AN APPLICATION OF THE MULTIPLE ATTRIBUTE MEASUREMENT MODEL: MEASUREMENT AND MANIPULATION OF SOURCE CREDIBILITY

Thesis for the Degree of M. A.
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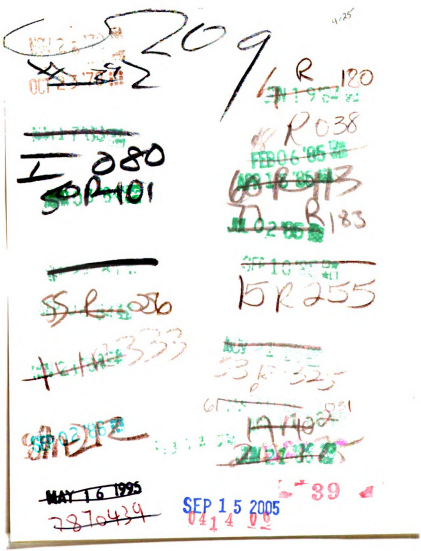

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ABSTRACT

AN APPLICATION OF THE MULTIPLE ATTRIBUTE MEASUREMENT MODEL:
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By

Michael J. Cody

A dimensional model of judgment was proposed wherein concepts are represented as points in a multidimensional space, and the projections of each concept on the dimensions represent the values or magnitudes on that dimension. Attributes are held to be distinct from dimensions, and are fundamentally scaled into a multidimensional space comprising both the linguistic descriptors of a domain (trait adjectives) and the objects of a domain (person-concepts).

The model was applied to the measurement of the source credibility construct by scaling into a multidimensional space trait adjectives (attributes) used typically as the bipolars of unidimensional scales, public figures and an ideal point (i.e., "Ideal Credible Source"). The model provides the following types of information: (1) A score for the ideal point on each attribute; (2) the salience of each attribute for the "Ideal Credible Source"; (3) a score for each public figure on each attribute; and, (4) the saliency of the attribute in perceiving each public figure. The thesis presented results concerning the following characteristics of the model: (1) the observed stability of the location of each of the "stable concepts" (the linguistic descriptors of the domain) in the multidimensional space was substantially high; (2) a considerable number of dimensions were found to be reliable; and (3) the attribute salience measure was supported.

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Based on the simple assumption that associatively linked concepts will converge (or, that disassociatively linked concepts will "repell" each other), messages were designed to move a relatively unfamiliar public figure closer to the "Ideal Credible Source" or away from the "Ideal Credible Source." Further, it was predicted that these motions would occur along specific vectors -- the resultant of the vectors representing the concepts used in the message.

To test these hypotheses, four posttest groups were used: (1) a control group; (2) a speech only group (who received only a persuasive speech attributed to the manipulated public figure and received no credibility induction message); (3) a positive induction message group; and, (4) a negative induction message group. Results indicated that the procedures employed in the positive induction message group successfully moved the public figure along the predicted vector. The results of the negative induction message group indicated that the public figure moved contrary to the hypothesized vector. Failure to predict this motion was explained in terms of confounding the effects of the induction message with the effects of the speech, and by the fact that the unfamiliar (manipulated) public figure's motion was partially interrelated with the motion of a public figure to whom he was linked.

To obtain a manipulation check on the induction of higher and lower levels of credibility, a topic was selected from an attitude pretest and a persuasive speech was attributed to the manipulated public figure. Results of the manipulation check indicated that the persuasive speech was persuasive by itself and that the credibility inductions had little additional impact on the amount of attitude change observed. While there is an indication that the amount of attitude change obtained in the

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negative induction message group was less than that in either the speech only and positive induction message group, these differences were not significant.

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Michael J. Cody

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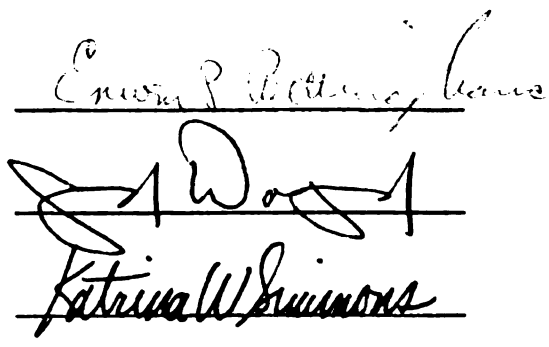
Accepted by the faculty of the Department of Communication, College of Communication Arts, Michigan State University, in partial fulfillment of the requirements for the Master of Arts degree.

Chairman, 

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CHAPTER I

INTRODUCTION: THE PROBLEM OF MEASURING "SOURCE CREDIBILITY"

Many of the constructs in the nomological networks that comprise communication theories are social perception constructs. Such constructs as source credibility (Berlo, Lemert and Mertz, 1969), source valence (McCroskey, Jensen and Valencia, 1973) and homophily (Rogers and Shoemaker, 1971) are key constructs in our theory building. The present study is primarily concerned with the general problem of relating these abstract constructs to measurement in the social and physical reality.

Such constructs are generally thought to be multidimensional by most recent investigators. Typically, to assess an object that is multidimensional, covariances among ratings on multiple unidimensional scales are factor analyzed and factor indices are constructed from these analyses. Such procedures have led to advances in scientific inquiry into the nature and effects of complex and multidimensional constructs, particularly after the initiation of high speed computers.

Several problems, however, continue to plague this approach. For one, the scales selected by the E determine the factors that will be obtained, and this does not insure relevance of the factors to the construct. Further, as McLaughlin (1975) argued, it is not known whether the n-number of factors obtained are exhaustive of relevant factors. McLaughlin recommended locating a concept such as "Most Believable" or "Ideal Credible Source" into a multidimensional space of public figures.

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Credibility would then be a simple function of distance from this ideal point. This method would provide a good measure of credibility, but does not answer the traditional theoretical question as to which factors of perceiving others are critical credibility factors.

Utilizing a more traditional approach, McCroskey, Jensen and Todd (1973) attempted to answer the question by using factor scores to predict to Likert-type items that purport to tap "Communication-Related Behaviors." They obtained multiple correlations of only .5 to .7, which implies either that the criterion variables did not differentiate credibility, that some relevant dimension(s) may not have been tapped, or perhaps that a credible source is one who does not score consistently high on all factors. Heston (1973) demonstrated the viability of the argument that the "Ideal Credible Source" may not be the source that loads consistently high. She reported the surprising results that the ideal source "...would be highly responsible, reliable, honest, just, kind, cooperative, nice, pleasant, sociable, cheerful, friendly, good-natured, and relaxed, and only slightly expert, virtuous, refined, calm, composed, verbal, mild, extroverted, bold and talkative" (p. 10, emphasis mine).

Taken together, these considerations lead to the conclusion that an alternative measurement model for the source credibility construct should be developed. McLaughlin's model (1975) provides a global score which purports to reflect a multiplicity of receiver attributions to sources, but which provides no ready means of identifying which attributions are made or the relative saliency of those attributions. The factor analytic models allow identification of attributes salient to perceptions of credibility, but are not readily amalgamated into a

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meaningful index of credibility as one complex construct. The difficulties in indexing scores on credibility factors stem both from the fact that middle-range scores on some credibility-related attributes may indicate maximal credibility, and from limitations imposed on the attribute configuration in a factor space by assumptions of factor analysis and semantic differentiation. It is the purpose of this paper to develop and test an alternative model which can combine the strengths and eliminate the weaknesses of the two models discussed above. Toward this end, it will be useful to examine the assumptions upon which the factor analytic model rests.

Assumptions of the Semantic Differential

While the Semantic Differential has been extensively employed in communication research, several of the key assumptions underlying its use are questionable. First, the approach assumes that the scale is indeed unidimensional, there exists some (center) point of neutrality and that the distance between each of the end points and the center are equal. Further, the lengths of each attribute scale are standardized; the distances between all pairs of bipolar adjectives are equal, and scale intervals are assumed to be equal categories. Finally, it is necessarily implied that any scale attempts to achieve some correspondence, some isomorphism, between the numbering system in the scale with that inherent or latent in the psychological continuum.

One of the central limitations of unidimensional scales is that, by definition, they measure only one attribute, and factor analysis was developed precisely because objects of cognition are multidimensional in nature. Consider the typical factor analysis experiment: the E selects

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a set of attribute scales, presumably exhaustive of dimensions of judgment in a particular domain, or to investigate some theoretical construct. Ss evaluate a number of concepts on these scales, which generates a matrix of scores and ultimately a correlation matrix. The correlation matrix is factor analyzed by any usual procedure to determine the projections of the stimuli on r orthogonal axes. The goal of the procedure is to present a parsimonious representation of the data to represent the factors, or dimensions, of judgment.

The development of factor theory was dependent upon assumptions of a common origin, bipolarity, equidistance of scale anchors from origin, and standardization of scale metric. The assumption of a common origin implies that (1) the centroid from which vectors originate is a point of neutrality, and (2) all vectors originate from this meaningful neutral location; that is, all attributes intersect at a meaningful location. The strong version of the assumption holds that these facets are necessarily true. Osgood et al. (1957) made this explicit and argued that intensity and direction are indicated by factor loadings. The weaker version of this assumption is never fully discussed in factor analytic research. It is made possible by arguing that the centroid is not necessarily a meaningful point of neutrality; that the sole reason that vectors originate at the origin is mathematical convenience. Hence, the weaker assumption of common origin only asserts that all attribute-line segments in the space intersect at the origin (or at some point, in the case of transformation), and not that there is any special significance to the centroid.

The "meaningful origin" aspect of the assumption of common origin is directly related to the assumptions of bipolarity and equidistance from the origin:

> One of the difficult methodological problems we have faced - unsuccessfully so far - is to demonstrate that the polar terms we now use are true psychological opposites; i.e., fall at equal distances from the origin of the semantic space and in opposite directions along a single straight line through the origin. And why use the adjectives? We assume that it is the lexical (root) meanings of our polar terms that determine judgments; adjectives are merely the most general and natural qualifiers in English. (Osgood et al., 1957, pp. 327-328)

Several studies have focused on this "difficult methodological" problem of bipolarity and equidistance. Wishner (1960) argued that one of the bipolar adjectives may be the grammatical opposite of the other, yet possess positive or negative implications of its own. This implies that the meaning of an adjective is not necessarily strictly defined as the opposite of its grammatical antonym, but by its set of formal relations of implicating similarities and dissimilarities, with all other traits and concepts.

More stringent tests of both bipolarity and equidistance assumptions have been offered by multidimensional scaling analyses. In testing the assumption of bipolarity, Anderson (1970) and Danes and Woelfel (1975) argued that line segments drawn from the centroid to each of two bipolars should have an angle between them equal to 180^{o}. The fact that neither study found angles of 180^{o} between these line segments supports Wishner's contention that each trait adjective possesses its own unique set of formal relations with other traits since, in MDS, the location of a trait is dependent upon its perceived similarities with all traits. The grammatical opposite is only one of many traits used as a reference point in the location of a trait.

Both Anderson (1970) and Danes and Woelfel (1975) also assessed the common origin and equidistance assumptions by computing the distance

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between each concept point from the origin. If equidistance exists, then a ratio of smaller distance to the larger should be 1.00. The obtained ratios, in both studies, failed to support this assumption. These studies, then, would seem to indicate that the theoretic assumption of equidistance of bipolars from a common origin does not conform to data collected to test it.

Hence, the invalidity of the strong version of the assumption of a common origin is demonstrated by: (1) locating individual points in the space vs. locating pairs of grammatical opposites in the space jointly; and (2) allowing the distances from each pair of grammatical antonyms to vary in length as a free parameter according to Ss' perceptions of dissimilarities vs. constraining all attribute line segments to equal and arbitrary length. It can be concluded that meaning is more accurately conceptualized as the result of the sum of compound reactions to all traits taken singularly and, secondly, that standard length and common differentiation of semantic differential scales impose severe and arbitrary constraints on measuring the meaning of a concept. In light of these conclusions, adoption of the "weaker version" of the assumption of the common origin for mathematical convenience must also be rejected. Rather a representation of semantic space which makes no assumptions, or assumptions more commensurate with available data, should be sought.

Finally, the interval quality of the scale can be questioned. Messick (1957) found high correlations between obtained and assumed intervals, but quickly pointed out that due to restrictions on variation of values, such a relationship by nature must be very high. Messick found that positive intervals were consistently larger than symmetric negative ones for all scales. Interval distortions may not only be based solely

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on the effects of positive ratings; there may also be "end effects" -- where the tendency for extreme categories both positive and negative to be larger than the center ones.

Gulliksen (1958) pointed out that on many of the individual items in the Measurement of Meaning (Osgood, Suci and Tannenbaum, 1957, p. 127) the variance approached zero. Gulliksen asserted: "Clearly, it is not possible to determine accuracy of measurement when such a coarse grouping is used. For any measurement one needs a unit so fine that a reasonable determination of error is possible" (p. 116). The two relevant implications are that a more precise scaling device is needed and that without accurate measurement there can be no accurate measurement of change. Additionally, it may be noted that low variances in scaled values of stimuli may result also from "ceiling effects" resulting from stimuli being perceived by Ss as having projections beyond the end point of the presented attribute scale. Factor analysis cannot empirically test this possibility because it constrains the arrangement of attributes such that a stimulus which projects on one attribute must project onto all attributes.

In conclusion, the validity of the assumptions upon which factor analysis of unidimensional scales rests is questionable. First, both a meaningful origin and the equidistance from origin condition are artifactual, stemming from the forced association of pairs of points and standard lengths between end point. Secondly, assuming the meaning of a trait to be the opposite of its grammatical antonym and conceptualizing meaning as a compound reaction to bipolar terms is questionable since the meaning of each individual trait is uniquely defined by its relation with all other traits. Linguistic determinancy of a trait's

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location in the space can only be realized as the result of its location in terms of its formal relations with all traits.

Assumptions of the Multiple Attribute Measurement Model

The alternative representation of "semantic space" may be described as a multi-dimensional array of linguistic elements (descriptor concepts, including unidimensional scale anchors). This configuration is stable in a space generated through metric multidimensional scaling procedures from aggregated data of a sample of language users (i.e., a sample of Ss who share a common language). Such an array constitutes a single multidimensional scale, in contrast to "semantic spaces" derived through factor analytic techniques, which constitute constrained multidimensional arrays of unidimensional scales.

This alternative model rests upon the following assumptions:

1) Within a given cognitive domain, it is assumed that there exists a structure; i.e., a formal set of relations among the linguistic units used to describe objects residing in the domain.

2) It is assumed that the meaning of a linguistic unit is determined by its dissimilarity relations (physical separation in the spatial representation) to all other concepts in the domain.

3) Within a given domain, it is assumed that a subset of linguistic units will bear stable relations to each other, determined by cultural usage, describing a structure which is generally applied to other linguistic units representing objects within the domain. The subset of linguistic units so designated (e.g., adjectives) may be identified as having meanings (locations) determinable by reference to other linguistic elements of the subset, and independent of particular perceivable

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referents (objects of the domain) which might exemplify instances to which they refer. Two implications of this assumption of abstract determinability (without necessary reference to particular perceivable referents) are:

a) that the relationships between elements of this subset will be as stable across time as the language of which they are a part; and,

b) that the stable structural array of the subset will constitute a common, stable sub-structure in the individual cognitive structures of users of the language.

4) It is assumed that Ss can be taught to report ratio judgments of dissimilarities among traits and concepts.

Within the semantic space characterized by these assumptions, it is useful to specify definitions for a number of terms. An attribute will refer to a line segment between points representing linguistic units which Ss perceive as semantic opposites. Dimension refers to a reference line, orthogonal to all other dimensions, through the configuration of attribute end points. Note that the goal of factor analysis has been to identify attributes which load highly on one dimension, but not on others. To designate this condition, one can say that for a given dimension there may be an attribute or set of attributes that are exemplars of that dimension. Of course, there may also be any number of attributes which are not exemplars of any dimension. Tyipcally, non-exemplary attributes are purged from the interpretation of factor analytic solutions because they are not considered to be identifiably useful in the interpretation of dimensions of judgment in the domain.

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However, a different logic operates in the analysis of multidimensional scaling configurations. Such configurations may be interpreted by use of property vectors or by projections of stimuli on axes. What is important is that the set of points be arrayed in as many dimensions as are empirically reliable. If a stable attribute is non-exemplar (located only moderately "high") in the reliable dimensions, discarding the trait means that one is discarding highly reliable information. In the model proposed here, attributions of non-exemplar traits are considered to provide useful information about probable attributions of many other (exemplar) traits, and are therefore retained.

Before discussing the general assumptions of the model, it would be worthwhile to clarify assumption 3. Recall that in factor analysis one can sum across Ss, across concepts or across both; thus eliminating confounding variance due to Ss or due to concepts. Evidence clearly exists which documents individual differences in the semantic space (Wiggins and Fishbein, 1969; Talbot, 1969). However, the model proposed here is concerned primarily with assessing the relationships between linguistic units at a cultural level and the perception of public figures from the perspective of the aggregate.

The effects of variance due to concepts is potentially problematic. Osgood et al. (1957) concluded that the nature of the concept being rated will influence the factor structure obtained: "...the more evaluative or emotionally loaded the concept being judged, the more the meaning of all scales shift toward evaluative connotation" (p. 187). Additional research by Green and Goldfried (1965) and Rosenbaum, Rosenbaum and McGinnies (1971) further documents concept effects. The proposed model does eliminate concept effects that may be artifacts of ratings on

unidimensional scales which are factor analyzed because the structure of the semantic space is defined by the relationship between all bipolar adjectives, as opposed to allowing the means and variances of concept ratings to define the structure of the space. Thus, in the proposed model, a concept of highly emotional connotation will not influence the meaning of all scales, and, ultimately, the factor structure.

Of course, concept effects cannot be totally eliminated because some of the impact of changing from concept domain to concept domain elicits true, non-artifactual changes in the structure. It is for this reason, as will become clear below, that the domain specificity assumption has been made.

It should be noted that while the majority of research on "implicit personality theory" supports assumptions 1 and 3 of the model (see next section), two studies (Hanno and Jones, 1973; Doherty, 1973) found changes in the structural array of traits by changing the individual or concept being evaluated. The obtained changes did not include order changes of concepts in the structure. Indeed, cannonical correlations were quite high, .989 and .881 for a two factor structure obtained by Hanno and Jones (1973). The exact nature of the changes in the semantic structure when Ss were required to evaluate different "reference persons" dealt with changes in the distances between some of the adjectives. When changing concepts such as "hypocrite," "astronaut," "surgeon" and "killer," the obtained changes in the structure were expansions or contractions of distances between attribute end points that are relevant or irrelevant to the concept being evaluated. Doherty's (1973) results and discussion implied that "adequate" and "capable" were further apart in the "hypocrite" and "killer" structures than in the "astronaut" and

"surgeon" structures. Further, "cruel" and "kind" were closer together in the "astronaut" and "surgeon" structures than in the other two.

Doherty (1973) concluded that "...when the multidimensional scaling solutions are compared for different references, they appear to be very similar. However, systematic changes may be induced, resulting in a change in the relative length of the capability dimensions for one of the negative references" (p. 78). Thus, while the order of adjectives in the structure are similar, some variations in the distances between some concepts are obtained. (Unfortunately, Doherty did not have any independent criteria for demonstrating that attribute relevance or irrelevance is the explanatory variable for the expansion or contraction of attributes.)

Note that the "reference persons" used in these studies are not people but are terms that constitute classes of people. Assuming that the domain "class of all individuals" is too broad a domain to be used to avoid concept effects, one may wish to break "domain" into a hierarchical set of domains of others. Therefore, it would be advisable to provide the following definition: A cognitive <u>domain</u> is a set of objects or concepts that naturalistically possess some classificatory characteristic in common. (This definition, admittedly poor, seeks to avoid any uninterpretable or potentially confusing definitions, such as defining domain as "phenomenal objects which the person treats as functionally equivalent" (Scott, 1969, p. 262).) In a hierarchical clustering analogy, a domain at one level may be the set of all human beings. At another level, the set of personal acquaintances, or the set of current American politicians. Within each domain, attributes will vary in terms of relevance and irrelevance. Thus, as specified in assumption 3,

stable structures should occur within domains, and there will be variations in lengths of attributes from domain to domain.

On the Assumptions of the Proposed Model

Obviously, one would like to raise the question as to whether the above four assumptions, upon which the model rests, are tenable. Evidence concerning the ability to make ratio judgments of separation specifically (assumption 4) is scarce. The most recent evidence concerning individuals' abilities to use metric MDS was presented by Gordon (1976). Gordon found that varying the criterion pair across nine independent samples produced statistically identical structures. Gordon, however, cautioned against generalizing these findings to data sets where Ss were required to make distance estimates among heterogeneous concepts. In the present study, effort was made (in accordance with the assumption concerning domain specificity) to use a homogeneous set of concepts. More will be said about this assumption in the section on "Derivation of the Multiple Attribute Measurement Model."

Fortunately, a plethora of research can be referenced in relation to the first three assumptions. For example, assumption 2 is commonly made in the MDS literature (see Shepard et al., 1972), as well as in the research on the analysis of meaning (Miller, 1969). As such, this assumption needs no further articulation and support here. However, it would be profitable to review additional literature relevant to assumptions 1 and 3. This research literature has typically been subsumed under the category of "implicit personality theory" research. The next three subsections will define this construct, present research evidence which bears upon the generality by which "implicit personality theory"

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is applied by individuals as they perceive and evaluate others, and discuss questions which pertain to the nature of the phenomenon.

(a) Definition of "Implicit Personality Theory"

Some of the early conclusions of person perception research (Hastorf et al., 1958) were (1) people use a rather limited number of perceptual categories even when describing very different kinds of people; (2) there is a strong positive relationship between categories which people use in describing others and themselves; and (3) a person has both a core of generally consistent categories used in describing all people and a set of generally consistent categories which depend on situational factors. Further, a common, explicit assumption underlying all studies in person perception has been that the perceiver's judgments of a stimulus person are a function of both (a) the information available about the stimulus person's characteristics, and (b) the perceiver's past experience with people --experience which presumably leads to the establishment of the "implicit personality theory," which, in turn, structures the individual's judgments of others.

"Implicit personality theory" is the set of formal relations among trait adjectives. The history of research in person perception has replicated the common finding that a person expects certain traits to "go together." Research on the "halo effect" (Thorndike, 1920), "logical error" (Newcomb, 1931), "trait implication" (Hays, 1958) and "centrality" (Asch, 1946; Kelly, 1950; Wishner, 1960), as well as the "implicit personality theory" (Cronbach, 1955, 1958; Rosenberg and Sedlak, 1972) are examples of investigations into the process of trait co-occurrence.

The "implicit personality theory" concept was first introduced as a response bias in accuracy scores (Bruner and Tagiuri, 1954), and a more

general statement was provided by Cronbach (1955) and Secord and Berscheid (1962). Cronbach noted that the rater's bias deserved attention in its own right, beyond that of a source of constant error, and suggested that a judge's implicit personality theory could be described by the means, variances and covariances of the judge's ratings of a large number of others. Only a few studies have used Cronbach's operational definition (Crow and Hammond, 1957; Gross, 1961). Gross found some evidence for bias in means and variability in ratings of 30 heterogeneous others - each presented under conditions of minimal information transmission (30-second films of each person at a park bench). However, the response bias accounted for a negligible portion of the variance while stimulus factors, in spite of the limited information available, accounted for the major portion of the variance.

Koltuv (1962) criticized the Gross study because the rating scales were few, and did not represent relevant dimensions in perceiving others - "This method of choosing dimensions for the perception of others may partially explain the finding that perceiver predispositions account for little of the variance in social perception..." (p. 5). Nonetheless, while intrajudge consistency of means across scales was found, Gross felt that the "generalized other" had little validity and that "...cultural similarity in the experience of the judges resulted in their drawing upon commonly held stereotypes" (p. 608).

Bruner, Shapiro and Tagiuri (1958), as well as Hays (1958), have used the term "implicit personality theory" in reference to the network of relations among personality traits. According to Bruner et al., a certain set of traits can be input into a matrix of "lay personality theory" from which other traits can be predicted. Their research on

trait combination was based on the following presupposition: "The fact of consistency of behavior, the backbone of personality theories, is represented in language by which people are commonly described. It is characteristic of trait words like honest, brave or clever that they do more than denote specific acts of a person; that, indeed, they summarize or "package" certain consistencies of behavior" (p. 278).

Hays (1958) presented a similar account: "...a person must have some relatively stable scheme of expectations and anticipations about others.... This scheme may be thought of as a set of inferential relationships among experienced attitudes and traits which exist for the individual" (p. 289). He recommended two models for describing the formal relations among traits, the implication model and the similarities model. The implication model assumes that when an individual infers one trait from another that such inferences are never made with absolute certainty. Data can be collected by informing subjects that the target individual possesses some trait x, and then the subjects are asked to judge the probability that the target possesses traits y, z, etc., on a scale from 0 to probability of 1.0. Hays also postulated weights. However, what is important about the model is that the data is transformed from the original likelihood estimates to "true probability" estimates. Also noteworthy is that the pairs of traits are only rank ordered and then subjected to Coombs' (1950) multidimensional unfolding procedure. Hays only used eight traits and did not label the dimensions obtained because of the small number of traits used. The second model, the similarities model, has not generated much research and will not be discussed.

