis, presented to the Faculty of Psychology, University of Ottawa, May, 1969, ix-125p.