Todd and Rappoport (1964) compared the implication model with two sets of factor analytic ratings for Ss' ratings for real persons

and hypothetical others (i.e., "intelligent person"). The real persons were familiar person-objects utilized in a modification of Kelly's (1955) Rep Test. The comparisons indicated that the three procedures were in high agreement with respect to the degree of implication indicated between traits. The differences between methods were as expected. The two factor analytic procedures were in greater correspondence with each other, and Hays' corresponded better with the ratings of hypothetical others than to real persons.

However, Todd and Rappoport identified three problems with the implication model: there exists no analytic criteria to limit the number of dimensions to be extracted; there exists no criteria for determining the relative importance of the dimensions obtained, and, no convention exists for deciding what constitutes "significant" loadings on dimensions. The more crucial finding was the factor analytic and implication model provided differences in terms of the number of dimensions obtained and Todd and Rappoport concluded that neither of the models provides satisfactory dimensions of cognitive structure. They recommended a more sophisticated procedure (Shepard, 1962), despite the fact that even today some of the problems with the implication model are unresolved issues in the area of multidimensional scaling.

Thus, "implicit personality theory" is defined as a stable structure of the interrelatedness of attitudes and traits that are assumed to exist in others. Over time, after multiple experiences with heterogeneous and multiple others in multiple and heterogeneous situations, people build up certain expectations of what traits "go together" in others. These expectations are incorporated into the language people use to describe others. Hence, there is some overlap between shared, common experiences

that determine one's "implicit personality theory" and one's own individualistic experiences. For this reason, Gross (1960) attributed the obtained response bias to the fact that Ss drew upon commonly held stereotypes when rating heterogeneous others. A number of models have been developed to measure the formal perceived relations among traits, culminating in Todd and Rappoport's (1964) recommendation that multidimensional scaling be utilized. It should be pointed out that while Hays and Bruner et al. presented the above definitions of "implicit personality theory" their analysis fell short of adequately representing any complex structure, or of assessing the stability of such a structure. Bruner et al. demonstrated that the kinds of inferences Ss made from single trait-names yielded an accurate prediction of the kinds of inferences drawn from combinations of trait-names, but no assessment was made of structure per se. Hays' (1958) investigation of structure was limited to only eight traits, but was suggestive.

Wishner (1960) and Koltuv (1962) presented the first studies that explicitly investigated structure. Wishner (1960) questioned the methodology by which "central" traits were investigated (Asch, 1956; Kelly, 1950) by illustrating that any trait on the stimulus list may be central by appropriate manipulation of the items on the check list or rating scale. The issue of "central" traits is not resolved, but Wishner demonstrated the difficulty in methodology. Nonetheless:

> ...the most important feature of Wishner's analysis is that he has provided us with a working model of the "implicit personality theory." It is simply a correlation matrix among traits, a matrix we all carry around with us. Each of us has an idea of what traits are closely related to each other. (Hastorf, Schneider, and Polekfa, 1970, p. 41)

Similarly, Koltuv (1962) conceptualized "implicit personality theory" as a pattern of nonzero intercorrelations which people assume to exist between traits in others. She demonstrated that this pattern remains nonzero when the halo effect is controlled through partial correlation.

In sum, "implicit personality theory" is defined as a stable network of relations among traits (and probably other categories and attributes) that (1) function for the individual to summarize or characterize the behaviors of others, and (2) to enable the individual to anticipate the future behaviors of others. Further, evidence exists that indicates that "implicit personality theory" structures our recall of others. D'Andrade (1970, cited in Schneider, 1973) had Ss rate the meaning of traits, rate a person immediately after interaction, and rate the person sometime after interacting. The results indicated that the matrix of recalled trait intercorrelations more strongly corresponded to the matrix of meaning trait intercorrelations than with the matrix of trait intercorrelations of the ratings of the person immediately after interaction. Thus, "implicit personality theory" is a determinant of our recall and description of others.

(b) Generality of "Implicit Personality Theory"

Demonstrating that such a structure exists and that it is a determinant of a person's descriptions of others is a good first step; however, the structure will be of value only if generality can be demonstrated - that is, only if the formal relations among traits are applied for different categories of persons such as men-women, blacks-whites, teachers-students, etc. Secord and Berscheid (1962) addressed this question. They asked whether strong affect toward the stimulus person

being judged would change the perceptual processes - that the biases of "implicit personality theory" take a different form for those person-concepts of high or low affect.

Secord and Berscheid had each S generate traits which s/he felt as belonging to Blacks and to Whites. Ss were then required to rate the probability of co-occurrence of stereotype and non-stereotype traits for White and Black stimulus persons. While some shift in mean ratings occurred because of categorization of a person as Black, the associations between stimulus traits and judged traits remained remarkably consistent whether the stimulus person was Black or White. They argued that "...the concept of implicit personality theory may be presumed to have survived this relatively stringent test of generality" (p. 77).

Additional support for the generality of "implicit personality theory" was offered by Koltuv (1962), who found that trait intercorrelations among traits were stronger for unfamiliar acquaintances than for more familiar ones. Thus, differences in "implicit personality theory" for close or distant acquaintances differ only in degree, not kind. Passini and Norman (1966) found high factor loadings for close friends and lower factor loadings for strangers, but the factor structure remained the same. This latter study is highly suggestive, since it indicates that people not only carry around a matrix of trait intercorrelations that applies to acquaintances, but that it also applies to strangers. Whether such ratings had any validity -- any effect on subsequent behavior -- is another question. (Indeed, there was little correspondence between self-reports and ratings by others.) These results indicate that people tend to assume that a trait x is in general associated with a trait y. (See also Jones and Nisbett, 1971.)

In general, the results of the above studies clearly support the robustness of the formal relations among traits. Similar to Koltuv (1962), it appears safe to conclude that changes in reference persons result only in subtle changes in degree of perceived co-occurrence, and not in the change in the structure itself.

(c) The Nature of the Phenomena

The generality issue is highly related to the issue of the nature of "implicit personality theory." The traditional explanation for the existence of "implicit personality theory," expressed by Bruner et al. (1958), is that the individual has many different types of experiences with many different types of persons and based on these experiences the individual learns what traits "go together." The results of the Passini and Norman (1966) study, that a similar factor structure was obtained for close acquaintances and for strangers in virtual absence of prior acquaintance demonstrated that the dimensions of perceiving others rest implicitly in the perceiver and are (presumably) activated with very superficial information and observable cues. They argued that the "implicit personality theory" operated as the basis by which raters arrived at nearly consensual judgments of strangers and that increased acquaintance with the raters increased the loadings on these factors.

Muliak (1964) and D'Andrade (1965) offered strong criticisms to the position that raters learned from experience how traits go together in others. Instead, they argued that the "implicit personality theory" represents the relationship between trait adjectives according to the meaning of the words and not according to how the traits co-occur in others. Muliak developed a trait-rating instrument using 76 trait adjectives

(from an original pool of 200). Three sets of Ss rated, in three separate studies: (1) 20 personalities -- 10 famous persons and 10 persons the Ss knew; (2) 20 stereotypes (ex., "intelligent person"); (3) the meaning of 20 traits -- traits which were randomly selected from the list of 200. Summing across raters and things rated, each matrix of intercorrelations was factor analyzed.

The ratings of real people resulted in eleven factors; of stereotypes, ten factors; for the meaning of trait words, nine factors. Considering that the 20 words were chosen at random, it is surprising that three factors from the study of the meaning of trait words showed congruent relationships ("similarity coefficients" greater than .79) to four factors in each of the two other studies. These three factors, and the two sets of four from each of the other studies, accounted for 60% of the common variance in their respective studies.

These results suggest that it is not necessary to rate actual people in order to determine the "personality factors" that would be associated with a set of trait words. The typical conceptualization of implicit personality theory holds that the raters have learned from experience which traits go together in actual persons, and that this "packaging" or summarization of the generalized other is represented in the factor structure. Muliak (1964) argued against this:

> This is a pertinent objection in the case of ratings of stereotypes. But it seems to require accepting many assumptions without evidence in the case of the study of ratings of the meanings of trait words. The Ss of this study were not asked to rate the traits on the degree to which traits went together in persons. They were asked simply to rate the trait words at the top of the rating scale according to how close they were to one or the other poles of the bipolar trait-ratings scales in meaning. It was

> assumed therefore that the Ss did what they were asked to do. But the author would be willing to consider the above objection as valid if someone would produce evidence that raters of the meaning of trait words make such ratings according to their knowledge of how traits go together in persons and not according to their knowledge of meanings as such. (pp. 509-510)

D'Andrade (1965) further supported the linguistic explanation:

> ...the hypothesis proposed here is that correlations and factors obtained in Norman's study are derived because sets of these terms partially overlap in meaning. This type of partial overlap in meaning appears to be a general linguistic phenomena, resulting from the fact that most lexical items in a language are composed of a cluster or bundle of meanings which recombine in sets to form different words. The meaning units which compose such bundles may be referred to in linguistics as "sememes" or sememic components.... (pp. 216-217) ...From this point of view, the meaning of words are composed of a bundle of dimensional values. (p. 222)

D'Andrade had 10 Ss rate all paired comparisons of Norman's Pole B traits on a seven point scale of similarity of meaning. Though the data is appropriate for multidimensional scaling, D'Andrade performed a factor analysis. He obtained a five factor structure that was highly similar to that of Norman (1963) and Passini and Norman (1966). Only five factor loadings were misplaced.

This controversy, however, has lost its impact since it is not clear how the underlying processes of judgments of similarity of meaning and judgments of perceived trait covariations are separable. The similarity of meaning hypothesis is inconceivable without a foundation in perceived trait covariation or implication since language itself is associatively and experientially determined. For example, Friendly and Glucksberg (1970) offer some insight into how new linguistic items are incorporated into the semantic space. At Princeton there exists a specific student slang. Friendly and Glucksberg had freshmen and seniors

sort both slang terms and adjectives. Their results, which indicated a two-dimensional configuration for freshmen and three dimensions for seniors, is compatible with "the notion that the acquisition of a specific subcultural lexicon involves, at least in part, the acquisition of semantic dimensions relevant to the specific values of that sub-culture" (p. 59). Further, the seniors differentiated more along the slang terms. Friendly and Glucksberg (1970) asserted that: "In order to use the terms appropriately, it is necessary to learn which attributes of their referents are critical, for example, what distinguishes between 'wonk' and 'non-wonk'" (p. 63).

Hence, it can be argued that as one learns to use labels (traits) of a language one necessarily learns to differentiate along the attributes relevant for the sub-culture or culture. Generalizing such findings to a cultural level, one would expect strong consensus among the relations among traits given the condition that there exists a consensual nature of meaning of the language users (Wittgenstein, 1953; Barnett, 1975).

In sum, "implicit personality theory" is a general cultural phenomemon expressed in the normative use of language. The dispute over the nature of "implicit personality theory" is artificial because if meanings of trait labels (and the formal relations among traits) were not congruent with the way traits are perceived by the individual as covarying in actual others, then the meanings of traits as such would change. Note that Bruner et al. (1958), in presenting the "realist" position, asserted that consistency of behavior is incorporated into the language by which people are commonly described. While "consistency of behavior" is a problematic assumption, especially after Mischel's (1968) work on the

relations between personality tests and behavior, one can at least argue that people perceive more consistencies in the relations among traits because of informational biases; people see x types of people only in y types of situations. Hence, perceived consistencies are maintained.

In sum, it would appear that the assumptions of the model are fairly well supported assumptions. Two qualifications, however, are in order. First, a good deal more research must be conducted on the question of individuals' abilities to make ratio judgments. Second, it is obviously the case that the stability of the array of traits in the semantic space will be affected by the number of person-concepts which are included in the analysis. We have argued that the location of each concept in the multidimensional space depends upon its similarities and dissimilarities with all other concepts in the space. If most concepts are traits, then there would be an excellent chance that one is tapping the true relationship between the set of traits sampled from the "implicit personality theory" because the location of each trait is "anchored" primarily by its assessment with other traits. However, in the case where only a few traits are included, the location of each trait would be determined by person-concepts. It is not known at this time how locating traits into a space based on distances from person-concepts will affect the stability of the relationship between traits and is one avenue for future research.

Derivation of Multiple Attribute Model

In this section*, we shall give a general description of the derivation and characteristics of the proposed model. The approach to ratio scaling in communication research (see Gilham and Woelfel, 1975, for review) is based on Einstein's conception of the measurement of distance:

> For this purpose (the measurement of distance) we require a "distance" (Rod S) which is to be used once and for all, and which we employ as a standard measure. If, now, A and B are two points on a rigid body, we can construct the line joining them according to the rules of geometry; then, starting from A, we can mark off the distance S time after time until we reach B. The number of these operations required is the numerical measure of the distance AB. This is the basis of all measurement of length. (Einstein, 1961, p. 6)

The analogous measurement procedure proposed here is two-staged: first, an arbitrary distance (or dissimilarity in the general case) is stipulated between two elements of the stable subset of linguistic elements constituting a part of the language spoken by S. It is vital to note that rules for the perception or measurement of this initial measurement distance or discrepancy are not stated; rather, the scientist must assume the subject and himself/herself share a common referent for the ordinary language symbol "distance" or "difference," and that the subject can make this initial recognition unaided by further definition. Ultimately, it is an *a priori* call to common experience as codified in ordinary language symbols that establishes a link between the everyday experience of the observer and the scientific theory.

Secondly, the scientist specifies a rule by which other instances of distance or dissimilarity are to be compared to this unit. In this

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* Much of this discussion also appears in Cody *et al.*, 1976.

case, the observer is asked to make ratio comparisons of all other distances or discrepancies to this arbitrary standard.

Since this technique yields both a true zero (that is, no difference between two stimuli) and a standard unit or interval of measure (Rod S), it may be seen to constitute, by definition, a ratio scale whose validity rests on the conventional linguistic symbol system. This means that numbers yielded by these procedures represent discrepancies among stimuli as they appear to the respondents, rather than as defined by the scientist. Formally, when these procedures are performed for a single observer over the (N(N-1))/2 possible non-redundant pairs of N stimuli, they yield a symmetric matrix $\overline{S}$ where any cell S_{ij} represents the discrepancy or difference between the ith and jth stimuli as reported by the observer, expressed as a ratio to an arbitrary discrepancy S_{xy} (Rod S).

Techniques which map the structure of discrepancy or dissimilarity data onto a space where it may be interpreted as distances are well known in the multidimensional scaling literature, and have been since Torgerson (1958) defined the procedure. Computational equations for Torgerson's method, called metric, classical or Torgerson multidimensional scaling, have been detailed in several places (Torgerson, 1958; Woelfel, 1974; Serota, 1974) but certain salient aspects deserve mention here.

First, metric multidimensional scaling (MMDS) yields a coordinate system of $\underline{k} \leq (N-1)$ orthogonal dimensions for N stimuli. Second, the mapping of discrepancies into this space is one-to-one; that is, no information is lost by MMDS. Third, the function which maps discrepancies (S_{ij}) reported by the respondents onto distances in the space (S'_{ij}) is

the simple

$$S_{ij} = S'_{ij};$$

that is, distances in the space conform exactly to discrepancies reported by the respondent(s). The latter two of these characteristics do not hold for non-metric models (Kruskal, 1964a,b; Young and Torgerson, 1967; Lingoes, 1972). Proponents of non-metric multidimensional scaling generally reject the metric model on the basis of the following two assumptions.

First, many psychometricians, for philosophical or heuristic reasons, resist the notion that k, the dimensionality of the space, should be left a free parameter to be discovered inductively as a consequence of the rule for measuring distances (Shepard, 1972; Veldman, 1974; Kaiser, 1958). Rather, they feel that k should be set at some arbitrary small value and distances (dissimilarities) reported by observers adjusted accordingly. The view taken here, however, is that the generality of language and the applicability of many linguistic units to a wide variety of concepts and contexts make it at least plausible that linguistically-determined semantic spaces be represented as having a large number of dimensions. This plausibility alone is sufficient reason to reject arbitrary constraint of dimensionality, leaving the question of dimensionality to empirical resolution.

Second, respondents are generally assumed under non-metric models to be unable to make reliable ratio judgments of discrepancies among stimuli (Coombs, 1964; Shepard, 1962a,b). It is assumed here that respondents can make such judgments. This assumption is supported by recent empirical evidence that most of the apparent unreliability in

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individual judgments may be systematically explained in terms of individual self-perception and cognitive processes; i.e., by individual perspectives, or points of view, within a culturally-normative domain within which the arrangement of stable concepts is determined by an aggregate of which the individual is a member (Marlier, 1974).

In addition to the general characteristics of MMDS spaces noted above, three others are particularly relevant to the comparison of the proposed scale and factor analytic models. First, no assumptions are made in the MMDS space about the semantic meaningfulness of the centroid. Consequently, no assumptions need be, or are, made as to attribute end point equidistance from, or bipolarity with regard to, the origin. Attributes are not constrained to intersect at a common point (which is selected mathematically but may not accurately represent subject perceptions of the relationship of attributes as they occur unrestrained), and stimuli which are not perceived by respondents to project on an attribute are not constrained to do so. Therefore, ceiling effects are eliminated. Second, the mapping of dissimilarities represents an example of fundamental ratio measurement, and no standardization is involved in the MMDS routine. As a result, attribute lengths and differentiation are not imposed by the researcher for mathematical rather than theoretic reasons, but may be represented as expressed by respondents. The result is high precision of scaling and increases in absolute amounts of reliable variance in scaled perceptions of stimuli (Danes and Woelfel, 1975). Third, attributes in the space need not be exemplars of any dimension. Interpretability of the MMDS space rests, in fact, on the distances of scaled stimuli from the trait adjectives which constitute the scale. Consequently, purging of non-exemplary attributes, which has the effect of

reducing the total spatial volume near semantically meaningful points, reduces interpretability, and is not called for. Unlike factor analytic representations, which seek simplicity of representation through division into mathematically independent parts, the MMDS semantic space seeks an accurate and theoretically useful representation of interdependence.

Comparability of MMDS spaces across administrations depends not on the orthogonality of semantically meaningful axes, as with factor analytic spaces, but on the stability of the configuration of descriptors in the aggregate space. Rotation of aggregate spaces to a least-squares best-fit of theoretically expected stable concepts (Woelfel et al., 1975) has been shown empirically to yield highly stable configurations (Danes and Woelfel, 1975), thus establishing the comparability of scales of the type proposed here.

Application of the MMDS scale to measure individuals' perceptions of stimulus attributes involves the generation of semantic spaces for individual respondents in which the aggregate configuration of stable descriptors is maintained. Thus, a scale generated from the aggregate NxN matrix (S_{ij}) may be applied to M stimuli by requiring respondents to apply the arbitrary standard dissimilarity (S_{xy}) in making ratio judgments of the dissimilarity between all possible pairs of the M stimuli, and between each of the M stimuli and each of the N descriptors. This procedure generates a new (N+M)x(N+M) dissimilarity matrix S_{ij}*. The space generated from this supermatrix represents the respondent's perception of stimuli (objects of the domain) relative to semantically meaningful points which the respondent (or any speaker of the language) might use to describe the stimuli. The location of any stimulus in such a

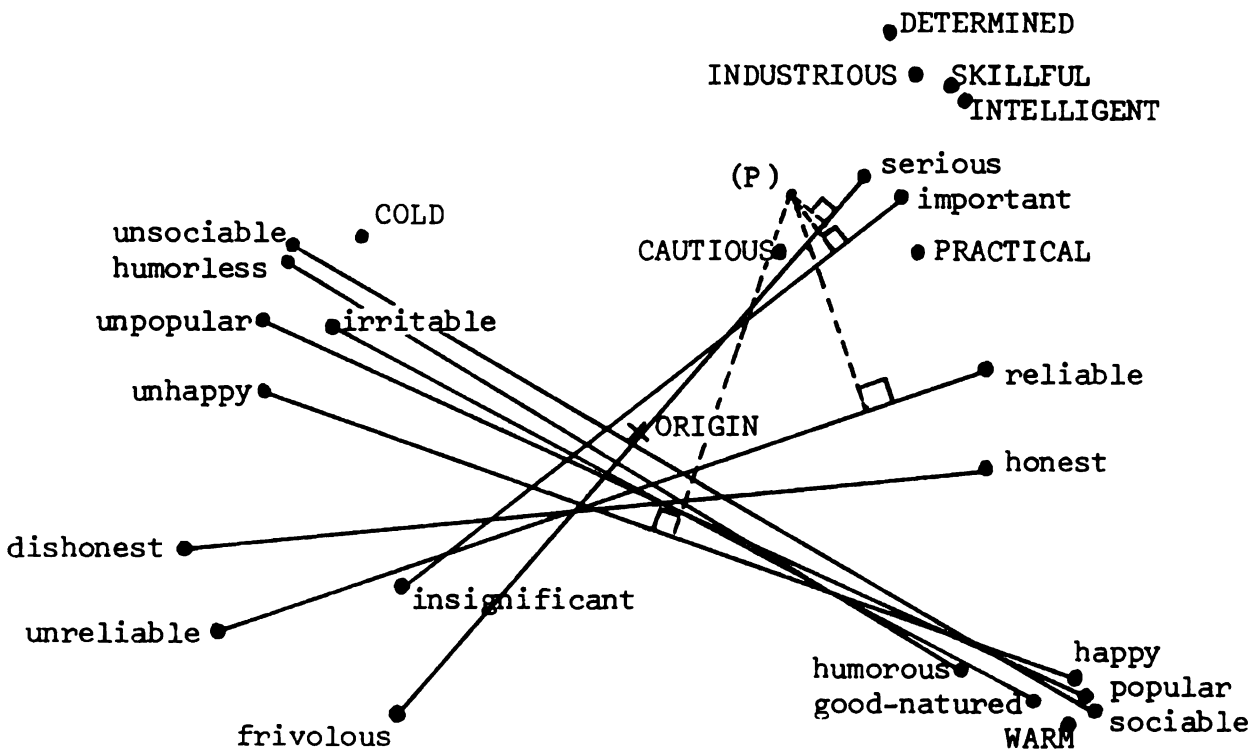

Figure 1. Hypothetical illustration of Multiple Attribute "Scale". From Rosenberg, Nelson, and Vivekananthan (1968).

space therefore represents the "meaning" of that stimulus for the respondent, represented in a quantifiable relationship to known points whose meaning is shared by the respondent and other speakers of the language.

In the semantic space generated by procedures suggested above, the result would be a "scale" as represented in Figure 1, in which a stimulus person (P) has been located relative to the stable configuration of trait descriptors. Interpretation of respondent attributions of traits to stimuli as located in the space would appear at first glance to be straightforward. If an attribute is represented as the line segment connecting the linguistic units which would bound a unidimensional scale for the measurement of that attribute or property, then the scaled value of that attribute in the MMDS representation would be determined by the point at which the stimulus projected onto the attribute in the MMDS space. Thus, in Figure 2, the relative amount of "goodness" attributed to an object Q would be given by the difference in distances between Q_p (the projection of S on the good-bad attribute) and good, and between Q_p and bad.

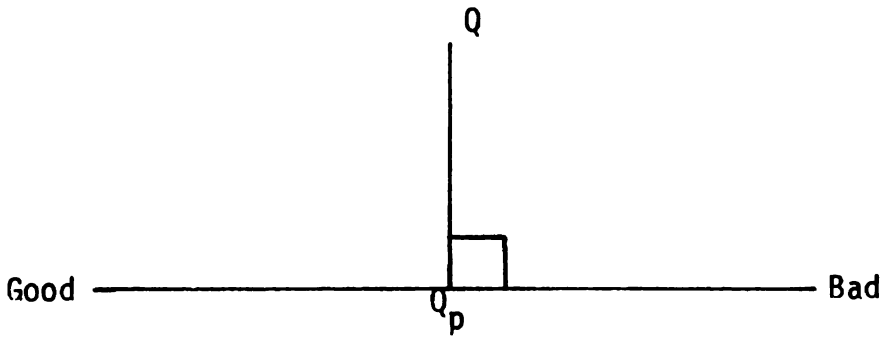

Figure 2

Such an interpretation follows traditional utilization of factor analytic spaces, in which stimuli are located such that their projections

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on an arrangement of orthogonal vectors correspond to unidimensionally-scaled values of those properties for the stimulus. Since all distances in the MMDS space are ratios of the standard dissimilarity (S_{xy}), quantifications of attributions in this manner are continuous, and therefore represent an increase in precision over the ordinal or assumed interval levels of measurement typically achieved in factor analytic spaces.

In the semantic space generated by procedures suggested above, however, a configuration such as that illustrated in Figure 3 (in two dimensions for illustrative clarity) is also possible.

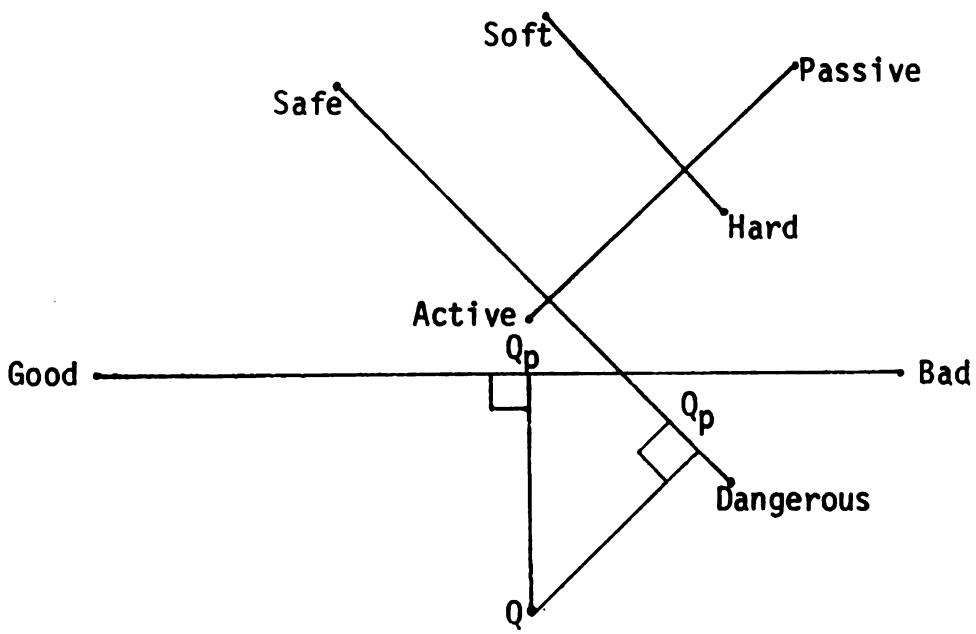


Figure 3

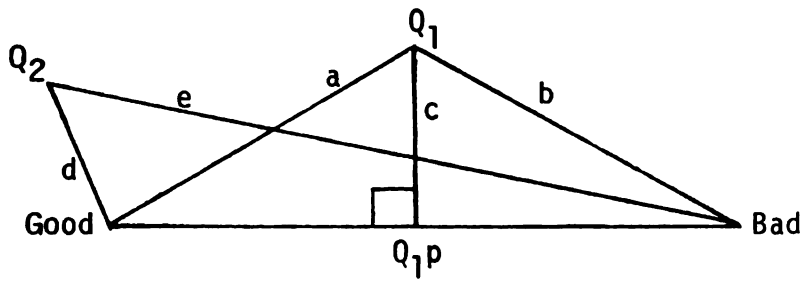
In this hypothetical example, the respondent's attribution of "goodness" to stimulus Q could be quantified through the procedure discussed above, resulting in a neutral value. Similarly, we could expect from the configuration that the respondent would scale Q at the "dangerous" end of a semantic differential scale anchored by the adjectives "dangerous" and "safe." Since Q does not project onto either the "active-passive" or "hard-soft" attributes, however, quantification of

the respondent's attribution of these properties to Q is not possible by the procedures discussed above. Two interpretations are possible, both of which may be plausibly illustrated if we assume for the moment that Q is a gun. In this instance, a respondent might well place an X at the "hard" end of a "hard-soft" semantic differential scale, since "hardness" is an obvious, if unimportant, property of a gun. Asked to scale Q (the gun) on an "active-passive" scale, however, the respondent might well be stymied by the conflicting perceptions of actual passivity and potential activity. Faced with this ambiguous perception, such a respondent might well decide that the "active-passive" continuum is irrelevant to his primary perception that the gun is dangerous, and thus mark the neutral point in the semantic differential to indicate his perception that the scale is inapplicable. The point, of course, is that neither hardness nor activity are salient attributes in the respondent's perception of the gun.

A semantic space generated through factor analysis would fail to represent this lack of salience. In such a space, as noted previously, all concepts are constrained to project on all attributes (exemplary or non-exemplary) which are constrained to intersect at a semantically meaningful origin. But the example above illustrates the ambiguity of the origin's "meaning," and the constraint that every concept must project on every standardized attribute makes differentiation of salient from non-salient attributes impossible. Consequently, a factor analytic representation of the example above would either represent the correlation between "active-passive" and "good-bad" as artificially high (if scaled perceptions of the gun were submitted to factor analysis), or result in an indeterminate location of Q (the gun) in the semantic space

(if the arrangement of attributes had been determined previously by factor analysis of scaled perceptions of other stimuli).

In the MMDS model, however, the ambiguity of interpretation of the example is resolvable. A ratio measure of respondent attribution of activity-passivity to Q, for example, is given by the difference in the distance from the stimulus Q to "active," and Q to "passive." The range of possible values of this measure is ± the length of the attribute in the space. A value of zero indicates neutrality, and occurs when S has a projection onto the midpoint of the attribute. A ratio measure of the salience of an attribute to the respondent's perception of a stimulus may be obtained by subtracting the distance from the stimulus to the attribute from some arbitrarily large constant. In the case where a stimulus can be projected onto an attribute, the distance between them is the distance between the stimulus (Q) and its point of projection (Q_p). Where projection is impossible, as in the above example, the distance between the stimulus and the nearest end point of the attribute is the distance between Q and the attribute. Thus, in Figure 4, the quantified attribution of "goodness" to stimulus Q_1 is given by (a-b). The salience of the good-bad attribute to the respondent's perception of Q_1 is (k-c), where k is any large constant. Similarly, the "goodness" of Q_2 is given by (d-e), and the salience of the good-bad attribute to perceptions of Q_2 is (k-d).



a,b,c,d,e, = lengths of respective lines as ratios of standard distances S_{xy}

Figure 4

By salience is meant the degree to which a concept is defined by an attribute. Conceptually, it is the same as attribute prominance (Zajonc, 1969) or attribute relevance (Shrauger and Petterson, 1974). Prominance was defined by Zajonc as the ability of an attribute by itself to represent or characterize the referent (p. 329). He operationalized the concept in terms of rank orders of what attributes were most characteristic of the referent. Even the crude rank orders of attributes used as weights increased correlations between simple average of the individual attribute valences and overall attitude from (.22) to (.66) for the weighted average.

Shrauger and Petterson (1974) obtained attribute salience measures for the "self" by having Ss select out of 57 attributes the ten which were "most relevant and important," and the ten which were "least relevant and important." Results clearly indicated that attributes which were highly relevant for the self were used more frequently in describing others than non-relevant attributes.

The importance of attribute salience cannot be understated. In addition to sets of attributes associated with a theoretical construct (i.e., credibility), the salience of each attribute is an indicant of the weight placed on that attribute. While a source may have a score on (either exemplar or non-exemplar) attributes w, x, y, and z, one or more of those attributes may be totally irrelevant and non-salient in perceiving an object. In Figure 1, the attributes of serious-frivolous, and important-insignificant are much more salient in the Ss' perceptions of P than reliable-unreliable and sociable-unsociable; yet P does have a score on all four of the attributes.

An assessment of attribute salience is critical when one considers the design of messages intended to manipulate credibility. First, note that there is perscriptive utility in using the concept "Ideal Credible Source" (McLaughlin, 1975; Heston, 1973). The location of this point in the space provides information concerning the desired level (or score) on each attribute such that the set of scores represent maximum credibility. Second, an assessment of salience for each attribute can be obtained. Once the salience of attributes in the perception of the "Ideal Credible Source" are determined, manipulations of these key attributes will result in the greatest amount of change towards (or away from) the location of the point representing "Ideal Credible Source."

Previous research on the manipulation of source credibility, stemming from factor analytic research, has centered on manipulating one or more factors. Most illustrative of this point is the manipulation of expertise (Hovland, Janis and Kelly, 1953; Aronson and Golden, 1962). Such manipulations had significant impact on the degree of attitude change. Yet, there exists a problem in manipulating an absolute low credible source. The most carefully conducted research on this point is Greenberg and Miller (1966). In experiment I, the character of the source was attacked on the grounds of unethical business practices. This negatively valenced induction was somewhat less than successful - approximately one-third of the Ss in the Low-Credibility induction group rated the source as "quite trustworthy." After a series of experiments, the investigators concluded:

> Even though audience members were given information that should have prompted them to question severely the competence and trustworthiness of their sources, a number of respondents failed to rate the source's credibility low in any absolute sense. While this reluctance to respond negatively may have been partially due to the

> quality of the message, the investigators believe that some additional variable is involved. Specifically, as mentioned earlier, a normative standard may operate in such a manner that audience members give a source the benefit of a doubt (i.e., in the absence of personal experience with the source, audiences may respond to sources in a somewhat positive manner).

However, several plausible alternative explanations are also operative. First, instead of a "normative standard" there may exist a reluctance to use the negative end points of the seven point scale. Second, the question can be raised as to the degree to which "character" as operationalized by Greenberg and Miller (1966) is salient to credibility as operationalized as competence and trustworthiness.

Further, it is not clear to what degree positive induction and negative induction messages have been comparable. For example, Kelman and Hovland (1953) attributed a persuasive speech to a respected judge (positive induction) and to a man who was described in such a way as to give "the impression of being an obnoxious, self-centered individual with a shady past and present" (p. 329). Such credibility inductions clearly have had impact on the amount of attitude change obtained. However, it is difficult to argue for a "normative standard" by which members of the audience give the source a benefit of a doubt when there are several alternative explanations.

In the present analysis, the movement of a source (a "target" public figure) to a theoretical point is best accomplished by the design of a message that moves the target public figure through (potentially) several dimensions. A new technique proposed for political communication (Woelfel, Fink, Holmes, Cody and Taylor, 1976) is directly applicable here. The technique provides the best solution for obtaining the shortest path between the location of the target in the space and the desired location

("Ideal Credible Source"). The procedure takes into consideration all bipolar end points in the space, and, based on vector addition, computes either single vectors or n-vector resultants for moving the target to the ideal point. Thus, the technique provides information concerning what attributes should be associated with the target, which should be disassociated and the degree to which each attribute should be weighted in the credibility induction message.

Summary and Hypothesis

In sum, the assumptions of the semantic differential, and factor analysis of semantic differentials, are weakly supported. A new measurement model has been proposed that is both more commensurate with scaling assumptions and does not restrict every concept to have a projection on every attribute. The new model also possesses pragmatic advantages in the measurement of saliency of attributes.

This new measurement model is applied to the measurement of the credibility construct. As mentioned earlier, the model can assess whether attributes used in the experiment are relevant (salient) attributes. Further, the location of all concepts (bipolar and points, public figures and the concept "Ideal Credible Source") provides the necessary information for maximum low and high credibility inductions.

The following hypotheses will be tested:

H_1: The messages based on procedures discussed above can significantly alter the perceptions of a source's credibility.

H_2: Persuasive messages attributes to a public figure perceived as closer to the "Ideal Credible Source" will stimulate more attitude change than messages attributed to a public figure who is perceived as more distant from the ideal source.

In addition, the following question is raised: Given the conditions of

using the same public figure in both credibility inductions, and that the message used in the negative valenced credibility induction is the antithesis of that used in the positive valenced credibility induction, will movement toward the location of "Ideal Credible Source" be greater than the movement away from this point? That is, does there exist bias in the Ss' processing of information such that they give the public figure in the negative valenced induction the benefit of a doubt?

CHAPTER II

METHODS

This study is drawn entirely from data collected in the Fall of 1975 and Winter of 1976. The methods used in data gathering and analysis will be discussed in the following order: 1. Ss utilized in the present study, 2. A Sorting Task and Criterion Pair Selection, 3. Selection of Public Figures, 4. Topic Selection Pretest, 5. Message Design Pretest, and, 6. Posttest.

Subjects

Subjects were students enrolled in undergraduate Communication classes at a large Midwestern University. All Ss participated in the study on a voluntary basis and received course credit for their participation. A total of 343 Ss were employed in the following phases of the study: (a) a sorting task including ninety-six trait adjectives (n=18); (b) Selection of Public Figures (n=54); (c) Topic Selection Pretest of attitude topic used in the manipulation check (n=33); (d) a Pretest for obtaining reliable location of the public figures in the attribute space (n=54); and (e) the Posttest (n=184).

Since data analysis is to be conducted with data collected from the posttest groups and the pretest for message design group, it would be worthwhile to assess comparability across these groups. Table 1 presents demographic data on the Ss utilized in these five groups. The mean

TABLE 1

Demographic Information on Ss Utilized in Pretest on Message Design and the Four Posttest Groups.

	Pretest	Control	Speech Only	Positive	Negative
n	54	47	45	45	47
$\bar{X}$ Age	20.63	19.48	19.11	19.20	19.46
Male	25	16	22	23	22
Female	24	27	24	22	24
Race:					
Caucasian	43	35	41	38	44
Black	4	6	3	4	2
Other	2	-	1	3	1
Not Reported	5	6	-	-	-

age of the students used in the pretest (20.63) was only slightly higher than the mean ages of Ss in the four posttest groups (19.48, 19.11, 19.20 and 19.46 for the control, speech only, positive and negative groups, respectively). Males and females were equally divided into each of the groups except in the control group where females outnumbered males. The majority of Ss were Caucasian (86.4% in the posttest groups).

Sorting Task and Criterion Pair Selection

The ratio scaling procedure requires that one distance between two traits be given as a standard. The distance between the two selected traits should meet the conditions that the traits (1) have fixed locations relative to each other, which are not spatio-temporally bound; and (2) are perceived unambiguously by Ss -- that is, there exists extremely low variability in their locations.

Traits that met the above criteria were identified by a sorting method. Ninety-six traits were selected from McCroskey, Jensen and Todd (1972), Osgood, Suci and Tannenbaum (1957) and Walters and Jackson (1966). In late October, 1975, a sample of 18 Ss sorted these traits into eleven categories. The underlying dimension was specified as social desirability. To minimize ambiguity, the role "a close friend" was used. Therefore, one end of the eleven point scale was labeled, "A quality a close friend of mine should possess." The other end was labeled "A quality a close friend should not possess." Each adjective was typed on a card. The instructions for sorting the 96 cards are included in the Appendix (see Appendix). Subjects were given a copy of the instructions to read while the experimenter read the instructions to them.

The purpose of the sorting task was to identify traits that are perceived unambiguously by Ss along the social desirability dimension. Means

and variances were computed for the placements of each of the traits. Table 2 presents the means, standard deviations and distances from the mid-point for the ninety-six trait adjectives. The mid-point is the mid-point of the eleven categories Ss had in which to sort the adjectives. The first six pairs were used in the present study. These pairs of adjectives were selected on the basis of having low standard deviations. The two traits selected as the criterion pair were intelligent and inexperienced.

Selection of Public Figures

The goals of the pretest for public figures were two-fold. First, it was necessary that the public figures be recognized by Ss. Second, it was desirable that the target public figure, whose credibility was to be manipulated, be moderately familiar to the Ss but not perceived as currently active by the Ss -- that is, the Ss were not currently obtaining information about the target. This was necessary to ensure that the credibility of the target public figure did not change due to history in the time between the pretest and the experimental manipulation.

A list of nineteen public figures was drafted and on January 8, 1976 54 Ss responded to questions pertaining to familiarity, occupation, notable activities, interpersonal sources of information about the public figure, and mass media sources of information. The familiarity scale was a Likert-type item. Occupation and notable activities were open-ended questions. The two information source questions essentially asked, "In the past two weeks, how many times have you heard from family, friends, acquaintances about _____?"

TABLE 2

RESULTS OF SORTING TASK

Means, standard deviations and distances from the mid-point for ninety-six trait adjectives (n=18).

Adjective	$\bar{X}$	standard deviation	distance from mid-point
just	2.11	0.91	3.89
unjust	10.33	1.28	4.33
intelligent	2.17	0.98	3.84
unintelligent	9.50	1.42	3.50
reliable	1.66	1.28	4.34
unreliable	10.38	1.46	4.38
competent	3.03	1.35	2.95
incompetent	8.88	1.53	2.88
experienced	4.16	1.34	1.84
inexperienced	7.22	1.44	1.22
repulsive	10.50	1.04	4.50
attractive	4.11	1.99	1.89
responsible	2.05	1.30	3.95
unresponsible	10.05	1.21	4.05
informed	3.00	1.41	3.00
uninformed	9.27	1.40	3.27
kind	2.27	1.36	3.73
cruel	10.72	0.67	4.72
awful	10.16	0.98	4.16
nice	3.50	1.65	2.50
friendly	2.50	1.12	3.50
unfriendly	9.50	1.75	3.50
pleasant	2.55	1.72	3.45
unpleasant	9.94	1.21	3.94
believable	2.61	1.29	3.39
unbelievable	9.61	1.88	3.61
cheerful	3.05	1.30	2.95
gloomy	9.67	1.71	3.67
energetic	3.11	1.57	2.89
tired	8.16	1.79	2.16

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TABLE 2 (continued)

Adjective	$\bar{X}$	standard deviation	distance from mid-point
good-natured	2.61	1.33	3.39
irritable	9.22	1.96	3.22
logical	2.83	1.46	3.17
illogical	9.00	1.94	3.00
intellectual	3.33	1.91	2.67
narrow	10.22	1.48	4.22
cautious	5.05	1.86	0.95
adventurous	2.55	1.95	3.45
sympathetic	3.00	1.91	3.00
unsympathetic	9.05	1.86	3.05
relaxed	3.22	1.48	2.78
tense	8.16	2.20	2.16
active	3.16	1.38	2.84
passive	7.55	2.38	1.55
honest	1.83	2.36	4.17
dishonest	10.67	0.67	4.67
confident	2.88	1.32	3.12
lacks confidence	8.77	2.10	2.77
expert	4.88	1.74	1.12
inexpert	7.83	2.25	1.83
trained	5.55	2.38	0.45
untrained	8.44	1.38	2.44
sociable	3.16	1.65	2.84
unsociable	8.78	2.16	2.78
warm	2.55	1.76	3.45
cold	9.11	2.42	3.11
reputable	4.66	2.70	1.34
disreputable	9.27	1.81	3.27
calm	3.44	2.20	2.56
anxious	6.55	1.72	0.55
regressive	9.50	2.43	3.50
progressive	2.77	1.73	3.23
talkative	3.83	1.88	2.17
silent	7.66	2.38	1.66

TABLE 2 (continued)

Adjective	$\bar{X}$	standard deviation	distance from mid-point
extroverted	3.66	1.88	2.17
introverted	7.83	2.61	1.83
good	3.05	1.92	2.95
bad	4.22	2.04	1.78
qualified	4.55	2.01	1.45
unqualified	8.50	1.95	2.50
excitable	5.05	2.29	0.95
composed	3.66	1.94	2.34
poised	3.94	1.98	2.06
nervous	7.78	2.13	1.78
ethical	3.16	1.98	2.84
unethical	8.55	2.91	2.55
bold	4.22	2.04	1.78
timid	7.72	2.61	1.72
impressive	4.44	2.50	1.56
unimpressive	8.33	2.25	2.33
outgoing	3.67	2.22	2.33
withdrawn	8.05	2.98	2.05
meek	7.44	2.89	1.44
aggressive	3.77	2.39	2.23
altruistic	8.39	2.59	2.39
self-centered	3.77	2.78	2.23
selfish	8.66	3.05	2.66
unselfish	3.16	1.89	2.84
emphatic	4.28	3.20	1.72
hesitant	7.22	2.02	1.22
polite	3.27	1.64	2.73
blunt	5.16	3.17	0.84
verbal	3.83	2.04	2.17
quiet	5.72	2.11	0.28
cooperative	3.05	1.63	2.95
competitive	4.55	2.57	1.44

Mean ratings on familiarity and importance are presented in Table 3. Table 4 presents the mean number of times Ss heard about the public figure from (a) the Media and (b) Interpersonal sources. Table 5 presents data on the Ss' ability to identify the occupation held by the public figures. Data pertaining to the "notable activities" question is not presented because of low response rates and high variability in reporting activities (thus making it difficult to conveniently present all the activities reported).

From this data, two highly familiar public figures who were not highly active in the Ss' informational environment were chosen as individuals to be used in the MDS paired comparison questionnaire: H. Humphrey and G. McGovern. The target individual was selected on the grounds of recognizability, moderate familiarity and low activity in the informational environment. The target individual selected was Birch Bayh.

Topic Selection Pretest

The manipulation check on the effectiveness of the credibility inductions requires a persuasive message be attributed to the public figure. Thus, the goal of the topic selection pretest was to select a topic on which Ss were in high agreement (so as to minimize within group variance when aggregated measures of attitude change were computed). On January 13, 1976, thirty-three Ss were asked to indicate the extent to which they agreed or disagreed with each of eighteen attitude statements. Eleven point Likert-type items were used for this purpose. Table 6 presents the means and standard deviations for the eighteen attitude statements. Statement 10 was selected for use as the topic the public figure would argue against. This statement was "Federal spending ought to be curtailed in order to bring the national budget into balance."

TABLE 3

RESULTS (FAMILIARITY AND IMPORTANCE)
FOR PUBLIC FIGURE SELECTION PRETEST

Mean familiarity and importance ratings of pretest public figures (n=54).[1]

Public Figure	Familiarity	Importance
	$\bar{X}$	$\bar{X}$
Bella Absug	4.39	3.34
Birch Bayh	3.95	3.75
Edmond Brown	4.49	3.14
Bob Carr	3.61	3.12
Jimmy Carter	4.21	2.96
Shirley Chisolm	3.40	2.88
Gerald Ford	1.56	1.37
Hubert Humphrey	2.91	2.85
Henry Jackson	4.29	3.43
Edward Kennedy	3.12	2.62
Henry Kissinger	2.31	1.72
George McGovern	2.79	3.15
Edmond Muskie	3.61	3.06
Ronald Reagan	2.57	2.64
Elliott Richardson	4.53	3.60
Nelson Rockefeller	2.31	2.33
Sargent Shriver	3.22	3.58
Morris Udall	4.46	2.95
George Wallace	2.36	2.53

[1] Lower ratings represent greater familiarity and greater importance

TABLE 4

RESULTS (INFORMATIONAL SOURCES)
FOR PUBLIC FIGURE SELECTION PRETEST

Mean number of times Ss have had contact with the public figures by (a) media sources and by (b) interpersonal sources (n=54).

Public Figure	Media Information	Interpersonal Information
Bella Abzug	0.18	0.06
Birch Bayh	0.85	0.06
Edmond Brown	0.28	0.14
Bob Carr	0.49	0.00
Jimmy Carter	0.12	0.13
Shirley Chisolm	0.28	0.00
Gerald Ford	9.41	2.64
Hubert Humphrey	2.82	0.35
Henry Jackson	1.00	0.00
Edward Kennedy	1.62	0.58
Henry Kissinger	4.76	1.79
George McGovern	0.55	0.08
Edmond Muskie	0.12	0.07
Ronald Reagan	2.02	0.64
Elliott Richardson	0.00	0.08
Nelson Rockefeller	3.21	0.35
Sargent Shriver	0.42	0.25
Morris Udall	0.85	0.07
George Wallace	1.68	0.48

* The higher the number, the more often the Ss have heard about the public figure.

TABLE 5

RESULTS (IDENTIFICATION OF OCCUPATIONS)
FOR PUBLIC FIGURE SELECTION PRETEST

Occupations Ss reported for public figures and the frequency by which occupations were reported (n=54).

Public Figure	Response	Frequency[1]
Bella Abzug	Don't know	21
	N.Y. Congressperson	12
Birch Bayh	Don't know	25
	Senator (Indiana)	16
Edmond Brown	Don't know	23
	Governor of California	4
Bob Carr	Don't know	15
	Congressperson	16
	Councilperson	6
	Representative	4
Jimmy Carter	Don't know	17
	Governor of Georgia	6
Shirley Chisolm	Don't know	13
	New Hampshire Congressperson	9
Gerald Ford	President	40
Hubert Humphrey	Don't know	10
	Retired Vice-President	10
	Senator	7
Henry Jackson	Don't Know	26
	Senator	7
Edward Kennedy	Senator (Massachusetts)	28
	Don't know	12
Henry Kissinger	Secretary of State	22
	Statesperson	13
George McGovern	N. D. Senator	12
	Ran for President	22
	Don't Know	5
Edmond Muskie	Senator (Maine)	21
	Don't know	16

TABLE 5 (continued)

Public Figure	Response	Frequency
Ronald Reagan	Governor (California)	28
	Senator	3
	Don't know	3
Elliott Richardson	Don't know	21
	Secretary of HEW	4
	Cabinet	4
Nelson Rockefeller	Vice-President	29
	Don't know	4
Sargent Shriver	Don't know	26
	Kennedy's Brother-in-Law	8
Morris Udall	Don't know	27
	Senator	7
	Secretary of Interior	4
George Wallace	Governor of Alabama	18
	Presidential hopeful	11
	Don't know	8

[1] Only the more frequent responses are listed.

TABLE 6

RESULTS OF TOPIC SELECTION PRETEST

Means and standard deviations for 18 attitude statements (n=33).

Attitude Statement	Ss' Attitude $\bar{X}$	s.d.
1. It is the obligation of the Federal government to enable all American Citizens access to decent health care through a socialized medicine program.	4.03	2.75
2. Congress should drastically cut back on the inflated Pentagon budget.	4.12	2.23
3. School busing to achieve racial balance in schools will worsen racial relations--not improve on them..	3.85	3.05
4. With the rapid development and production of nuclear arms, support for detente is crucial and imperative.	3.35	1.89
5. Legislation should be enacted immediately to curtail the oil companies' gigantic profits at the consumer's expense.	3.18	2.44
6. The United States should withdraw all support, both arms and financial, from the conflict in Angola. . .	4.94	2.94
7. The time is long overdue to grant an unconditional amnesty to American men still in exile in foreign countries because of their stand against the Vietnam war.	4.47	3.16
8. Education is valuable for its own sake, even if it doesn't prepare you for a job.	4.05	3.07
9. The sale and use of marijuana should be legalized. .	4.97	3.79
10. Federal spending ought to be curtailed in order to bring the national budget into balance.	4.00	2.00
11. The Federal government should take over ownership an and operation of all railroads in the United States.	7.35	2.23

TABLE 6 (continued)

Attitude Statement	Ss' Attitude $\bar{X}$	s.d.
12. Any level of unemployment can be tolerated for a few years if it will help to end inflation	8.38	2.36
13. The government should spend as much money as necessary in order to start Federal programs to provide jobs for the unemployed who want to work .	5.00	3.02
14. Candidates who run for public office should agree when they do so to surrender their right to privacy and expose all of their affairs to public scrutiny.	8.38	2.75
15. Government intelligence agencies should never engage in activities either at home or abroad which would be illegal if a private citizen did them . .	3.73	2.83
16. No matter what the risks to national security may be, Congress and the public must be fully informed of the activities of all government agencies, including the C.I.A.	7.21	2.98
17. The long range effects of pollution could be so devastating that any measures, no matter how costly in economic terms, are justified if they will help to stop industrial pollution.	3.85	3.28
18. Air pollution in cities like Los Angeles and New York is so harmful to the health of the residents of those cities that they should outlaw all automobile traffic.	8.32	3.28

The lower the mean, the more the Ss agree with the attitude expressed with the statement.

Message Design Pretest

Having selected a target public figure, two familiar public figures and twelve unambiguous traits (end points of six credibility-related attributes) through the procedures discussed above, it was necessary to conduct a pretest to locate these concepts, plus the concept "Ideal Credible Source," in a multidimensional space. Since it may be the case that an abstract concept such as the "Ideal Credible Source" would be ambiguous to the Ss, a brief description was presented in the cover letter: "Imagine that the "Ideal Credible Source" is an individual who you LIKE TO HEAR SPEAK, whose opinions YOU TRUST and WHOSE ADVICE YOU WOULD LISTEN TO." The attempt in this description was to present a description abstract enough to allow the Ss to infer from it what they believe to be a proper characterization of the construct. It was felt permissable to include the word "trust" since it was not included in the questionnaire. The other two characterizations--"like to listen to" and "whose advice you would listen to"--are abstract enough to allow for the Ss' own interpretation. For example, subsumed under each of these descriptions, one may infer trustworthiness, competency, safety, attraction and/or dynamism, etc.

On January 22, 1976 fifty-four Ss completed a questionnaire which presented the criterion pair and asked the Ss to make ratio judgments of the relative dissimilarities of each possible non-redundant pair of these sixteen concepts. A metric multidimensional representation of the configuration of these concepts was then generated, utilizing available multidimensional software (e.g., Woelfel's "Galileo" program, see Woelfel, 1974).

In order to construct messages that would move the target public figure directly towards and directly away from the concept "Ideal Credible

Source" the following procedure was employed. First, R^m was defined as the vector of each of the n concepts and R^i is defined as a message strategy based on vector addition of several of the vectors in the space. Procedurally, R^0 (vector representing the point of the target public figure) is set equal to zero. Functionally, this locates the target public figure at the centroid of the space. From this point, the vector extending from the centroid to the desired point ("Ideal Credible Source") is identified. This can be referred to as the target-ideal point vector (R^m). Next, the angles between all other vectors and R^m are calculated. Finally, resultant vectors of all pairs of concepts are calculated by a vector addition procedure. All single vector solutions, two pair vector solutions, three pair vector solutions and four pair vector solutions were analyzed. Of all these resultants, the resultant vector whose angle with R^m is minimal will provide the concepts which, when utilized in the credibility induction messages, provide the maximally efficient means for moving the target public figure in the desired direction. (For detailed elaboration of this procedure, see Woelfel et al., 1976).

The solution utilized in the present study is presented graphically in Figure 5. The solution reveals that a message which described the target public figure as similar to Humphrey, just, competent and experienced would move the target public figure directly towards the desired point. The correlation between R^m and R^i (resultant vector) was 1.00. The angle was .99. Further, the solution also posits that if full effects of the messages were obtained, the target public figure would move beyond the desired point by 136.69 units. However, it is doubtful

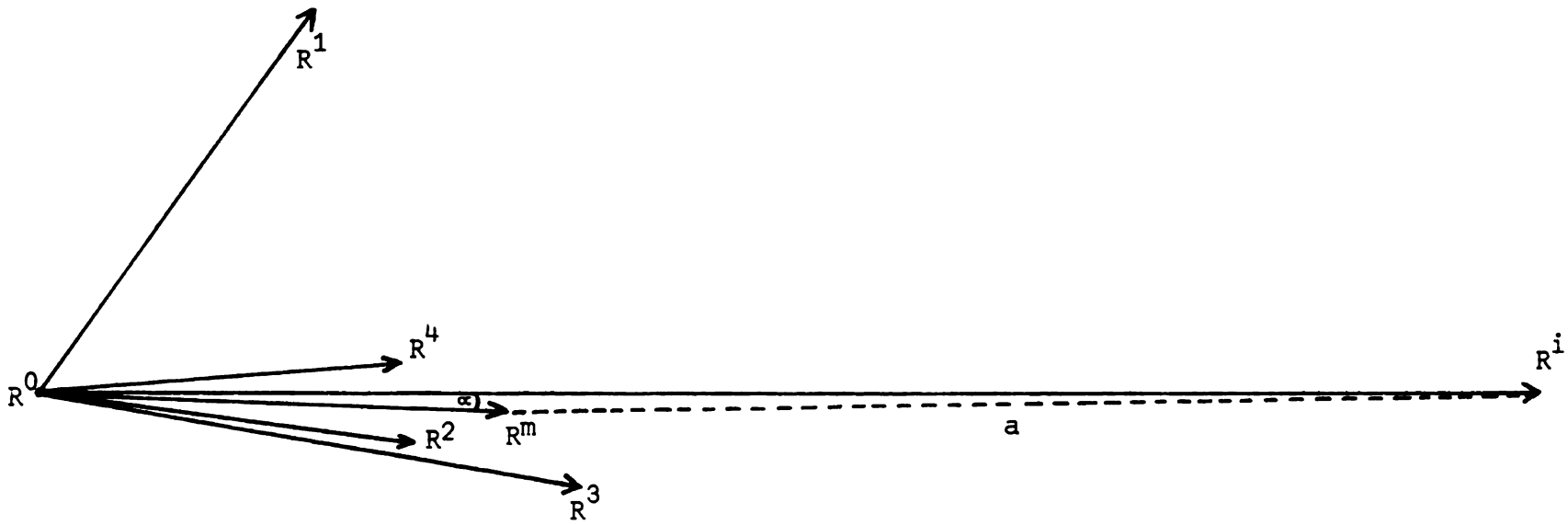

Figure 5. Illustration of four-pair vector solution, where

R^0 = Birch Bayh

R^1 = Hubert Humphrey — length = 61.07 units

R^2 = "competent" — length = 46.08 units

R^3 = "just" — length = 72.69 units

R^4 = "experienced" — length = 48.73 units

R^m = "Ideal Credible Source" — length = 62.14 units

length of a = 136.69 units

$r_{R^i R^m} = 1.00$

$\alpha_{R^i R^m} = 0.99^\circ$

whether full effects could be obtained. What is important, and shall be tested (see Chapter III), is that the message moves the public figure along this predicted vector (R^i).

Hence, the above four concepts were employed in the positive credibility induction message and the concepts unjust, inexperienced, incompetent and dissimilar to Humphrey were used in the negative credibility induction message. In constructing the messages, a thesaurus (Roget's College Thesaurus, 1962) was used as an aid in selecting adjectives typically considered as similar in meaning to the selected vector-concepts. Alternatively, synonyms could have been pretested. However, in each message the selected vector-concept adjective was specified with adjectives obtained from the thesaurus so, presumably, no additional attribute contaminated the results. Further, adverbs were selected that could apply to both positive and negative adjectives, sentence structure was standardized in both messages, and the placing of concepts at equivalent locations in the messages helped to make the messages exact opposites of each other. These messages appear in the Appendix.

Posttest

(a) Materials Two questionnaires were used in the posttest phase of the study. The first questionnaire consisted of twelve attitude statements similar to the eighteen used in the pretest for topic selection. Each statement was followed by an eleven-point Likert type scale to measure the Ss' level of agreement with each statement. End points on these scales were reversed on every other statement to eliminate possible response bias effects. This questionnaire provided the pretest measure of

agreement with the topic selected for manipulation; balancing the Federal budget.

There were four forms of the second questionnaire. The first form of the questionnaire included a cover letter, the positive induction message, the persuasive message attributed to the target public figure, several attitude items (to provide posttest measure), the MDS paired comparison questionnaire and semantic differential scales for the six attributes. In order to assess attribute salience, two unidimensional scales were included in the section of the questionnaire that included other unidimensional scales. These scales were seven-point scales of relevance and importance. The end points of the scales were periodically reversed to eliminate possible response bias effects.

The second form of the questionnaire included the negative induction message instead of the positive induction message. The third form included only the persuasive speech as the manipulation. The fourth form included neither induction message nor the persuasive speech. The latter group served as the control group.

In a similar study to the one presented here, conducted in the Fall of 1975, an interview with the Ss revealed that many of them questioned the credibility of the source of the credibility induction message. Since this could be problematic in the present study, particularly in the negative credibility induction message, the credibility inductions were attributed to a hypothetical citizens' committee, briefly described to characterize it as non-partisan:

> The following description of Birch Bayh is taken from a pamphlet written and circulated by "Nonpartisan Citizens' Committee for the Promotion of Informed Voting." This group is composed largely of independents and is active primarily in Minneapolis and Indianapolis. The group has analyzed a large number

> of nationally known political figures in terms of voting record, interests and qualifications. The following is what the group had to say about Birch Bayh:

(b) Procedures On February 9, 10 and 12, 1976, 184 Ss participated in the final phase of the study. During each of the three test sessions, Ss first received the attitude questionnaire. When Ss finished filling out the attitude questionnaire, they returned the questionnaire and the four forms of the second questionnaire were distributed in random order--thus Ss were randomly assigned to four treatment groups within each of the test sessions. When Ss completed the second questionnaire, they were provided with a written description of the aims of the study. This description also served as the debriefing.

(c) Randomization Check To check the random assignment of Ss to posttest groups a one-way ANOVA was computed on the pre-persuasion attitude scores of the four posttest groups. The obtained F-ratio was .72 (not significant) with means of 4.65, 5.37, 4.70 and 4.82 for the negative, control, speech only and positive groups, respectively. Thus, Ss were adequately randomized into posttest groups on the basis of attitude scores on the topic which served as the manipulation check on the credibility manipulation.

CHAPTER III

RESULTS

The results are divided into five sections: (1) Comparability of the Spaces; (2) Attribute Salience; (3) Hypotheses; (4) Manipulation Check; and (5) Message Effectiveness. Sections (1) and (2) provide explicit and stringent tests of the proposed model. Sections (3), (4) and (5) provide tests of the experimental manipulations of the present study.

Comparability of the Spaces

One of the key assumptions of the model is that the trait adjectives will be stably located in the multidimensional space. Further, it has also been argued that there are as many dimensions as there are reliable dimensions. In this section, I shall discuss three procedures that were utilized in assessing the stability of the concepts.

The first procedure provided an overall measure of fit between the locations of the stable concepts in each of the groups with their locations in an aggregate. This aggregate was created by aggregating together the distance estimates in all four experimental groups. The rationale behind the procedure is that the distances between stable concepts in each of the four posttest groups should approximate a cultural-level configuration. This procedure assesses the extent to which locations of these concepts in each posttest group tend to conform to such an aggregate.

The second procedure employed to assess stability of stable concepts was a cross-group correlation procedure. This procedure provided the correlations and angles between a concept and itself in a split-half of the control group, and between the control group and each of the three experimental posttest groups. This provided information as to each concept's stability.

The third procedure utilized to assess comparability of spaces was to compute factor correlations between each of the sixteen factors in the control group and each of the sixteen factors in the three experimental posttest groups. This provided an assessment of the reliability or stability of each factor.

Before these three procedures were employed, some prior data adjustment procedures were utilized. Therefore, in this section of the paper I shall discuss, in order: (a) Data Adjustment Procedures; (b) Overall Assessment of Fit; (c) Cross-Group Correlations; (d) Factor Correlations.

(a) Procedures Utilized to Adjust Data

As earlier research indicated (Barnett, Serota and Taylor, 1974), a multidimensional space can essentially "shrink" either over time or due to an experimental manipulation. In the present study, the shrinking phenomenon did occur and the means for all non-zero cells varied from group to group, with the control group having a "larger" space. The average distance reported by Ss in the negative induction condition was 63.657, by Ss in the positive induction condition, 67.911, by Ss in the speech only condition, 69.556, and by Ss in the control group, 87.846. This shrinking phenomenon affected all 120 distance estimates, including the distance estimate for the criterion pair. Since any

statistical analysis computed across groups would be biased due to this shrinking, all spaces were adjusted by an additive constant. For each space, an additive constant was computed by subtracting the obtained mean distance for the criterion pair from 100. The remainder was added to each of the 120 distance estimates in the respective condition. The additive constants used were 30.244, 12.154, 30.444 and 29.099 for the negative induction, control, speech only and positive induction groups, respectively.

A second adjustment of the data was made before statistical analyses were conducted. In the metric MDS procedure, estimates of distances become more accurate and reliable as the number of respondents increases. However, since data in the present study were collected from rather small samples, any reported distance that is extremely high, or is extremely low, will have a marked influence on the mean. For example, if, for 44 Ss, the mean of a particular distance estimate is 79.025, the inclusion of a value of 400 by the 45th S increases the mean to 86.158. This could be extremely problematic in small samples because highly discrepant scores distort the true mean and unduly increase variance.

A standard procedure employed when distributions have long, straggling tails is to trim the means - thus reducing the influence of highly discrepant scores (see Mosteller and Tukey, 1969). A means trimming procedure was executed in the present analysis by obtaining the means and standard deviations and eliminating all observations that are two standard deviations above and below the mean for each of 120 pairs of concepts. For this initial computation, distance estimates were left to vary from 0 to 999. After the means were trimmed, the obtained means

for the criterion pair were 96.93, 90.10, 93.49, and 101.53 for the negative, control, speech only and positive posttest groups. These values closely approximate the desired 100. Thus, the spaces were made comparable.*

How does this means trimming operation affect the analysis of the interpoint distance between Birch Bayh and "Ideal Credible Source"? Table 7 presents the means and standard deviations for this distance distribution for each group. Further, the table reports the maximum value and minimum value used in computing the ANOVA, as well as the number of observations deleted because of the means trimming operation. A smaller range of values was permissible for the negative induction group, in comparison with the other groups, but this was because the standard deviation was much smaller in comparison with that obtained in the other three groups. Only a few observations were deleted from each group.

(b) Overall Measure of Fit

To test the stability of the stable concepts in the multidimensional scale, the following procedure was utilized. First data from the four posttest groups were aggregated and a space generated which estimated the trait, Ideal Source configuration which each group's space should approximate. Spaces were then generated from each group's data and rotated into a least-squares best fit of the theoretically expected stable points (i.e., the traits and the "Ideal Credible Source") with

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* In future research, it would be preferable, in small samples, to first trim means and then add the additive constant. The means for the criterion pair are comparable in this study, reversing the order of these procedures would ensure a value of 100 for the criterion pair distance.

TABLE 7

RESULTS OF MEANS TRIMMING PROCEDURE ON THE
BIRCH BAYH-IDEAL CREDIBLE SOURCE DISTANCE DISTRIBUTION

Means, standard deviations, minimal permissible values, maximum permissible value and number of cases deleted because of means trimming procedure (Birch Bayh-Ideal Credible Source distance estimate).

	Old* Mean	New Mean	Standard Deviation	Minimum Value	Maximum Value	Number of Observations Deleted
Negative	94.97	95.21	35.00	25.00	165.00	2
Control	88.66	83.02	50.00	0.00	188.00	2
Speech Only	90.56	86.02	45.00	0.00	180.00	3
Positive	77.31	68.65	50.00	0.00	177.00	2

* Represents the value of the means for each posttest group before the means trimming procedure was implemented.

the aggregated space (see Woelfel et al., 1975). Correlations were then computed between the coordinates defining the location of each stable point in the aggregate space and the corresponding vector in each group space. These 52 (13 Stable Points x 4 Group Spaces) correlations were then converted to z's, averaged, and the mean z was reconverted to a correlation. This correlation measures the extent to which the confiruration of stable points in each group space approximates the same pattern or shape regardless of its absolute size. There exists a certain amount of redundancy in this method since the raw data from each posttest group is used in creating the aggregate. This would tend to skew correlations upwards. To support the test for stability, this overall correlation must be extremely high.

Table 8 provides correlations and z scores between coordinates of each concept on the first nine dimensions (most of the dimensions representing real distances) of the aggregate and each posttest group. These nine dimensions accounted for the following percentage of variance in the negative induction, control, speech only and positive induction groups, respectively: 97.4, 98.4, 98.5, and 98.3. The mean z score was 2.84, which, when reconverted back to a correlation, yields a correlation of .993. Data presented in Table 8 does not include the means trimming operation. When input was restricted to a range of 0 to 180, the mean z was 2.818--a correlation of approximately .993. (The metric multidimensional scaling program used in this study (see Woelfel, 1974) does not possess options for either multiple maximum values or multiple minimum values. The above parameters, a minimum of 0 and a maximum of 180, were used because it was felt that these parameters best approximated the average minimum and maximum for all distance distributions.)

TABLE 8

CORRELATIONS AND Z SCORES FOR STABLE CONCEPTS.

Correlations and z scores between a concept's coordinates in the aggregated data set and each of the posttest groups.

Stable Concepts	Aggregate-Negative Condition	Aggregate-Control Condition	Aggregate-Speech Condition	Aggregate-Positive Condition
Competent	.9923 2.7790	.9820 2.3510	.9965 3.1730	.9912 2.7110
Inexperienced	.9994 4.0560	.9953 3.0250	.9941 2.9110	.9872 2.5220
Repulsive	.9949 2.9850	.9949 2.9850	.9676 2.0530	.9263 1.6320
Unintelligent	.9956 3.0580	.9901 2.6520	.9907 2.6830	.9806 2.3130
Just	.9965 3.1730	.9982 3.5060	.9984 3.5650	.9984 3.5650
Reliable	.9987 3.6690	.9955 3.0470	.9887 2.5850	.9719 2.1250
Unreliable	.9988 3.6690	.9946 2.9560	.9907 2.6830	.9841 2.4130
Unjust	.9950 .9950	.9988 .9988	.9988 .9988	.9840 .9840
Intelligent	.99814 3.4900	.9955 3.0470	.9937 2.8790	.9443 1.7760
Ideal Credible Source	.9847 2.4330	.9904 2.6670	.9902 2.6570	.9893 2.6120
Attractive	.9984 3.5650	.9890 2.5940	.9709 2.1080	.9391 1.7300
Incompetent	.9947 2.9650	.9922 2.7710	.9956 3.0580	.9880 2.5550
Experienced	.9953 3.0250	.9946 2.9560	.9939 2.8950	.9789 2.2700

Mean Z = 2.84
standard deviation = .56
r = .993

To assess the relative stability of the thirteen theoretically stable points in both real and imaginary dimensions, the procedure was used in correlating the coordinates of each concept across all sixteen dimensions between the aggregate and each posttest group. The obtained mean $\underline{z}$ was 2.584--a correlation of .988. Thus, the concepts which we have argued as theoretically stable appear to be highly stable.

(c) Cross-Group Correlations

An alternative and more stringent procedure for assessing the stability of the stable concepts is to compare each of the experimental groups with the control group. Cross-group correlations were computed by treating the control group configuration as the first point in time and by performing separate rotations for each of the experimental group configurations to it with the thirteen theoretically stable concepts specified as stable concepts (see Woelfel et al., 1975). Correlations were then computed between the concept's location in the control group configurations and its location in each of the experimental group configurations. These cross-group correlations are presented in Table 9 for a split-half of the control group, the speech only, negative induction and positive induction group comparisons, respectively.

Before presenting these correlations, it would be worthwhile to discuss briefly why these correlations are important. Cross-group comparisons provide information concerning how well a concept correlates with itself between groups (the angles between the vectors that represent the concept in the two groups). When the angle is greater than zero there is a departure from stability: an angle that is greater than zero represents a change in the concept's "meaning" relative to

other concepts in the configuration. Of course, the stable concepts centroid is derived by finding the least-squares best fit between concepts identified as stable (see Woelfel et al., 1975). If some stable concepts have expanded or contracted, this would influence the location of the stable concepts centroid to some small degree. Therefore, some small angles will be obtained artifactually. All angles in a cross-group comparison must be interpreted relative to other angles in the same cross-group comparison.

Table 9 presents the results of the cross-group correlation procedure for a split-half of the control group, control group-speech only group, control group-positive induction group, control group-negative induction group comparisons. While the sample size in the split-half of the control group is small (each n=22), the stability correlations presented in Table 9 can be used as a baseline for comparison with the stability correlations presented in the remaining three columns of Table 9; where correlations are affected by both unreliability and by message(s) used as experimental manipulations. Correlations presented in the first column of Table 9 provide evidence for the stability of the stable concepts, with the exception of "attractive," "just" and "repulsive" (correlations of .65, .72 and .76, angles of 49.78, 44.09 and 40.28 degrees, respectively). Nonetheless, the remaining ten correlations are remarkably high considering that the samples sizes are so small.

The second column in Table 9 presents the results of the cross-group correlation procedure for the control group-speech only group comparison. First, it should be noted that angles cannot be computed for ten of the thirteen stable concepts (correlations are greater than one). This occurs for the following reason. When a concept loads higher in the

TABLE 9

CROSS-GROUP CORRELATIONS BETWEEN EACH STABLE CONCEPT

Correlations and angles between each concept for (a) split-half of control group, (b) Control Group-Speech Only Group, (c) Control Group-Positive Induction Group, and (d) Control Group-Negative Induction Group.*

Concept	Split-half Control	Control-Speech	Control-Positive	Control-Negative
Competent (01)	.99 7.09	1.08 ****	1.12 ****	.95 18.21
Inexperienced (02)	.99 7.80	1.02 ****	.93 21.58	1.00 ****
Repulsive (04)	.76 40.28	.96 15.79	.87 29.27	.81 36.09
Unintelligent (05)	.92 22.61	1.19 ****	.77 39.79	.80 37.20
Just (06)	.72 44.09	1.19 ****	.76 40.81	1.01 ****
Reliable (07)	.91 24.39	1.02 ****	1.11 ****	.98 10.56
Unreliable (08)	.88 27.66	.99 5.06	1.04 ****	.99 8.72
Unjust (10)	.80 36.75	1.12 ****	.88 28.30	.94 20.14
Intelligent (11)	.97 12.51	1.42 ****	.89 27.13	.70 45.49
I. C. S. (12)	.86 30.76	1.09 ****	1.01 ****	.96 16.35
Attractive (13)	.65 49.78	.97 14.31	.89 26.36	.91 23.99
Incompetent (14)	.99 8.70	1.08 ****	1.05 17.20	.98 9.99
Experienced (15)	.81 35.55	1.07 ****	.95 17.20	1.01 ****

* The first number is the correlation; the second number is the angle. Asterisks represent "negative" angles.

imaginary part of the multidimensional space in the experimental group than in the control group, the scalar product lengths are reduced, thus increasing the correlation. Correlations slightly greater than 1.00 will be interpreted as representing stability. A correlation that is moderately or substantially larger than 1.00 will be interpreted as representing a departure from stability--specifically, instability in the imaginary part of the space. Of the concepts listed in the second column of Table 9, only "intelligent" appears to be unstable (correlation = 1.42).

The third column in Table 9 presents the results of the cross-group correlation procedure for the control group-positive induction group comparison. Among the stable concepts, "just," and "unintelligent" represent some departure from stability (angles of 40.81 and 39.79). However, these angles represent correlations that are still relatively high (.76 and .77, respectively) and can hardly be referred to as significant departures from stability. The fourth column in Table 9 presents the results of the cross-group correlation procedure for the control group-negative induction group configuration. Among the stable concepts, "intelligent," "unintelligent," and "repulsive" represent some departure from stability (angles of 45.49, 37.20, and 36.09). These angles represent stability correlations of .70, .80 and .81, and can hardly be referred to as major departures from stability.

In general, it appears that the results of the cross-group correlation procedure provides strong evidence for the stability of the concepts. A considerable number of correlations were in the .9's across the comparisons and most correlations were between .9 and 1.1. While the poorest correlation was indeed small (.65), it was obtained in the split-half of

the control group and the concept ("attractive") stabilized in comparisons with larger samples (.97, .89 and .91) in the speech only, positive and negative group comparisons. However, two concepts appear to depart, to some degree, from stability in more than one group: "just" correlated .72 and .76 in the split-half comparison and the control group-positive induction group comparison; and "intelligent" correlated 1.42 and .70 in the control group-speech only group, and control group-negative induction group comparison. Nonetheless, the severity by which these concepts departed from stability in two out of the four comparisons does not warrant rejecting them from the stable concepts rotation.

(d) Factor Correlations

I have presented evidence for the stability of the stable concepts across groups as well as between an aggregate and each group separately. In this section, I would like to assess the stability of each factor structure. Procedurally, the calculation of factor correlations utilizes the sets of coordinates from each control group-posttest group stable concepts rotation and computes the correlation between the set of concept loadings in each of the posttest groups. The procedure was also used for a split-half of the control group. For the obvious reasons that the loadings of the three person-concepts (Bayh, Humphrey and McGovern) change in all conditions, only the thirteen stable concepts were utilized in the calculation of these correlations. Factor correlations calculated using a split-half of the control group provide information about the factor structure stability without effects of the messages used as manipulations. Factor structure stability correlations calculated between the control group and each posttest group indicates how stable and robust

the factor structure is even when the experimental messages utilized several of the concepts.

Table 10 presents the results of the factor correlation procedure. Although the split-half of the control group resulted in small samples (each n=22), the factor correlations for the first three factors (67.46 percent of the variance) and the last three factors (15.00 percent of the 21.71 percent of imaginary variance) provide strong evidence for the stability of the factor structure for a substantial part of the multi-dimensional space. For a larger sample, where the concepts may have been influenced only by the persuasive speech (see second column of Table 10), there is evidence that the structure of the first five real factors are stable. These five factors account for 85.12 percent of real variance.

Factor correlations computed between the control group and the negative induction group indicate that the first six factors are stable (accounting for 90.83 percent of the real variance). Unfortunately, less factor structure stability was obtained for the control group-positive induction group comparison. Only the first three factors are stable, accounting for 67.46 percent of the real variance. The loss in factor structure stability is presumably due to the effects of the persuasive speech and the positive induction message. Apparently, attributing "Humphrey," "just," "competent" and "experienced" to Birch Bayh in the positive induction message had a much stronger influence on the stability of the factor structure of the concepts than did attributing "dissimilar to Humphrey," "unjust," "incompetent" and "inexperienced" to Birch Bayh in the negative induction message.

In general, it can be concluded that between three to five of the real factors are stable, and that the last three (imaginary) factors are

TABLE 10

RESULTS OF FACTOR CORRELATION PROCEDURE

Correlations between loadings of stable concepts in each of 16 factors for (a) split-half of control group, and for control-group with loadings in (b) speech only group; (c) positive induction group; and (d) negative induction group.

Factors	Control Split-Half	Control-Speech Only	Control-Positive Induction	Control-Negative Induction	Percent Variance (Control Group)
1	.99	.99	.98	.98	42.94
2	.96	.98	.97	.97	13.62
3	.94	.93	.89	.83	10.90
4	.66	.92	.64	.86	9.61
5	.45	.93	.58	.87	8.05
6	.45	.20	-.00	.95	5.71
7	-.11	.75	.14	-.54	4.38
8	.01	.97	.80	.90	3.06
9	-.64	.91	-.39	.23	1.57
10	.70	.79	.84	.83	.153
11	-.15	.07	-.00	-.66	.00
12	-.22	-.72	.89	.64	-2.15
13	.31	.14	.76	.60	-2.56
14	.77	.75	.77	.86	-4.43
15	.93	.77	.80	.66	-5.21
16	.96	.48	.98	.99	-6.36

stable. Perhaps the best indication of the real factor structure stability is represented by the factor correlations obtained in the control group-speech only group comparison. In this comparison, the sample sizes are larger than in the split-half of the control group, and the locations of the concepts are influenced only by the speech. Thus, it can be concluded that the first five factors are fairly stable. The factor structure stability correlations for the control group-negative induction group comparison supports this conclusion. Unfortunately, the weak correlations for the fourth and fifth factors in the control group-positive induction group comparison (correlations of .64 and .58) argues against this conclusion. However, in comparison with the control group-speech only group, and the control group-negative induction group correlations, it is safe to say that the lack of stability of these two factors is not due to unreliability of measurement, but, rather, to the effects of the persuasive speech and positive induction message. Finally, it appears that the factor structure correlations for the last three (imaginary) factors are fairly robust.

It is not surprising to obtain factor structure instability for factors 6 to 13. These factors account for only 14.87 percent of the real variance and only 4.71 of the 20.71 percent of imaginary variance. Eigenvalues for these factors are considerably smaller in comparison with the eigenvalues for stable factors. For example, the eigenvalue for factor eleven is -.039 and this factor accounts for -.000 percent of variance (negative induction group). Factor eleven is a null vector, and represents only machine and programming rounding error. The eigenvalue for the largest unstable factor (factor 6) is less than 4000.0 and accounts for less than six percent of the variance. (See Tables 18-20 for

eigenvalues for all factors). In comparison with the stable factors, the unstable factors account for a trivial amount of information about the interpoint distance between concepts.

Attribute Salience

In proposing the model, it was argued that the smaller the projected line from a concept to the line segment anchored at both ends by bipolar adjectives, the more salient the attribute is in the Ss' perception of that concept. A computer program was written to find the length of this projected line from each of the four concepts ("Ideal Credible Source," "Birch Bayh," "Hubert Humphrey," and "George McGovern"). The length of each projected line was subtracted from 100 so that the higher the value, the higher the salience score. This measure of salience was compared with the unidimensional ratings of relevance and importance.

Tables 11, 12, 13 and 14 provide the multidimensional model's derived salience measure and the mean ratings on the unidimensional scales of relevance and importance for five groups of Ss (pretest and four posttest groups) for all four of the concepts on the six attribute line-segments. Two correlations were computed across the five groups of Ss for each concept summed across attributes: a correlation between salience scores and the mean relevance rating and a correlation between salience scores and mean importance ratings. Further, an overall correlation across groups and across the four concepts was computed for both salience-relevance and salience-importance pairs of ratings. Thus, a total of ten correlations were computed.

TABLE 11

SALIENCE SCORES FOR BIRCH BAYH

Salience scores, mean ratings on relevance scale and mean ratings on importance scale.*

		Pretest n=54	Control n=47	Speech Only n=45	Positive n=45	Negative n=47
Competent (01) Incompetent (14)	salience	(1.1112)	75.70	50.71	61.60	55.55
	relevance	4.39	4.55	5.04	5.29	5.11
	importance	3.76	3.84	4.38	4.81	4.38
Inexperienced (02) Experienced (15)	salience	71.22	87.80	56.73	60.23	62.49
	relevance	3.74	3.78	4.28	4.49	4.73
	importance	4.35	4.88	5.55	5.11	5.06
Repulsive (04) Attractive (13)	salience	49.51	57.55	28.31	36.97	38.56
	relevance	3.52	3.62	3.70	3.40	3.57
	importance	3.78	2.62	2.81	2.51	2.47
Unintelligent (05) Intelligent (11)	salience	64.39	71.40	49.64	59.25	46.20
	relevance	3.17	3.80	4.75	5.16	4.41
	importance	4.07	3.96	4.66	5.33	4.68
Just (06) Unjust (10)	salience	61.40	70.06	51.50	56.15	46.81
	relevance	4.50	4.44	5.28	5.09	5.13
	importance	3.96	3.67	4.53	4.89	4.36
Reliable (07) Unreliable (08)	salience	76.13	75.47	50.96	49.79	44.01
	relevance	4.48	4.96	5.51	5.18	5.08
	importance	3.88	4.11	4.64	5.47	4.49

* Higher ratings or scores represent higher values of importance, relevance and salience. Numbers in salience score columns that are inside parentheses were salience scores which could not be computed. These observations were not used in calculating correlations. Numbers in parentheses represent correlations greater than one. The computer program that provides attribute salience scores does not, at this time, provide the shortest path to one of the bipolar adjectives.

TABLE 12

SALIENCE SCORES FOR HUBERT HUMPHREY

Salience scores, mean ratings on relevance scale and mean ratings on importance scale.*

		Pretest n=54	Control n=47	Speech Only n=45	Positive n=45	Negative n=47
Competent (01) Incompetent (14)	salience	68.20	58.81	46.98	56.96	54.37
	relevance	4.28	5.31	5.11	5.98	4.59
	importance	4.54	4.64	4.55	5.13	4.70
Inexperienced (02) Experienced (15)	salience	(1.014)	84.00	81.22	70.47	75.78
	relevance	4.434	3.91	4.13	4.80	4.34
	importance	4.811	5.02	5.40	5.36	5.40
Repulsive (04) Attractive (13)	salience	42.39	35.52	22.94	31.84	25.67
	relevance	3.79	3.40	3.32	3.33	3.57
	importance	2.72	2.82	2.43	2.67	2.53
Unintelligent (05) Intelligent (11)	salience	91.08	74.12	51.73	54.43	49.73
	relevance	4.770	4.71	4.68	5.24	4.94
	importance	4.878	4.71	4.72	5.33	5.06
Just (06) Unjust (10)	salience	59.50	64.01	54.08	53.48	43.37
	relevance	4.88	4.62	5.02	5.13	4.87
	importance	4.83	4.51	4.66	4.82	4.89
Reliable (07) Unreliable (08)	salience	76.13	76.61	51.97	41.43	40.08
	relevance	4.900	5.07	4.98	5.67	5.40
	importance	4.690	4.71	4.98	5.24	5.17

* Higher ratings or scores represent higher values of importance, relevance and salience. Numbers in salience score columns that are inside parentheses were salience scores which could not be computed. These observations were not used in calculating correlations. Numbers in parentheses represent correlations greater than one. The computer program that provides attribute salience scores does not, at this time, provide the shortest path to one of the bipolar adjectives.

TABLE 13

SALIENCE SCORES FOR IDEAL CREDIBLE SOURCE

Salience scores, mean ratings on relevance scale and mean ratings on importance scale.*

		Pretest n=54	Control n=47	Speech Only n=45	Positive n=45	Negative n=47
Competent (01)	salience	(1.1817)	56.99	74.02	63.51	70.33
Incompetent (14)	relevance	5.56	6.11	6.45	5.89	6.02
	importance	5.49	5.78	5.49	5.36	5.06
Inexperienced (02)	salience	70.36	67.01	67.78	69.89	70.31
Experienced (15)	relevance	5.02	5.09	5.23	4.84	4.74
	importance	5.48	6.29	6.30	5.73	5.62
Repulsive (04)	salience	63.06	36.04	26.92	31.94	29.11
Attractive (13)	relevance	3.62	4.18	3.87	3.67	3.40
	importance	3.43	3.58	3.34	2.96	2.76
Unintelligent (05)	salience	79.41	63.25	57.33	59.77	56.72
Intelligent (11)	relevance	5.23	5.38	5.08	5.40	5.00
	importance	5.56	5.67	5.34	5.47	5.19
Just (06)	salience	(1.446)	62.49	57.33	60.75	62.52
Unjust (10)	relevance	5.38	6.13	5.70	5.62	5.64
	importance	5.49	5.59	5.25	5.16	5.00
Reliable (07)	salience	70.26	70.46	66.38	61.53	65.05
Unreliable (08)	relevance	5.56	6.49	6.21	5.98	6.23
	importance	5.68	5.73	5.57	5.49	5.38

* Higher ratings or scores represent higher values of importance, relevance and salience. Numbers in salience score columns that are inside parentheses were salience scores which could not be computed. These observations were not used in calculating correlations. Numbers in parentheses represent correlations greater than one. The computer program that provides attribute salience scores does not, at this time, provide the shortest path to one of the bipolar adjectives.

TABLE 14

SALIENCE SCORES FOR GEORGE MCGOVERN

Salience scores, mean ratings on relevance scale and mean ratings on importance scale.*

		Pretest n=54	Control n=47	Speech Only n=45	Positive n=45	Negative n=47
Competent (01) Incompetent (14)	salience	66.35	63.00	53.53	58.06	50.30
	relevance	5.090	5.55	5.85	5.84	5.36
	importance	4.897	5.09	5.29	5.33	5.08
Inexperienced (02) Experienced (15)	salience	(1.100)	68.97	57.91	60.81	62.05
	relevance	4.36	4.53	4.53	4.62	4.36
	importance	4.77	5.51	5.43	5.51	5.53
Repulsive (04) Attractive (13)	salience	58.12	48.24	28.76	39.54	32.06
	relevance	3.62	3.71	3.53	3.31	3.51
	importance	2.96	2.64	2.53	2.24	2.57
Unintelligent (05) Intelligent (11)	salience	64.73	59.46	50.53	53.70	49.67
	relevance	4.72	4.58	5.04	4.91	4.81
	importance	5.09	4.84	5.02	5.20	4.87
Just (06) Unjust (10)	salience	(1.087)	79.42	57.19	49.81	44.04
	relevance	5.13	5.29	5.66	5.58	5.38
	importance	4.83	4.58	4.79	4.84	4.78
Reliable (07) Unreliable (08)	salience	75.55	73.76	50.58	60.03	49.53
	relevance	5.34	5.64	5.81	5.78	5.43
	importance	4.98	5.00	5.25	5.40	4.83

* Higher ratings or scores represent higher values of importance, relevance and salience. Numbers in salience score columns that are inside parentheses were salience scores which could not be computed. These observations were not used in calculating correlations. Numbers in parentheses represent correlations greater than one. The computer program that provides attribute salience scores does not, at this time, provide the shortest path to one of the bipolar adjectives.

Table 15 presents these correlations, along with the means on each scale (summed across the attributes and groups of Ss), standard deviations and number of usable observations.* In general, correlations between salience scores and mean relevance ratings were lower than correlations between salience scores and mean importance ratings. The central reason for this seems to be that Ss did not discriminate along the unidimensional relevance rating scale as much as they did on the importance rating scale. This is represented by consistently lower standard deviations on the relevance scale than on the importance scale (Table 15). This may be explained by pointing out that "relevance" may be a more abstract concept from the Ss' perspective.

We shall focus on the relationship between salience scores and importance ratings. The relatively small correlation (.279) between the two types of scales for Birch Bayh is not surprising. Birch Bayh was only moderately familiar to the Ss and there was no correspondence between the derived salience measure and the unidimensional ratings. The correlations between the two measures for more familiar concepts tend to support the salience measure. For George McGovern the two measures correlate .592. For Hubert Humphrey, the correlation is .627. Finally, for "Ideal Credible Source" the correlation is .825. Summing across all groups, attributes and concepts, the overall correlation is .578. This correlation is obviously reduced due to the inclusion of Birch Bayh ratings; nonetheless, it is respectably high enough to conclude that the multidimensional model's derived salience measure is tapping attribute salience.

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* See footnote in Tables 11, 12, 13 and 14 explaining unusable observations.

TABLE 15

CORRELATIONS BETWEEN SALIENCE SCORES AND RATINGS ON RELEVANCE AND IMPORTANCE SCALES

Means and standard deviations on (a) salience, and (b) relevance or importance, number of observations and correlations.

	Salience (a) Relevance (b)	Salience (a) Importance (b)
Birch Bayh	$\bar{X}_a = 57.45$	$\bar{X}_a = 57.45$
	$S_a = 13.06$	$S_a = 13.06$
	$\bar{X}_b = 4.45$	$\bar{X}_b = 4.24$
	$S_b = 0.67$	$S_b = 0.819$
	$n = 29$	$n = 29$
	$r = -0.026$	$r = 0.279$
Hubert Humphrey	$\bar{X}_a = 56.44$	$\bar{X}_a = 56.44$
	$S_a = 17.25$	$S_a = 17.25$
	$\bar{X}_b = 4.64$	$\bar{X}_b = 4.51$
	$S_b = 0.679$	$S_b = 0.905$
	$n = 29$	$n = 29$
	$r = 0.252$	$r = 0.627$
Ideal Credible Source	$\bar{X}_a = 60.37$	$\bar{X}_a = 60.37$
	$S_a = 13.19$	$S_a = 13.19$
	$\bar{X}_b = 5.28$	$\bar{X}_b = 5.12$
	$S_b = 0.860$	$S_b = 0.94$
	$n = 28$	$n = 28$
	$r = 0.663$	$r = 0.825$
George McGovern	$\bar{X}_a = 55.92$	$\bar{X}_a = 55.92$
	$S_a = 11.59$	$S_a = 11.59$
	$\bar{X}_b = 4.91$	$\bar{X}_b = 4.64$
	$S_b = 0.77$	$S_b = 0.994$
	$n = 28$	$n = 28$
	$r = 0.442$	$r = 0.592$

TABLE 15 (continued)

	Salience (a) Relevance (b)	Salience (a) Importance (b)
Overall	$\overline{X}_a = 57.54$	$\overline{X}_a = 57.54$
	$S_a = 14.06$	$S_a = 14.06$
	$\overline{X}_b = 4.81$	$\overline{X}_b = 4.63$
	$S_n = 0.809$	$S_b = 0.965$
	$n = 114$	$n = 114$
	$r = 0.338$	$r = 0.578$

Let us briefly describe the attributes Ss perceived as salient in their conception of the "Ideal Credible Source" (Table 13). Means were computed for salience scores across the five groups of Ss for each attribute. Experienced-Inexperienced was the most salient attribute (69.070), followed by reliable-unreliable and competent-incompetent (66.74 and 66.21, respectively). The mean salience for intelligent-unintelligent was 63.29 and the mean salience for the attribute just-unjust was 60.77. The high mean salience scores indicate that among the six attribute line segments included in the multidimensional scope the five listed above were fairly salient in the Ss' conception or perceptions of the "Ideal Credible Source." The mean salience score for the attribute attractive-repulsive was only 37.41. This was not a salient attribute.

Hypotheses

To test the hypothesis that higher or lower credibility was systematically induced, a one-way analysis of variance on the four posttest groups' distance estimates between the target and Ideal Source was computed. As indicated in Table 16 ($F=4.925$, $df=3/161$, $p<.01$), the credibility inductions clearly altered the perceptions of Birch Bayh's credibility. The means for each group were 95.21, 83.025, 86.025, and 68.65, for the negative induction, control, speech only and positive induction groups, respectively.

In addition, three contrasts were computed by the Scheffe post-hoc procedure. The first contrast compared the means between the control group and the negative induction group. The second contrast compared the means between the control group and the positive induction group. Neither of these contrasts were significant. The contrast between the

TABLE 16

RESULTS OF ONE-WAY ANALYSIS OF VARIANCE

Analysis of variance for Birch Bayh - Ideal Credible Source distance estimates.

Source	Ss	df	MS	F	p
Total	174,391.248	164			
Between	14,657.626	3	4,885.875	4.925	.01
Within	159,733.622	161	992.134		

means for the positive induction and negative induction groups was significant (Scheffe T = 3.768, critical value = 2.793, $p<.05$).

Thus, according to the F-test, procedures employed in the present study successfully altered the perceptions of Birch Bayh's credibility. Further, since Bayh moved 14.375 units closer to Ideal Credible Source due to the positive induction message and 12.185 units further away from Ideal Credible Source due to the negative induction message, it would appear that the positive induction message had slightly more impact. Yet, such a small difference cannot be cited as strong support for the notion of a bias in the Ss' processing of information such that they give a public figure in the negative induction message a benefit of a doubt.

One should be cautioned against interpreting the findings of the F-test as final evidence. The F-test utilizes only one set of paired comparison interpoint distances out of the 120 in the present study. It is only based on the interpoint distances between Bayh and the "Ideal Credible Source," and does not take into consideration the direction Bayh moved due to the experimental manipulation. The directions Bayh moved will be assessed in the section entitled "Message Effectiveness."

Manipulation Check

The hypothesis which stipulated that the public figure who is closer to the "Ideal Credible Source" will stimulate more attitude change than a public figure who is more distant from the Ideal Source was assessed by means of a one-way analysis of variance across the attitude change scores in each of the four groups. Attitude change scores were computed by subtracting the posttest scores from pretest scores.

As indicated in Table 17 ($F = 4.169$, $df = 3/177$, $p<.01$), the amount of obtained attitude change clearly varied across the four groups. The

TABLE 17

ANALYSIS OF VARIANCE FOR ATTITUDE CHANGE SCORES

Source	Ss	df	MS	F	p
Total		180	1,390.69		
Between	91.792	3	30.597	4.169	.01
Within	1,298.898	177	7.338		

means for attitude change were 0.90, -0.64, -0.87 and -0.80 for the control, negative, speech only and positive induction groups, respectively. Negative scores indicate change in advocated direction. Three contrasts were computed. One between the means for control group and negative induction group. The second contrast was between the means for the negative induction and the positive induction group. Neither of these contrasts were significant. The contrast between means for the positive induction group and the control group was significant (Scheffe T = 2.934, critical value = 2.793, $p<.05$). These results indicate that the persuasive message was persuasive by itself. There was little difference between the three experimental groups. The positive credibility induction evidently led to more attitude change than that obtained in the negative credibility induction, but this difference was not significant.

Message Effectiveness

In a previous section of the thesis ("Hypotheses") it was concluded that messages based on procedures described in Chapters I and II successfully moved the manipulated public figure as predicted. The central criticism of this conclusion is that perhaps any positive or negative description of Birch Bayh may have produced the obtained effects. We have hypothesized that the public figure would move along a specific resultant vector in the positive induction group and opposite to this specific resultant vector in the negative induction group (or, a resultant vector for the negative concepts--dissimilar to Humphrey, unjust, incompetent and inexperienced), and this section of the thesis will assess the extent to which Birch Bayh's movement in the space approximated the predicted movement along the resultant vector. First, I shall briefly

discuss the three dimensional visual representations (three dimensional plots) and how these representations illustrate the obtained motions. Second, I shall discuss how message effectiveness is derived and the extent to which Bayh moved as predicted.

Tables 18, 19, 20 and 21 provide the coordinates of the sixteen concepts in all sixteen dimensions for the control group, speech only group, positive induction group and negative induction group configurations, respectively. Figures 6, 7 and 8 present plots of the first three dimensions of each of the experimental posttest groups rotated to the control group with the thirteen stable concepts specified as stable (see Woelfel et al., 1975). Figure 6 presents the control group-speech only comparison. Figures 7 and 8 present the control group-positive induction group and the control group-negative induction group comparisons, respectively. The first three dimensions account for the following percentage of variance in each group: 69.3, 64.8, 70.7 and 65.1, in the control, speech only, positive induction and negative induction groups, respectively. Concept identification numbers for the concepts can be found by referring to Tables 18-21. The concept identification in each of the three figures is located by the concept's location in the control group confiruration. The second point on the line represents the concept's location in each of the posttest group configurations.

Figure 6 illustrates the motions of Bayh (concept 3), Humphrey (9) and McGovern (16) that are due to the speech. It would appear that Humphrey and McGovern move toward the negative part of the semantic space. (Indeed, McGovern's movement appears to be rather consistent across the three comparisons--Figures 6, 7 and 8). We shall return later to analyze Humphrey's movement; however, we are presently interested in how these

TABLE 18

CONTROL GROUP COORDINATES

Concepts	1	2	3	4	5	6	7	8
1. Competent	46.144	-24.760	-29.426	-.283	13.739	14.550	8.742	-11.671
2. Inexperienced	-43.762	39.294	-51.312	-27.357	19.233	.409	-7.375	-7.673
3. Birch Bayh	-1.861	6.119	-.162	1.167	1.180	-23.412	33.857	4.703
4. Repulsive	-47.411	-20.300	-22.012	-24.453	-9.539	4.919	14.148	11.668
5. Unintelligent	-53.049	14.997	-27.197	37.148	-16.997	7.011	-1.721	-6.343
6. Just	43.521	30.249	-9.080	-15.573	-27.697	12.743	6.025	3.292
7. Reliable	44.218	12.992	-32.449	11.163	10.140	-17.470	-12.192	10.989
8. Unreliable	-51.445	-17.806	31.522	-6.003	-9.750	18.943	4.342	-15.299
9. Humphrey	11.124	-19.576	-2.421	-17.727	-27.324	-16.520	-26.565	-8.082
10. Unjust	-47.610	-35.858	-1.514	15.245	31.355	-8.572	-8.894	1.800
11. Intelligent	36.607	-13.014	21.699	-36.516	14.396	-8.956	.626	3.865
12. I. C. S.	64.567	4.343	8.854	.982	-3.106	-2.376	-2.117	-10.912
13. Attractive	25.976	30.742	41.175	24.499	14.572	-.798	1.729	-3.988
14. Incompetent	-59.188	13.401	23.531	-1.430	-15.059	-15.572	-6.743	15.617
15. Experienced	41.432	-34.281	10.209	22.579	-21.307	-4.831	3.429	8.657
16. McGovern	18.393	-.126	8.240	.956	9.038	35.264	-10.259	24.845
Eigenvalues	29737.760	8389.502	7432.160	6124.951	4825.702	3601.990	2639.191	1913.839

TABLE 18 (continued)

Concepts	9	10	11	12	13	14	15	16
1. Competent	-5.275	-2.142	-.083	5.579	24.971	2.588	-16.794	1.899
2. Inexperienced	-5.896	-.273	-.043	-.402	-6.772	-24.966	-6.382	-19.904
3. Birch Bayh	-14.157	-3.225	-.000	-10.572	-.343	4.717	5.670	-1.239
4. Repulsive	13.909	-.863	-.062	-10.331	3.812	-9.200	-2.367	7.729
5. Unintelligent	1.743	-1.039	-.077	-3.257	-3.970	24.337	.980	-24.606
6. Just	-1.846	-2.047	-.026	9.323	-.025	-.289	33.267	11.368
7. Reliable	-.741	-.490	-.092	-.532	-16.562	6.433	-16.416	29.984
8. Unreliable	-6.314	-.095	.089	-.493	-17.297	5.050	-11.121	25.586
9. Humphrey	-6.090	-7.829	-.077	-11.250	8.530	.249	4.686	-.277
10. Unjust	-2.243	.406	-.004	2.048	1.481	-3.124	36.067	5.637
11. Intelligent	3.807	-1.722	.061	3.961	-9.107	28.598	-2.026	-23.421
12. I. C. S.	.635	12.216	.025	-12.888	3.797	-.994	7.774	-2.001
13. Attractive	8.587	-8.080	.117	-4.844	9.465	-7.189	-1.497	5.489
14. Incompetent	-4.483	4.790	.067	6.628	22.383	4.869	-13.179	4.480
15. Experienced	-1.883	-.661	.029	5.208	-12.176	-26.213	-8.306	-22.239
16. McGovern	-9.932	-1.616	.023	-11.424	1.550	4.275	.605	-6.286
Eigenvalues	756.368	326.279	.060	-885.432	-2186.916	-3011.332	-3493.952	-3918.085

Trace = 52252.085

TABLE 19

SPEECH ONLY GROUP COORDINATES

Concepts	1	2	3	4	5	6	7	8
1. Competent	56.018	-20.421	-27.365	-13.223	13.784	17.651	6.383	-10.797
2. Inexperienced	-42.783	40.783	-6.849	-25.668	20.753	4.230	-11.251	-11.047
3. Birch Bayh	-12.078	-2.356	-8.176	12.409	4.828	37.843	31.133	-8.222
4. Repulsive	-44.128	-15.008	-26.406	-15.144	-13.609	-13.164	20.221	14.804
5. Unintelligent	-51.170	8.466	-18.652	38.805	-15.403	13.924	4.754	-9.066
6. Just	40.795	34.287	-4.253	-11.813	-31.375	11.226	8.232	-2.332
7. Reliable	47.485	13.639	-28.183	5.530	12.780	-18.747	-11.821	13.763
8. Unreliable	-54.239	-13.503	24.052	-11.428	-10.883	23.689	8.107	-18.315
9. Humphrey	-13.580	14.064	-24.491	-26.629	-13.422	-6.947	-17.272	-30.389
10. Unjust	-49.548	-34.578	-1.623	17.895	30.518	-5.373	-14.243	.903
11. Intelligent	38.624	-13.766	18.821	-32.804	19.754	-7.690	-2.642	6.289
12. I. C. S.	63.048	3.251	6.874	-3.289	-3.003	4.158	-4.668	-6.017
13. Attractive	16.929	21.083	39.885	35.903	10.197	-10.452	1.738	-.815
14. Incompetent	-60.585	16.299	19.640	.670	-13.183	-12.718	-8.341	14.539
15. Experienced	39.553	-39.311	-4.060	14.566	-20.331	-6.735	3.531	8.090
Eigenvalues	30390.007	8095.131	6927.447	6109.516	5058.056	4569.233	3068.829	2613.379

TABLE 19 (continued)

Concepts	9	10	11	12	13	14	15	16
1. Competent	-4.956	-3.549	-.097	-.966	2.443	12.238	-23.571	-13.054
2. Inexperienced	-11.960	-2.301	.068	1.992	4.127	-29.570	1.991	-9.382
3. Birch Bayh	-23.678	-.627	-.020	7.273	3.590	-1.032	1.758	-2.527
4. Repulsive	24.928	-9.299	.068	5.023	.319	-.952	.941	2.219
5. Unintelligent	.582	-1.346	.090	-2.825	19.989	7.607	6.220	8.136
6. Just	-10.423	-5.306	-.066	-4.571	-13.683	12.882	16.614	-11.751
7. Reliable	-.815	4.062	-.080	-2.600	-9.661	-1.694	-9.189	25.981
8. Unreliable	-10.708	1.578	.090	-.408	-10.981	-3.857	-9.371	23.617
9. Humphrey	-12.181	-11.197	-.023	6.464	6.542	1.995	5.719	-8.624
10. Unjust	-3.165	-1.970	.081	3.294	-12.307	11.929	17.304	-10.979
11. Intelligent	-3.431	1.526	-.069	-11.896	13.548	9.382	12.770	6.064
12. I. C. S.	8.777	11.924	-.103	16.942	5.179	2.684	9.673	2.809
13. Attractive	14.974	-15.190	-.019	.946	-.244	-1.197	-9.502	-.455
14. Incompetent	.381	15.774	.102	-1.029	1.083	15.071	-15.272	-12.766
15. Experienced	-4.184	4.096	-.065	-3.902	.187	-34.523	1.392	-10.439
16. McGovern	-20.576	-9.434	-.008	5.072	4.214	.144	4.734	.369
Eigenvalues	2254.051	1012.791	.083	-642.898	-1260.370	-1799.146	-2330.973	-3005.298

Trace = 61059.839

TABLE 20

POSITIVE INDUCTION GROUP COORDINATES

Concepts	1	2	3	4	5	6	7	8
1. Competent	58.234	-14.671	-27.280	5.568	4.227	10.114	.146	-9.176
2. Inexperienced	-45.479	40.377	-22.816	-20.798	6.864	17.546	-13.703	-8.675
3. Birch Bayh	-29.849	-3.681	3.717	-9.815	-3.176	37.981	1.622	-7.787
4. Repulsive	-49.688	-33.682	-30.283	-1.121	-24.306	-7.549	5.081	3.527
5. Unintelligent	-57.235	18.573	-4.428	34.834	9.707	-22.520	12.149	-13.201
6. Just	39.722	35.497	-12.857	22.988	-25.330	9.530	2.679	2.137
7. Reliable	43.709	14.743	-21.031	.367	16.915	-27.439	-3.098	11.022
8. Unreliable	-57.218	-12.672	17.472	11.788	-9.820	34.259	7.920	-9.664
9. Humphrey	-36.579	-14.001	17.948	-6.500	-17.266	28.318	-1.864	22.478
10. Unjust	-45.087	-36.040	8.308	-17.259	35.360	-13.209	-8.139	-.539
11. Intelligent	42.163	-17.748	2.413	-34.750	-8.177	15.541	-12.227	4.069
12. I. C. S.	65.170	2.808	3.816	-10.658	9.816	2.977	5.960	-3.389
13. Attractive	24.039	26.640	50.562	-4.609	3.837	-4.526	3.068	-19.150
14. Incompetent	-64.099	12.667	21.506	-2.642	-14.065	-.343	-8.619	27.564
15. Experienced	45.769	-36.492	14.618	16.293	-5.025	-14.380	8.785	15.474
16. McGovern	-17.233	1.098	9.498	-19.119	-9.243	-32.148	22.532	12.216
Eigenvalues	35265.891	9331.640	6840.318	5757.510	5293.544	3773.149	2922.122	1554.475

TABLE 20 (continued)

Concepts	9	10	11	12	13	14	15	16
1. Competent	9.327	-.972	-.089	11.571	-13.682	6.793	-12.799	3.422
2. Inexperienced	-.697	.037	.070	-2.340	-4.299	-22.477	-5.840	-17.426
3. Birch Bayh	23.557	7.753	-.046	-4.610	4.286	1.321	-.141	2.182
4. Repulsive	-1.483	-6.759	.075	-9.962	-9.697	3.754	-3.201	2.106
5. Unintelligent	7.615	-1.853	.091	-.172	10.611	16.942	1.857	-24.254
6. Just	-6.004	4.329	-.059	.920	-4.294	3.495	30.341	7.640
7. Reliable	-.182	-8.315	-.067	-1.799	12.042	-8.259	-7.553	26.305
8. Unreliable	2.352	1.173	.088	-1.633	14.027	-9.116	-5.907	21.676
9. Humphrey	-4.382	-10.852	-.056	-7.723	-5.434	-4.566	-.371	-11.201
10. Unjust	2.315	4.612	.067	-.104	-7.458	4.110	24.581	7.150
11. Intelligent	-3.639	-6.860	-.067	5.857	17.411	12.824	9.767	-14.835
12. I. C. S.	-7.844	14.735	-.099	-11.239	1.024	13.374	-12.293	-3.318
13. Attractive	4.523	-9.771	-.034	-2.100	-11.418	-2.343	-1.777	3.893
14. Incompetent	-4.140	5.626	.097	8.276	-5.395	9.856	-13.269	4.991
15. Experienced	-2.143	4.020	-.071	2.717	1.126	-28.953	-3.907	-17.349
16. McGovern	20.128	-2.652	-.026	-4.893	-1.949	2.690	-3.340	-7.511
Eigenvalues	1290.896	752.965	-.083	-591.154	-1344.738	-1989.154	-2630.101	-2946.553

Trace = 63278.727

TABLE 21

NEGATIVE INDUCTION GROUP COORDINATES

Concepts	1	2	3	4	5	6	7	8
1. Competent	55.274	-13.450	-33.227	-4.297	1.534	13.315	8.449	-11.273
2. Inexperienced	-48.770	43.564	-24.917	-16.889	17.415	-4.060	3.921	-14.262
3. Birch Bayh	10.756	6.256	-2.689	2.972	30.822	38.899	-21.797	-11.199
4. Repulsive	-43.243	-21.730	-24.696	-15.309	-13.728	3.672	-25.180	22.420
5. Unintelligent	-52.952	14.614	2.300	23.425	-25.403	13.012	5.440	1.745
6. Just	39.991	32.642	-6.539	-1.204	-31.266	3.807	-.518	-.805
7. Reliable	45.841	21.037	-17.385	9.761	9.753	-12.650	-.351	17.064
8. Unreliable	-55.969	-17.275	14.880	-4.297	-6.557	19.242	11.100	-24.462
9. Humphrey	-22.582	-14.330	-16.785	-29.800	-31.978	-17.398	-13.304	-11.169
10. Unjust	-44.002	-37.270	2.824	2.308	26.823	-8.777	3.604	2.854
11. Intelligent	39.986	-13.039	.225	-18.393	23.524	-3.893	-4.666	-6.978
12. I. C. S.	55.226	5.902	-2.300	-8.297	3.164	-3.275	6.238	-2.653
13. Attractive	22.047	17.822	49.825	9.251	17.590	4.460	-15.364	-6.845
14. Incompetent	-60.114	8.415	23.918	6.574	-5.414	-21.473	5.000	9.973
15. Experienced	46.685	-41.233	15.089	17.366	-17.435	-3.381	2.327	13.224
16. McGovern	-13.754	-3.774	-4.150	-18.639	-9.087	25.487	31.612	32.608
Eigenvalues	30651.851	8343.789	6799.960	6204.999	5091.942	3827.348	3360.989	2994.418

TABLE 21 (continued)

Concepts	9	10	11	12	13	14	15	16
1. Competent	15.475	-14.742	.044	-.513	7.691	12.171	-28.170	2.755
2. Inexperienced	-14.965	.224	-.047	-.905	-.660	-30.117	-5.839	-18.082
3. Birch Bayh	-13.181	-8.730	.007	-3.792	-4.524	2.032	-6.129	-6.127
4. Repulsive	2.899	1.843	.021	-1.156	-3.131	.767	-4.752	2.893
5. Unintelligent	25.692	-15.327	.105	.309	-5.297	15.916	11.124	-17.373
6. Just	-14.898	1.175	.009	.568	17.061	-2.279	17.820	10.157
7. Reliable	14.913	-4.658	.043	3.739	-12.071	1.034	6.126	22.074
8. Unreliable	-14.301	1.177	-.040	1.754	-10.137	-2.688	4.218	20.973
9. Humphrey	-20.486	-5.111	-.074	-5.104	-3.848	2.237	-6.413	-9.425
10. Unjust	21.053	.515	.007	-1.978	14.236	-2.201	19.603	6.176
11. Intelligent	-24.803	5.673	-.093	6.605	-1.236	17.503	10.558	-13.984
12. I. C. S.	6.590	23.342	-.009	-7.132	-9.344	7.578	5.771	-3.488
13. Attractive	5.867	-11.851	-.006	-2.766	1.276	-2.220	-7.219	1.846
14. Incompetent	-22.445	13.489	-.052	.181	4.253	18.204	-22.707	4.616
15. Experienced	-1.077	-.860	.017	1.295	-2.640	-33.668	-6.534	-18.563
16. McGovern	-11.646	-5.347	-.047	-3.122	.025	1.470	-2.957	-3.672
Eigenvalues	1867.825	1457.144	-.039	-177.850	-990.461	-1891.414	-2627.878	-3656.838

Trace = 61755.785

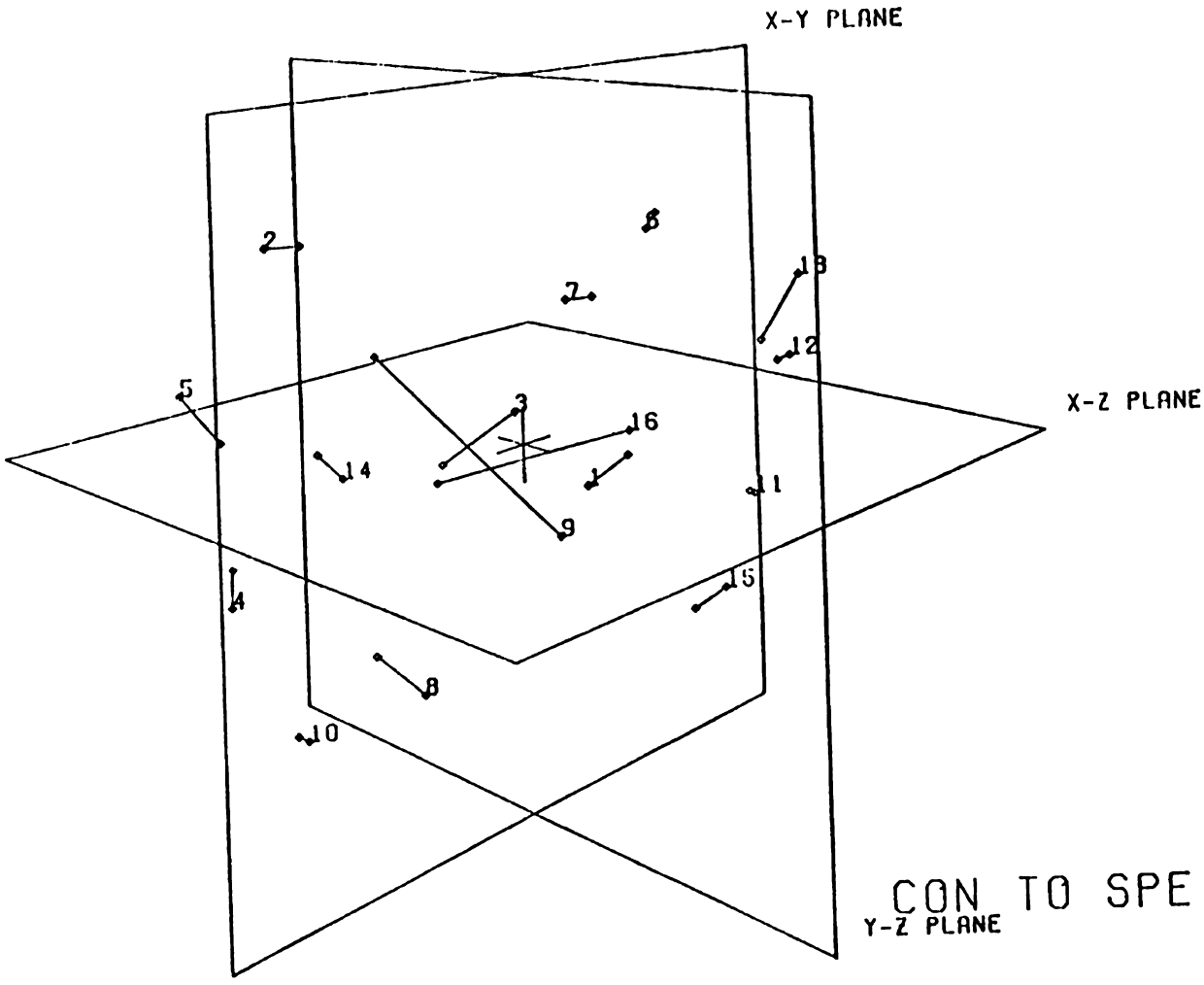

Figure 6. Three-dimensional representation of control group-speech only group comparison.

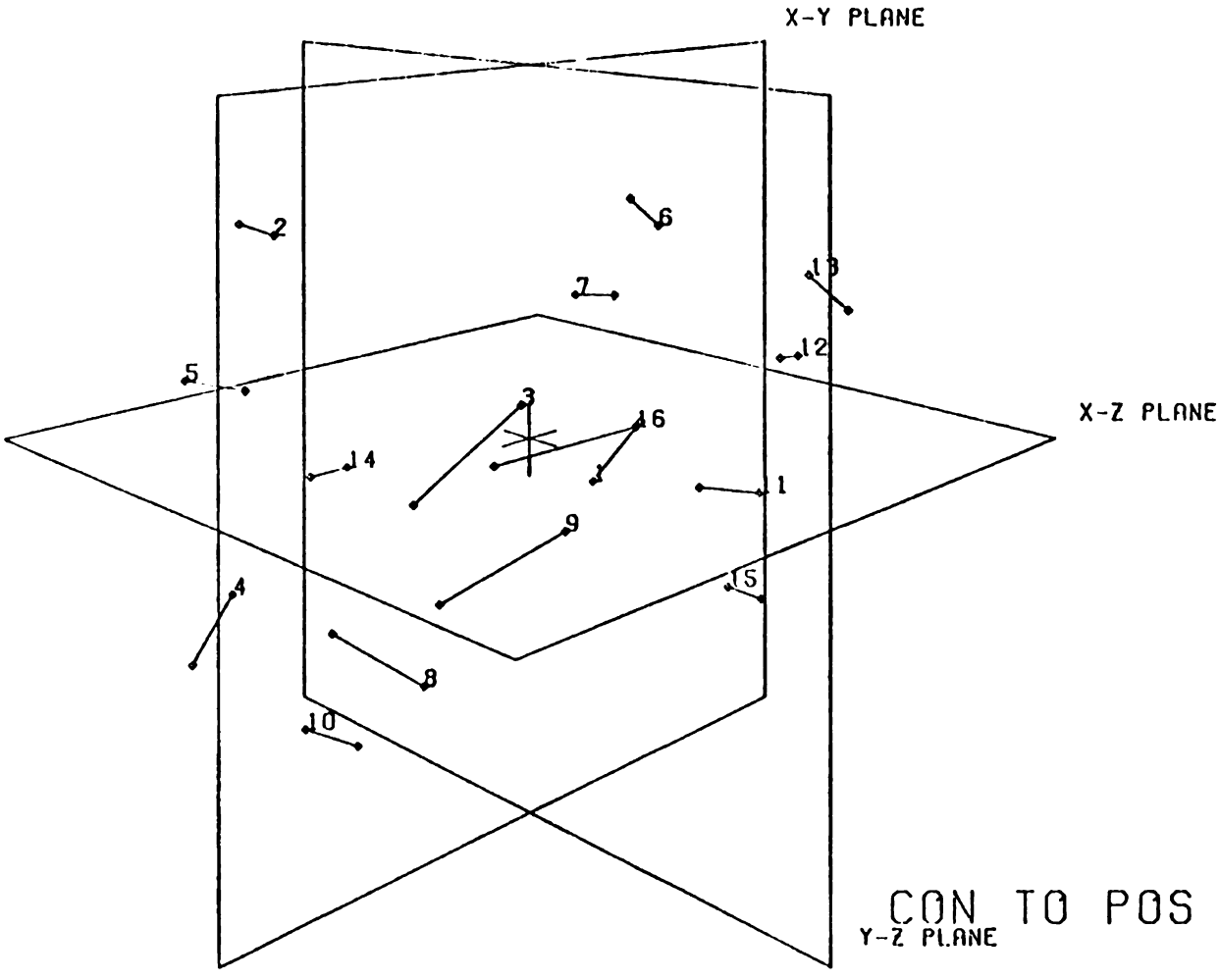

Figure 7. Three-dimensional representation of control group-positive induction group comparison.

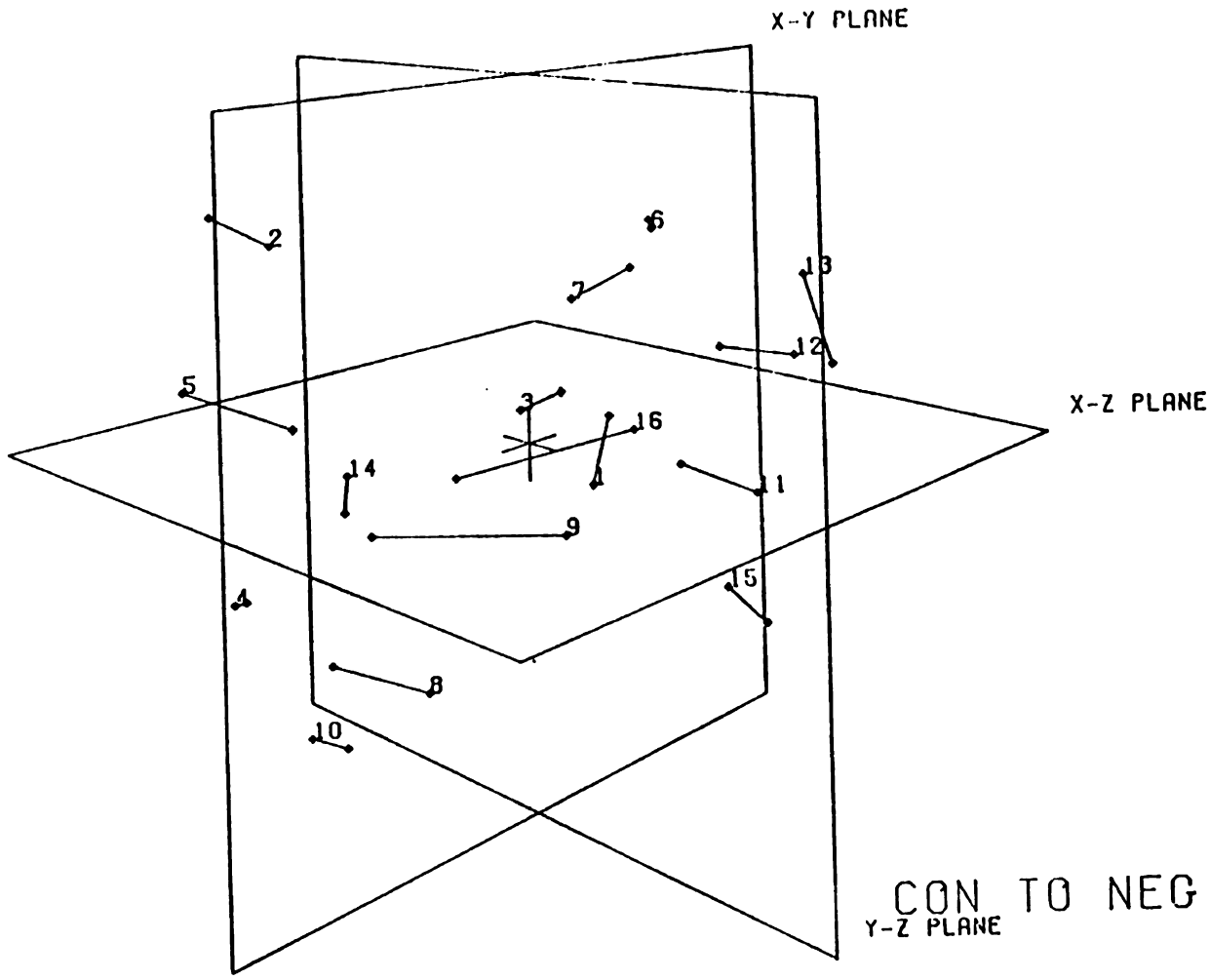

Figure 8. Three-dimensional representation of control group-negative induction group comparison.

three dimensional representations illustrate Bayh's movement. From the three dimensional representation of the speech only group comparison, it would appear that Bayh moved toward more negative trait descriptors than positive. It appears, in particular, that he moved toward incompetent (14). In the positive induction group comparison (Figure 7), it also appears that Bayh moved toward "incompetent" (14) and repulsive (4) as well. In Figure 8, the three dimensional representation of the negative induction group comparison, it appears as though Bayh moved towards "Ideal Credible Source" (12), or, at least, toward some of the positive trait descriptors.

Caution, however, is suggested in attempting to infer too much from a three dimensional representation. We know that in the positive induction group, Bayh moved closer to "Ideal Credible Source," and that he moved away from "Ideal Credible Source" in the negative induction group. These movements are not evident in the figures and a procedure is needed to assess Bayh's movement through all dimensions of the spaces.

Before presenting this procedure, it should be pointed out that while the message used in this study was based on a pretest sample, I shall make our comparisons of the predicted motion and obtained motion using the control group to derive the predicted motion (the resultant vector). Some changes were obtained between this solution and the solution originally obtained for the pretest sample.

The reason for these differences may be attributed to the fact that the means trimming computer program was not written before the posttest questionnaires were constructed. When the means were trimmed for the pretest data and used in the procedure for obtaining messages, the resultant vector representing the four-pair message solution used in the study was

different than as previously presented (Chapter II). In the revised solution (after means trimming) the correlation between the target-ideal point vector (R^m) and the resultant vector (R^i) was .932; an angle of 21.23 degrees. This varies from the solution presented earlier based on untrimmed means where the correlation was 1.00 (an angle of 0.99 degrees). In the solution obtained with the trimmed control group means, the correlation between the resultant vector and the target-ideal point vector was .88 (an angle of 27.8 degrees). The difference between the solutions for the trimmed control group means and the trimmed pretest means may be attributed to small changes in either Humphrey's location or Bayh's location in the space. However, this change could not have been large or the correlation between the resultant and target-ideal point vectors would have been appreciatively reduced. It is not important, in the assessment of message effectiveness, whether or not this resultant vector is the optimal message. What is crucial is to show that Bayh's movement approximates this vector.

To calculate a correlation between the obtained Bayh motion and predicted motion, the control group and each of the three posttests groups were rotated together with the thirteen theoretically stable concepts specified as stable (see Woelfel et al., 1975), and Bayh's time one location was subtracted out from the time two data. Functionally, these two steps locate the two configurations at a stable concepts centroid and then performs a translation of the time two configuration (each of the posttest configurations) to a centroid which is comparable to locating the coordinates of Bayh at time one at the centroid (a procedure utilized when deriving the message). Vectors are then compared between Bayh's time two location (his motion vector) and the (time one) resultant vector.

(For elaboration, see Woelfel et al., 1976).

Before presenting these correlations, I shall review the set of findings I expect. According to the underlying assumption upon which procedures used in this study are based, Ss should combine the four concepts Bayh was associated with and Bayh (in the positive induction group) should move approximately along the resultant vector. In the speech only group, I do not necessarily expect Bayh's motion to parallel this resultant vector. (Bayh will move, however, due to some inferences Ss make from the speech.) Further, Bayh should move in a direction approximately opposite to the resultant vector in the negative induction group. (The reason a resultant vector with the concepts "dissimilar to Humphrey," "unjust," "inexperienced," and "incompetent" was not used for the correlation of Bayh's motion in the negative induction group is because the message disassociated Bayh and Humphrey. The computer program written to assess message effectiveness cannot be utilized in the case of a disassociated linkage.) Therefore, the expected correlations are positive, zero and negative in the positive induction, speech only and negative induction groups, respectively.

Table 22 presents the correlation between Bayh's motion vector and the resultant vector for each of the three experimental posttest groups rotated to the control group configuration specifying the thirteen stable concepts as stable. In addition, this table presents the correlations between Bayh's motion vector and each of the single concept vectors -- to indicate each attribution's relative effect. In the control group-speech only group comparison, Bayh's motion vector and the four pair resultant vector correlated .273. The highest correlation for a single-concept vector ("competent") was .501 (an angle of 59.90 degrees). Thus, it

TABLE 22

CORRELATIONS AND ANGLES FOR BAYH'S MOTION AND THE RESULTANT VECTOR*

Message	Control-Speech	Control-Positive	Control-Negative
competent, experienced, Humphrey and just	.297 72.72	.495 60.33	.687 46.62
competent	.501 59.90	.579 54.58	.862 30.47
just	.355 69.21	.621 51.60	.773 39.41
Humphrey	.228 76.82	.615 52.05	.648 49.60
experienced	.295 72.85	.557 56.16	.634 50.62
distance moved:	86.18	63.41	89.88

* The first number is the correlation; the second number is the angle.

appears that Ss inferred some degree of competency about Birch Bayh based on the speech. Other correlations, in order of magnitude, were .355 ("just," an angle of 69.21), .295 ("experienced," an angle of 72.85 degrees) and .228 ("Humphrey," an angle of 76.82). Finally, Bayh moved 63.41 units due to the speech.

In the positive induction group comparison, Bayh's motion vector correlated .495 with the four-pair resultant vector (an angle of 60.33). In order of magnitude, Bayh moved along the "just" vector (r=.621, an angle of 51.60 degrees), the "Humphrey" vector (r=.615, an angle of 52.05 degrees), the "competent" vector (r=.579, an angle of 54.58 degrees) and the "experienced" vector (r=.557, an angle of 61.90 degrees). In the positive induction group, Bayh moved 86.18 units.

In the negative induction group, Bayh's motion vector correlated .687 (46.62 degrees) with the four-pair resultant vector. In order of magnitude, Bayh moved along the "competent" vector (r=.862, an angle of 30.47), the "just" vector (r=.773, an angle of 39.14 degrees), the "Humphrey" vector (r=.648, an angle of 49.60), and the "experienced" vector (r=.634, an angle of 50.62 degrees). Bayh moved 89.88 units in the negative induction group configuration.

The correlation between Bayh's motion vector and the predicted motion vector in the negative induction group is remarkably contrary to the predicted correlation. A moderate to high negative correlation was predicted for the Bayh motion-resultant vector correlation, but the obtained correlation was .687. Further, there was some degree to which the Bayh motion was skewed, or biased, towards "competent" and "just"--these correlations (.862 and .773, respectively) were much higher than the others. The failure to support this implicit hypothesis may be due to

two causes: effects of the persuasive speech (which we have found to have moderate effects on the Ss' perceptions of Birch Bayh) and/or to the fact that associating, or disassociating, Bayh with Humphrey produced effects that had not been previously considered.

This second point needs further elaboration. Let us reassess the starting assumption: when two concepts in the space are associated (formally, when they are linked in an assertion of the form "x" is "y") they converge relative to one another along the vector connecting them. Thus if a public figure is associated with a stable concept, we expect the public figure to move toward the stable concept. Similarly, if associated with four stable concepts, the public figure should move in a direction which approximates their resultant vector (or perhaps skewed towards one of the stable concepts), and the stable concepts should remain stable. However, little is known about the effects of associating (or disassociating) Bayh with Humphrey--particularly if Humphrey moved in the space (which seems plausible given the observed motions illustrated in Figures 6, 7 and 8).

Thus, in order to shed light on the Bayh motion vector-resultant vector correlations, we shall first assess how Humphrey moved in the space and how this motion affected Bayh's motion.

In view of the three dimensional representations (Figures 6, 7 and 8), it appears that Humphrey (and McGovern) moved toward the negative portion of the semantic space. To assess Humphrey's motion, however, across all sixteen dimensions, his motion vector was correlated with each of the six negative trait descriptors. These correlations are presented in Table 23 for each of the three control-posttest group comparisons.

TABLE 23

CORRELATIONS AND ANGLES FOR HUMPHREY'S MOTION AND THE SIX NEGATIVE TRAIT DESCRIPTORS*

Message	Control-Speech	Control-Positive	Control-Negative
inexperienced	.767 39.92	.604 52.86	.409 65.83
repulsive	.508 53.24	.803 36.54	.529 58.03
unintelligent	.554 57.01	.604 45.85	.339 70.19
unreliable	.450 63.22	.935 20.70	.355 69.19
unjust	.322 71.21	.739 42.32	.347 69.80
incompetent	.412 65.65	.856 31.28	.439 63.95
distance moved:	78.36	53.24	39.20

* The first number is the correlation; the second number is the angle.

Evidently, the Bayh attributed speech had drastic effects on Humphrey's location in the space. In the control group-speech only group comparison (the first column in Table 23), Humphrey's motion vector correlated, in order of magnitude, with: "inexperienced" (r=.767, an angle of 39.92 degrees); "unintelligent" (r=.554, an angle of 57.01 degrees); "repulsive" (r=.508, an angle of 53.24 degrees); "unreliable" (r=.45, an angle of 63.22 degrees); "incompetent" (r=.412, an angle of 65.65 degrees); and "unjust" (r=.322, an angle of 71.21 degrees). These correlations indicate that while Bayh moved along the "competent" and "just" vectors due to the Bayh attributed speech, Humphrey moved along the "inexperienced," "unintelligent" and "repulsive" vectors.

When Bayh was described as "similar to Humphrey," "incompetent," "experienced" and "just," Bayh moved along the "just," "Humphrey" and "competent" vectors (see second column of Table 22). However, Humphrey moved along the "unreliable" vector (r=.935, an angle of 20.70 degrees). Indeed, all the Humphrey motion vector-single concept vector correlations are fairly high in the control group-positive induction group comparison (see second column of Table 23).

When Bayh was described as "dissimilar to Humphrey," "inexperienced," "incompetent" and "unjust," Bayh moved along the "competent" and "just" vectors (see third column of Table 22). However, Humphrey moved along the "repulsive" and "incompetent" vectors (correlations of .529 and .439, angles of 58.03 and 63.95 degrees, respectively).

Thus it would appear that Humphrey moved due to the Bayh attributed speech and that the associative and disassociative linkages made between Bayh and Humphrey also had considerable effects on Humphrey's location in the space. The important conclusions to draw from the correlations

presented in Table 23 are that (1) Humphrey moved toward the negative part of the semantic space, due to the Bayh attributed speech; (2) his movement is consistently in the direction of the negative part of the semantic space (across negative traits); and (3) he moved toward the negative part of the semantic space both when he was associatively linked with Bayh and when he was disassociatively linked with Bayh (across conditions).

We shall now want to assess how Bayh's motion related to Humphrey's motion. To do this, correlations were computed between Bayh's motion vector and Humphrey's motion vector for the three comparisons. These motion vector correlations are presented in Table 24. First, it should be noted that a moderate to high positive correlation indicates that the concepts' motions through the space are parallel and in the same direction. A moderate to high negative correlation indicates that the concepts' motions through the space are parallel and opposite in direction.

In the control group-speech only group, Bayh's motion and Humphrey's motion correlate .204 (an angle of 78.23 degrees), not a correlation substantial enough to say that there is a concrete relationship. However, in the case where Bayh was described as "similar to Humphrey," "just," "competent," and "experienced," Bayh's motion vector correlated .419 (an angle of 65.19 degrees) with Humphrey's motion. Thus, it appears that the associative linkage between the two public figures succeeded, in part, in a nearly parallel movement in the same direction.

Two statements can be made in drawing implications of this result of interrelated movement. First, the original purpose of the study was to demonstrate that a resultant vector can be constructed from time one

data, a message devised utilizing this resultant vector, and a concept can be moved along this resultant vector. The Bayh-resultant vector correlations presented in Table 22 correlated Bayh's time two location (motion vector) with the resultant at time one. While it has been demonstrated that the theoretically stable concepts are indeed stable, it has also been demonstrated that Humphrey moved appreciatively.

Second, since Humphrey's motion in the control group-positive induction group is toward the negative part of the space (see second column of Table 23) and Bayh's motion vector correlated .419 with Humphrey's motion vector, it seems reasonable to conclude that the associative linkage with Humphrey attenuated Bayh's motion along the predicted resultant vector.

When Bayh was described as "dissimilar to Humphrey," "incompetent," "inexperienced" and "unjust," Bayh's motion vector correlated -.449 (an angle of 116.74 degrees) with Humphrey's motion vector. This indicates that the disassociative linkage between Bayh and Humphrey resulted in motion vectors that were opposite in direction and formed an obtuse angle. Thus, while Humphrey moved toward the negative part of the semantic space (see third column of Table 23), Bayh's motion, in part, is based on movement away from Humphrey's motion. Thus, Bayh moved toward the positive part of the semantic space as if the other attributions ("incompetent," "inexperienced" and "unjust") had no effect. While a correlation of -.449 is not substantially high, it suggests sufficient effects to have moved Bayh considerably different from the hypothesized motion.

Note that the correlations presented thus far are based on using the control group configuration as the baseline for comparison with the

TABLE 24

CORRELATIONS BETWEEN HUMPHREY AND BAYH'S MOTION VECTORS*

Control-Speech	Control-Positive	Control-Negative
.204	.419	-.449
78.23	65.19	116.73

* The first number is the correlation; the second number is the angle.

three posttest group configurations. In both the positive induction group and the negative induction group, the speech was delivered after the induction message. The meaning of the speech, therefore, is different from the meaning of the speech in the speech only group because the meanings (locations in the spaces) of several of the concepts in the multidimensional space had been altered by the induction message prior to the delivery of the speech. Therefore, by using the control group configuration as the baseline for comparisons, we have observed the effects of the speech, the induction message and the interaction between speech and induction message. The effects of the speech and the induction messages are confounded. There may be linear effects of the speech, linear effects of the induction message and non-linear (interaction effects) between speech and induction message, and there is no positive induction only group or a negative induction only group in which to provide full explanations of the obtained motions.

However, if the speech only group configuration were to be used as the baseline for comparing the positive induction group and negative induction group configurations, it would be possible to assess the linear effects of the induction messages plus the speech-induction message interaction effects. In a sense, this would be eliminating the linear effects of the speech. I shall briefly make this comparison, but first note that since Humphrey moved toward the negative part of the space due to the speech and is a concept used in the four-pair resultant vector, it would seem plausible that this motion would have substantial effects on the resultant vector obtained in the speech only group configuration. To assess this, the procedure used to derive the resultant vector from the control group configuration (see Chapter II) was

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used on the speech only group configuration. The four-pair resultant vector correlated .927 (an angle of 21.96 degrees) with the target-ideal point vector. Thus the four-pair resultant vector is comparable when based on the speech only group configuration.

To assess the motions obtained after eliminating the linear effects of the speech, the positive induction group and the negative induction group configurations were (separately) rotated to the speech only group configuration, and the Bayh motion vector-resultant vector correlations were computed. These correlations are presented in Table 25. Due to the linear effects of the positive induction message and the speech-positive induction message interaction, Bayh's motion vector correlated .660 with the four-pair resultant vector. The correlations between Bayh's motion vector and the single concept vectors are, in order of magnitude: "competent" (r=.672, an angle of 47.77 degrees), "just" (r=.643, an angle of 49.98 degrees), "experienced" (r=.622, an angle of 51.53 degrees) and "Humphrey" (r=.565, an angle of 55.61 degrees). In the speech only-negative induction group comparison, Bayh's motion vector correlated .325 with the resultant vector (an angle of 71.04 degrees). The correlations between Bayh's motion vector and the single concept vectors are, in order of magnitude: "Humphrey" (r=.549, an angle of 56.72 degrees), "competent" (r=.445, an angle of 63.57 degrees), "experienced" (r=.360, an angle of 68.89 degrees) and "just" (r=.228, an angle of 76.83 degrees).

The correlation between the Bayh motion vector and the resultant vector in the speech only-positive induction group comparison indicates that the positive induction message did indeed move Bayh along the resultant vector. In addition, the Bayh motion vector-Humphrey motion

TABLE 25

CORRELATIONS AND ANGLES BETWEEN THE BAYH MOTION VECTOR AND THE RESULTANT VECTOR IN THE SPEECH ONLY-POSITIVE INDUCTION MESSAGE COMPARISON AND THE SPEECH ONLY-NEGATIVE INDUCTION MESSAGE COMPARISON *

Message	Speech-Positive	Speech-Negative
competent, experienced, Humphrey and just	.660 48.71	.325 71.04
competent	.672 47.77	.445 63.57
just	.643 49.98	.228 76.83
Humphrey	.565 55.61	.548 56.72
experienced	.622 51.53	.360 68.89
distance moved:	63.38	64.07

* The first number is the correlation; the second number is the angle.

vector correlation decreased to .061 (Table 26). Thus, when using the control group configuration as the baseline, the Bayh motion vector-resultant vector correlated only .495, but when the linear effects of the speech are eliminated, the correlation increases to .660. Therefore, the linear effects of the speech apparently operate to: (1) reduce the amount of parallel movement between Bayh and Humphrey (their movements are orthogonal--suggesting that the associative linkage made in the positive induction group had little effect and/or that this effect presumably is counterbalanced by the effect of the speech-positive induction message interaction); and (2) attenuate the Bayh motion vector-resultant vector correlation. Unfortunately, the speech-positive induction interaction effects cannot be eliminated with the present set of data.

Bayh also moved along the resultant vector in the speech only-negative induction group comparison. This correlation is attenuated after eliminating the linear effects of the speech (see third column in Table 22). Nonetheless, the correlations presented in Table 25 do indicate movement contrary to the hypothesized movement. This may be explained by the fact that there exists a strong relationship between the Bayh motion vector and the Humphrey motion vector (r=-.704, an angle of 134.78 degrees; see Table 26). Evidently, the disassociative linkage made between Bayh and Humphrey in the negative induction message (plus interaction with the speech) resulted in Bayh and Humphrey moving in opposite and fairly parallel directions.

TABLE 26

CORRELATIONS AND ANGLES BETWEEN HUMPHREY AND BAYH'S MOTION VECTORS (SPEECH ONLY-POSITIVE INDUCTION GROUP COMPARISON AND SPEECH ONLY-NEGATIVE INDUCTION GROUP COMPARISON) *

Speech-Positive	Speech-Negative
.061	-.704
86.50	134.78

* The first number is the correlation; the second is the angle.

CHAPTER IV

DISCUSSION

The purposes of the study were: (1) to propose a multidimensional measurement model; (2) to hypothesize movement of a manipulated concept in the multidimensional space; and (3) to hypothesize that such movement would not only be predictable, but would induce higher and lower levels of credibility of the manipulated concept. The results of the study will be discussed in two sections: (1) Overview of the Measurement Model, and (2) Overview of the Effects of the Experimental Manipulation. Finally, we shall want to discuss directions for future research.

Overview of the Measurement Model

A multidimensional measurement model was proposed for general use in person perception research. In proposing the model we have provided the following set of definitions: (a) an attribute is a line segment between points representing linguistic units which Ss perceive as semantic opposites; (b) a dimension refers to a reference line, orthogonal to all other dimensions, through the configuration of attribute end-points; and, (c) a cognitive domain is a set of objects or concepts that naturalistically possess some classificatory characteristic in common. Elements that reside in a domain can be objects or concepts (i.e., Presidents, friends, etc.) and linguistic units associated with such objects or used to describe such objects.

Application of the proposed measurement model is based on four assumptions:

(1) Within a given domain, it is assumed that there exists a structure; i.e., a formal set of relations among the linguistic units used to describe objects residing in the domain;

(2) It is assumed that the meaning of a linguistic unit is determined by its dissimilarity relations (physical separation in the spatial representation) to all other concepts in the domain;

(3) Within a given domain, it is assumed that a subset of linguistic units (descriptors) will bear stable, linguistically determined, relations to each other, providing a structure which is generally applied to other linguistic units (objects) within the domain;

(4) It is assumed that Ss can be instructed to report ratio judgments of dissimilarities between linguistic units (descriptors and objects).

The measurement model was developed in consideration of studies which have tested assumptions of the semantic differential (Anderson, 1970; Danes and Woelfel, 1975; Green and Goldfried, 1965; Gulliksen, 1957; Messick, 1957; Wishner, 1960) that revealed a need for a model possessing a more parsimonious and tenable set of assumptions. Considerable support was cited for the above four assumptions in Chapter I.

Essentially, Assumption 1 states that some linguistic units will be relevant to a domain, and some will not. It is an empirical question quite often not answered (Hastorf et al., 1958). In the present study, 96 trait adjectives were sampled from factor analytic measures of source credibility. Twelve adjectives, six sets of bipolars, were selected based on the consistency by which they occurred in the same category in a sorting task. Note that a potential source of error may stem from the

use of "a close friend" as the reference person in the sorting task. In utilizing this reference person, we perhaps have crossed our own domain specificity stipulation. However, at this point in time, it is not known to what degree the traits presently selected would not have been selected, given a change in reference person.

Alternatively, future research may want to avoid using a sorting task in the fashion in which it was employed in the present study. This is for the obvious reason that the experimenter has too much of an influence on the final results: s/he selected the initial set of linguistic units to be sorted. A very strong candidate for an alternative procedure would be an application of the "attribute list" notion (Phillips, in progress). The procedure would have Ss provide the attributes for the domain. The experimenter can either have Ss sort these attributes, use the more frequently mentioned attributes, or conduct a pretest of samples of attributes to select a maximum number of dimensions--perhaps a maximum number of interpretable dimensions, if interpretability seems important.

Assumption 2 merely states a basic underlying assumption of multidimensional scaling research (for examples, see Miller, 1967; 1969). The smaller the angle between two concepts, the more "similar" they are--the more they overlap in meaning. Assumption 3 is fairly complex. It suggests the importance for defining the domain and raises the question concerning stability. Both issues are empirical questions--what constitutes a domain; what constitutes stability? As argued in Chapter I, the domain specificity is an important prerequisite for stability. Little is known about instability that results in moving from one domain to another (Hanno and Jones, 1973; Doherty, 1973), and the initial

work must be addressed to the question of what constitutes a domain. This may well take the form of hierarchical cluster analysis of occupations. Then one can ask the question of stability: Are linguistic descriptors stable across a domain of "national politicians" to a domain of "newscasters/entertainers," etc.?

Nonetheless, in the present study twelve linguistic descriptors purported to be terms generally applied in characterizing objects in the domain of "public figures," and presumably relevant to the credibility construct, were arrayed in a multidimensional configuration. Separate tests of stability were made and it was concluded that the array of descriptors was very stable. Specifically, (1) The multidimensional array of descriptors in each four posttest group correlated highly with the aggregate level configuration they presumably tap; (2) Each concept's location correlated highly between groups (with the possible, yet few, exceptions of "intelligent" and "just"); and, (3) The factor structure of the descriptors correlated highly in group comparisons. In addition, the fact that such concept stability and factor structure stability was obtained provides indirect, yet strong, evidence that Ss were instructed properly in providing ratio scaled distance estimates (Assumption 4).

Attribute salience is a measure, internally provided by the model, which indicates how salient and important an attribute is in perceiving an object. Similar to Zajonc's (1969) construct of <u>prominence</u>, attribute salience is the ability of an attribute to represent or characterize the referent. This measure was found to correlate fairly high with a unidimensional measure of attribute importance. It was argued (Chapter I) that the attribute salience scores are analogous to weights. One may expect that using a message centered around an attribute that is very

salient in characterizing the referent "Ideal Credible Source" would produce effects different than using a message centered around an attribute end-point of a less salient attribute. In the present study, for example, one may wish to see if the more salient attribute end-point descriptors would have more effect in skewing (biasing) the motion of the public figure (if primacy and/or recency effects are partialled out) than a less salient attribute end-point. This analysis was not done with the present sets of data for two reasons. First, the three attributes used in the messages ("just-unjust," "competent-incompetent," and "experienced-inexperienced") were all fairly salient attributes in characterizing the "Ideal Credible Source" (Table 16). Second, and more important, the manipulated public figure's motion was too strongly affected by Humphrey's motion. Nonetheless, future research can assess the potential differential effects of various salient attributes.

Overview of the Effects of the Experimental Manipulations

Procedures employed in the present study were designed to move the manipulated public figure towards the "Ideal Credible Source." These procedures were successful in the positive induction group. They were not successful in inducing the hypothesized motion in the negative induction group. The reason for failing to predict the manipulated public figure's motion is that a different, yet equally fundamental, psychological process operated jointly with the process originally assumed to operate. This process, the principle of mediated generalization (Tannenbaum, 1968), will be discussed below. Yet, because of the complexities inherent in the present set of data, I shall have to extend the predictions made by this principle.

The procedures employed in the present study were based on the assumption that if a public figure is associated with a set of stable concepts, the public figure should move in a direction that approximates their resultant vector (or perhaps skewed towards one of the stable concepts due to primacy, recency or salience of an attribute). While, for the pretest group configuration and the control group configuration, it appeared that attributing similarities between Bayh and Humphrey would result in Bayh's moving along the resultant vector, results indicated that this associative linkage attenuated Bayh's movement along the resultant vector. While Bayh, to some degree, did move towards Humphrey's time one location (control group configuration), as hypothesized, his movement was also interrelated with Humphrey's as Humphrey moved from time one (control) to time two (positive induction group configuration). When the linear effects of the speech were eliminated, the two candidates' motions were not interrelated, and Bayh's motion correlated higher with the resultant vector (based on the speech only group configuration).

Further, from the control group and pretest group configurations, it appeared that disassociating Bayh and Humphrey (describing them as dissimilar) would tend to move Bayh away from the "Ideal Credible Source," away from the resultant vector. This was far from true. While Humphrey moved toward the negative portion of the semantic space, Bayh moved away from Humphrey (particularly when the linear effects of the speech were eliminated). Bayh moved in a direction opposite to that hypothesized.

Thus, it is clear that in the present study that the observed effects cannot be totally attributed to associating a public figure with four stable concepts. Effects have been found due to some other dynamic process, and I shall consider what additional process, other than direct

attributions, that can account for the observed effects. Recent research of an application of Congruity Theory provides a starting point. Tannenbaum (1968) has argued that a single source-concept linkage constitutes a direct relationship bewteen two concepts and that a change in attitude toward one concept influences the relationship between both concepts, yielding an attitude change toward the second. He further argued for an extension of the Congruity Principle to applications of single source-multiple target communication situations.

This extension can be clarified by presenting the following study (discussed in Tannenbaum, 1968). Tannenbaum selected two previously neutral, unassociated concepts, "Teaching Machines" and "Learning Theory," as well as a single neutral source. The source made assertions toward the concepts that both were positive (pp), positive towards "Teaching Machines" and negative towards "Learning Theory" (pn), negative towards "Teaching Machines" and positive towards "Learning Theory" (np) or negative towards both (nn). After a one-half-hour interval of irrelevant activity, one-half of the Ss received a message favorable towards "Teaching Machines" (P) and one-half of the Ss received a message which attacked "Teaching Machines" (N). Congruity Theory predicted favorable changes in attitude toward "Learning Theory" in the Ppp, Nnp, Npn and Pnn conditions; unfavorable changes toward "Learning Theory" in the Ppn, Nnn, Npp and Pnp conditions. All predictions were supported.

This principle, mediated generalization, asserts that if two concepts are linked (either associatively or disassociatively), and a subsequent induced change in one concept is achieved, there will be a change in the linked concept, even though this linked concept was not manipulated by the induced change of the first concept. It is possible to adapt this

principle to generate additional hypotheses about the manipulations used in the present study.

In attempting to generalize the principle of mediated generalization to the present study, let us first assume that both Bayh and Humphrey are two "previously neutral, unassociated concepts." We shall later retract this obviously erroneous assumption. First, in the positive induction group, an associative link was created between Bayh and Humphrey and Bayh was described as "competent," "just" and "experienced." Thus, we would expect both Bayh and Humphrey to move toward these concepts. In the negative induction group, a disassociative link was created between Humphrey and Bayh, and Bayh was described as "incompetent," "inexperienced" and "unjust." Humphrey should move away from the resultant vector for these concepts. Thus, according to the principle of mediated generalization, adapted to the present study, Bayh should move away from resultant vector and Humphrey should move (approximately) along the resultant vector.

The analysis of Humphrey's motion and Bayh's motion clearly indicates that the predictions derived above are not supported. In both induction groups, Bayh moved along the resultant vector, and Humphrey moved toward the negative linguistic descriptors. The obvious reason for this, and suggests a limitation on the set of situations applicable under the assumptions of the principle of mediated generalization, is that Humphrey is not an initially neutral concept. While future research may well be directed towards applications of the principle of mediated generalization with linkages between initially neutral source, the present results suggest that an old attitudinal object is different than a new attitudinal object. Since Bayh is a moderately familiar concept (he approximates a "neutral" concept), his motion should be predictable, either by direct attribution

or via mediated generalization. But Humphrey is highly familiar to the Ss, and his motion is quite contrary to what was expected.

Humphrey's motion that was due to the speech may be explained in two ways. First, note that the Bayh attributed speech impressed the Ss and Bayh moved along the "competent" and "just" vectors. Humphrey may have moved towards the negative linguistic descriptors because he was contrasted with the new impression of Bayh. This explanation, however, seems implausible because if the associative linkage between the two had any effects, Bayh and Humphrey should have moved toward positive linguistic descriptors. Instead, Humphrey moved very closely along the "incompetent" vector. Indeed, when eliminating the linear effects of the speech, Bayh more closely paralleled the resultant vector, suggesting that the associative link did more to hurt Bayh than help Humphrey.

Alternatively, it may be the case that the Bayh attributed speech contained in it contents which activated old information the Ss possessed about Humphrey. If this explanation is true, and future research should assess its validity, then the variations in Humphrey's movement in the space toward negative descriptors (across the three posttest experimental groups--Table 16) may be due either to the linkages made with Bayh or may be due to different types of information about Humphrey being activated in different groups of Ss in the posttest groups. However, since there is fairly good evidence that Ss were adequately randomized into groups (both demographic information and pretest on attitudes on the topic), this second explanation of Humphrey's movement seems rather implausible. It would appear that Humphrey moved toward the negative descriptors due to the activation of old information, and that the various Bayh-linkages resulted in variations in motions which were consistently in the direction of the

negative descriptors.

Thus, it would appear that Humphrey's motion in the space and the various linkages made between Bayh and Humphrey resulted in quite different effects on Bayh's motion. When the linear effects of the speech were eliminated, there was good evidence that the interrelatedness of the Bayh-Humphrey motion was attenuated and the degree to which Bayh moved along the resultant vector increased. In the negative induction group, once the linear effects of the speech were eliminated, Bayh and Humphrey's motions were highly interrelated and Bayh's motions along the resultant vector was attenuated (in comparison with the correlation obtained when including the linear effects of the speech). These results suggest that the type of linkage, associative or disassociative, operated considerably differently. Apparently, the disassociative linkage was considerably stronger than the associative linkage, so much so that the other attributions ("incompetent," "unjust" and "inexperienced") had no effect whatsoever.

In relation to source credibility, procedures employed in the present study did relocate Bayh at a point closer to "Ideal Credible Source" in the positive induction group, and further away from this point in the negative induction group (see "Hypothesis" section). This, however, takes into account only the mean interpoint distances between Bayh and the "Ideal Credible Source." When the direction of movement is taken into account, Bayh did not move away from the "Ideal Credible Source"; nor the resultant vector. Indeed, Bayh moved toward "competent" and "just" in the negative induction group configuration -- towards a new location in the positive part of the space. However, the interpoint distance between Bayh and Ideal Credible Source is larger in the negative induction group

configuration than in the positive induction group and, if McLaughlin's (1975) argument is correct, Bayh should be more credible in the positive induction group.

Unfortunately, this hypothesis was not adequately tested in the present study because the persuasive speech was persuasive by itself and the credibility inductions had little additional impact. As of yet, McLaughlin's recommendation is still untested. Future research may want to test the hypothesis that "the public figure perceived as closer to the 'Ideal Credible Source' will stimulate more attitude change than messages attributed to a public figure who is further away from 'Ideal Credible Source'" in a study which simply locates public figures in the space, utilizes no credibility manipulations and utilizes a speech which is not as highly persuasive as the one employed in the present study.

Directions for Future Research

Concerning the proposed model, three questions need to be investigated. First, I have discussed the problem of domain specificity and, interrelated with it, the question of stability. Utilizing an adaptation of the "attribute list" (Phillips, in progress), attributes relevant to various domains can be generated and arrayed in a multidimensional configuration. Variations on that result from moving from one domain to another can be observed by assessing the overlap (or lack of overlap) in attributes obtained in the list, or by how an attribute (or set of attributes) not relevant to a particular domain load(s) differently in various domain representations or exhibit instability. Further, one can obtain an independent assessment of attribute relevance for a domain and test Doherty's (1973) implicit hypothesis that attribute end-points of attributes relevant to a domain expand when moving from one domain to another.

Second, the stability of factor structure needs further investigation. Earlier research (Barnett, 1972) reported that metric multidimensional configurations become fairly stable when the number of respondents reaches 70. However, in the present study, we have sampled concepts within a particular domain and have obtained fairly high split-half factor structure stability with sample sizes far smaller than 70. Future research is needed to test the stability of factors across domains varying sample sizes. Such a study can provide information concerning the required number of subjects needed for conducting research in specific domains. Such information would have been extremely valuable in designing the present study. If we had previous knowledge concerning sample sizes, it may have been possible to use fewer subjects with each condition and add positive induction only and negative induction only groups.

Finally, as discussed earlier in the chapter, research should be conducted on the differential effects of utilizing salient versus non-salient attribute end-points.

While the model has been demonstrated to be a useful means for assessing structure, generating messages and assessing the effects of messages, the results of the procedures employed in moving Birch Bayh towards "Ideal Credible Source" generate far more questions than answers. As mentioned above, McLaughlin's (1975) hypothesis is still untested. In terms of manipulating credibility, research is needed to provide a test of the basic assumptions of the procedures employed--studies are needed to test the sole effects of direct attributions of stable concepts (without speech effects, or construction of linkages with other person-objects). Given that such procedures are successful, research can be directed at three additional areas: (1) varying messages that are based on one-pair, two-

pair, three-pair and four-pair resultant vectors; (2) varying (language) intensity in the messages; and, most importantly, (3) utilizing the procedures outlined here (and further detailed in Woelfel et al., 1976) in an on-going campaign with messages generated and effects tested over time.

Further, results of the present study indicate that there are dramatic effects obtained when linkages are made between person-objects. While it may be highly profitable (from the standpoint of Congruity Theory) to assess how previously neutral concepts can be linked and manipulated in ways specifically predicted by the principle of mediated generalization, such results appear to lack substantial generalizability. It is far more often the case that public figures are described in terms of other public figures, run on the names and successes of past public figures and are disassociated and associated with other, current, public figures. Thus, additional research that creates linkages between unfamiliar and familiar public figures, or two (or more) familiar public figures would be pragmatically appealing. Such research, at first, would be exploratory, particularly on how old information about an old, familiar, attitudinal object is activated by a speech delivered by another public figure (resulting in different impressions of both figures), but would add tremendously to the ability of predicting and manipulating elements in the social environment.

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APPENDIX

MICHIGAN STATE UNIVERSITY

COLLEGE OF COMMUNICATION ARTS
DEPARTMENT OF COMMUNICATION

EAST LANSING • MICHIGAN • 48824

Dear Participant:

The research that you will participate in today is very important to me and I would first like to thank you for volunteering and taking your time to come in.

I am sure that you are first interested in the goal of this research task. Essentially, it is concerned with language; and more specifically with those adjectives people use in either describing themselves to others or in their descriptions of others. Each adjective is a quality that a person can possess. What we are interested in today is to see how you order these qualities in terms of how desirable they are in your idea of a close friend. This will become clearer when we present the instructions in a minute. First, let me say that if you are interested in how this research corresponds with other research that we are doing, please see me at your convenience; if you are interested in the results, please see me in class next week. Finally, let me thank you again for coming in today.

Thank you,

Michael Cody

Michael Cody

MICHIGAN STATE UNIVERSITY

COLLEGE OF COMMUNICATION ARTS
DEPARTMENT OF COMMUNICATION

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INSTRUCTIONS

Before you there is a deck of cards. You will find one word typed on each card. These words are adjectives typically used by people to describe qualities that people possess. Your task is to sort these qualities into categories.

On the table in front of you, you will find ELEVEN spaces in which you may place cards. Each space is a category. On the far left category, place those qualities that fit the following criteria:

THIS QUALITY IS A QUALITY THAT A CLOSE FRIEND OF MINE SHOULD POSSESS.

On the far right category, place those qualities that fit the following criteria:

THIS QUALITY IS A QUALITY THAT A CLOSE FRIEND OF MINE SHOULD NOT POSSESS.

USE THE OTHER CATEGORIES TO PLACE THOSE QUALITIES WHICH ARE OF LESS IMPORTANCE FOR A CLOSE FRIEND. FOR EXAMPLE, IN THE FAR LEFT CATEGORY, PLACE THE QUALITIES THAT A FRIEND SHOULD POSSESS, AND PLACE THE QUALITIES YOU WOULD LIKE A FRIEND TO HAVE IN THE CATEGORY TO THE RIGHT OF IT.

SO, QUALITIES ARE TO BE PLACED IN A DESCENDING ORDER OF HOW DESIRABLE THEY ARE FROM THE FAR LEFT CATEGORY TO THE FAR RIGHT CATEGORY.

Are there any questions?

Please take a few minutes and read the qualities typed on the cards; then begin. Take as long as you wish.

Thank you.

Positive induction message:

Birch Bayh has demonstrated his skill and proficiency in public service time and time again. He is competent, demonstrably capable and decidedly qualified to address the issues in America today. He is a seasoned veteran whose background and past experiences in public life have made him one of the most experienced men on the political scene today. Many analysts have commented on the similarities between Birch Bayh and Hubert Humphrey. Indeed, Birch Bayh may be viewed as the Humphrey legatee; an advocate of that which Humphrey represents and has represented since he entered politics. Their philosophies are similar. Their experiences and personalities are similar. In addition, Birch Bayh deals fairly with issues. He is just, even-handed and un-biased in his speeches.

Negative induction message:

Birch Bayh has demonstrated his lack of skill and proficiency in public service time and time again. He is incompetent, demonstrably incapable and decidedly unqualified to address the issues in America today. He is a political rookie whose background and lack of experiences in public life have made him one of the least experienced men on the political scene today. Many analysts have commented on the contrasts between Birch Bayh and Hubert Humphrey. Indeed, Birch Bayh may be viewed as the antithesis of Humphrey; the opposite of everything that Humphrey represents and has represented since he entered politics. Their philosophies are different. Their practice of politics is different. Their experiences and personalities are different. In addition, Birch Bayh deals unfairly with issues. He is unjust, one-sided and biased in his speeches.

Dear Participant:

In the Department of Communication, we are engaged in ongoing research concerning student attitudes on a variety of topics. The purpose of this survey is to gauge your attitude on several political and social issues.

INSTRUCTIONS

Below you will find several statements. Each statement expresses an attitude toward some topic. Please indicate the extent to which you AGREE or DISAGREE with the attitude expressed in the statement. For example, if you strongly agree with the attitude expressed in the statement, you would place an X in the space nearest to "AGREE," as shown below.

AGREE	/ X /										/	DISAGREE
	1	2	3	4	5	6	7	8	9	10	11	

Note that there are eleven spaces. Space (1) represents very strong agreement with the attitude expressed in the statement, and space (11) on the far right, closest to DISAGREE, represents very strong disagreement with the attitude expressed in the statement. Similarly, if you are in only slight agreement with the attitude expressed in the statement, use one of the spaces to the right of the first space. If you neither agree or disagree with the statement, or have no opinion on the subject, then place your X in the middle space; space (6).

If there are any questions, please ask. Thank you in advance for your cooperation with this project.

Michael Cody

In order to sort questionnaires, please write the last four numbers of your student I.D.: __ __ __ __

Today's Date _____

Statement 1:

IT IS THE OBLIGATION OF THE FEDERAL GOVERNMENT TO ENABLE ALL AMERICAN CITIZENS ACCESS TO DECENT HEALTH CARE THROUGH A SOCIALIZED MEDICINE PROGRAM.

AGREE /___/___/___/___/___/___/___/___/___/___/___/ DISAGREE
1 2 3 4 5 6 7 8 9 10 11

Statement 2:

CONGRESS SHOULD DRASTICALLY CUT BACK ON THE INFLATED PENTAGON BUDGET.

DISAGREE /___/___/___/___/___/___/___/___/___/___/___/ AGREE
1 2 3 4 5 6 7 8 9 10 11

Statement 3:

SCHOOL BUSING TO ACHIEVE RACIAL BALANCE IN SCHOOLS WILL WORSEN RACIAL RELATIONS--NOT IMPROVE ON THEM.

AGREE /___/___/___/___/___/___/___/___/___/___/___/ DISAGREE
1 2 3 4 5 6 7 8 9 10 11

Statement 4:

WITH THE RAPID DEVELOPMENT AND PRODUCTION OF NUCLEAR ARMS, SUPPORT FOR DETENTE IS CRUCIAL AND IMPERATIVE.

DISAGREE /___/___/___/___/___/___/___/___/___/___/___/ AGREE
1 2 3 4 5 6 7 8 9 10 11

Statement 5:

LEGISLATION SHOULD BE ENACTED IMMEDIATELY TO CURTAIL THE OIL COMPANIES' GIGANTIC PROFITS AT THE CONSUMER'S EXPENSE.

AGREE /___/___/___/___/___/___/___/___/___/___/___/ DISAGREE
1 2 3 4 5 6 7 8 9 10 11

Statement 6:

THE UNITED STATES SHOULD WITHDRAW ALL SUPPORT, BOTH ARMS AND FINANCIAL, FROM THE CONFLICT IN ANGOLA.

DISAGREE /___/___/___/___/___/___/___/___/___/___/___/ AGREE
1 2 3 4 5 6 7 8 9 10 11

Statement 7:

THE TIME IS LONG OVERDUE TO GRANT AN UNCONDITIONAL AMNESTY TO AMERICAN MEN STILL IN EXILE IN FOREIGN COUNTRIES BECAUSE OF THEIR STAND AGAINST THE VIETNAM WAR.

AGREE /___/___/___/___/___/___/___/___/___/___/___/ DISAGREE
1 2 3 4 5 6 7 8 9 10 11

Statement 8:

EDUCATION IS VALUABLE FOR ITS OWN SAKE, EVEN IF IT DOESN'T PREPARE YOU FOR A JOB.

DISAGREE /___/___/___/___/___/___/___/___/___/___/___/ AGREE
1 2 3 4 5 6 7 8 9 10 11

Statement 9:

THE SALE AND USE OF MARIJUANA SHOULD BE LEGALIZED.

AGREE /___/___/___/___/___/___/___/___/___/___/___/ DISAGREE
1 2 3 4 5 6 7 8 9 10 11

Statement 10:

FEDERAL SPENDING OUGHT TO BE CURTAILED IN ORDER TO BRING THE NATIONAL BUDGET INTO BALANCE.

DISAGREE /___/___/___/___/___/___/___/___/___/___/___/ AGREE
1 2 3 4 5 6 7 8 9 10 11

Statement 11:

THE FEDERAL GOVERNMENT SHOULD TAKE OVER OWNERSHIP AND OPERATION OF ALL RAILROADS IN THE UNITED STATES.

AGREE /___/___/___/___/___/___/___/___/___/___/___/ DISAGREE
1 2 3 4 5 6 7 8 9 10 11

Statement 12:

ANY LEVEL OF UNEMPLOYMENT CAN BE TOLERATED FOR A FEW YEARS IF IT WILL HELP TO END INFLATION.

DISAGREE /___/___/___/___/___/___/___/___/___/___/___/ AGREE
1 2 3 4 5 6 7 8 9 10 11

Finally, we would like some information about you. There are several questions below that we would like you to answer. If, for any reason, you do not want to answer one or more of these questions, please feel free to skip it. However, try to answer as many questions as possible. Let me remind you that this information is kept strictly confidential. It is needed only to compare samples of subjects who are filling out this questionnaire and other questionnaires similar to it. Again, thank you for your time.

1. What is your age? _____

2. What is your sex? Male / Female (Circle one)

3. What is your year in school?

Freshman
Sophomore
Junior (Circle one)
Senior
Graduate student

4. What is your major? (If no major, please write "none")

_____

5. Race.

American Indian
Black
Caucasan
Chicano (Circle one)
Oriental
Other (please specify) _____

Dear Participant:

In the Department of Communication we are engaged in ongoing research concerning student attitudes on a variety of topics. Because familiarity with an object, concept or person is an important component of a person's attitude, this particular study seeks to discover student familiarity with a variety of persons in American politics.

In the attached questionnaire we would like you to answer six questions concerning each person presented. In the first question, we would like you to give us your estimate of YOUR FAMILIARITY with the person. If you are very familiar with who this person is, check the far LEFT of the scale. For example:

very familiar / X / ____ / ____ / ____ / ____ / not familiar
1 2 3 4 5

If this person is not familiar to you, then check the far RIGHT. Question 2 asks the question, "This person is extremely important in American politics." If you believe that this person is extremely important in American politics, then respond by circling the far LEFT statement. For example:

Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree

If you believe that this person is not important in American politics, then circle the far RIGHT end of the scale.

The next two questions are very straightforward. They ask: "What is this person's occupation?" and "What notable things has this person done?"

Questions five and six ask how many times you have heard about this person from family and friends in the last two weeks, and how many times you have heard about this person from the media (newspapers, T.V., radio, and magazines) in the past two weeks. If you have not heard anything from your family or friends about this person in the last two weeks, then write a zero (0) in the space provided. If you have heard something about this person in the last two weeks, try to estimate how many times you have heard him or her discussed. Use any number you feel is appropriate in the space provided.

If you have any questions at this point, please raise your hand. Be assured that your responses will be kept in the strictest confidence. Your cooperation and careful consideration on each question will be greatly appreciated.

Thank you.

Michael Cody

The following questions are about Edmond (Jerry) Brown.

1. How familiar are you with Edmond (Jerry) Brown?

   Very familiar /_____/_____/_____/_____/_____/ Not familiar
   1 2 3 4 5

2. Edmond (Jerry) Brown is extremely important in American politics. (circle one)

Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree

3. What is Edmond (Jerry) Brown's occupation? _____

_____

4. What notable things has this person done? _____

_____

_____

5. In the past two weeks, how many times have you heard from the media (newspapers, T.V., radio, magazines, etc.) about Edmond (Jerry) Brown? _____

6. In the past two weeks, how many times have you heard from family, friends, and acquaintances about Edmond (Jerry) Brown? _____

* * * * * *

The following questions are about Jimmy Carter.

1. How familiar are you with Jimmy Carter?

   Very familiar /_____/_____/_____/_____/_____/ Not familiar
   1 2 3 4 5

2. Jimmy Carter is extremely important in American politics. (circle one)

Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree

3. What is Jimmy Carter's occupation? _____

_____

4. What notable things has this person done? _____

_____

_____

5. In the past two weeks, how many times have you heard from the media (newspapers, T.V., radio, magazines, etc.) about Jimmy Carter? _____

6. In the past two weeks, how many times have you heard from family, friends, and acquaintances about Jimmy Carter? _____

The following questions are about Nelson Rockefeller.

1. How familiar are you with Nelson Rockefeller?

   Very familiar /_____/_____/_____/_____/_____/ Not familiar
   1 2 3 4 5

2. Nelson Rockefeller is extremely important in American politics. (circle one)

Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree

3. What is Nelson Rockefeller's occupation? _____

_____

4. What notable things has this person done? _____

_____

_____

5. In the past two weeks, how many times have you heard from the media (newspapers, T.V., radio, magazines, etc.) about Nelson Rockefeller? _____

6. In the past two weeks, how many times have you heard from family, friends, and acquaintances about Nelson Rockefeller? _____

* * * * * *

The following questions are about Shirley Chisholm.

1. How familiar are you with Shirley Chisholm?

   Very familiar /_____/_____/_____/_____/_____/ Not familiar
   1 2 3 4 5

2. Shirley Chisholm is extremely important in American politics. (Circle one)

Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree

3. What is Shirley Chisholm's occupation? _____

_____

4. What notable things has this person done? _____

_____

_____

5. In the past two weeks, how many times have you heard from the media (newspapers, T.V., radio, magazines, etc.) about Shirley Chisholm? _____

6. In the past two weeks, how many times have you heard from family, friends, and acquaintances about Shirley Chisholm? _____

The following questions are about Hubert H. Humphrey.

1. How familiar are you with Hubert H. Humphrey?

   Very familiar /_____/_____/_____/_____/_____/ Not familiar
   1 2 3 4 5

2. Hubert H. Humphrey is extremely important in American politics. (circle one)

Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree

3. What is Hubert H. Humphrey's occupation? _____

_____

4. What notable things has this person done? _____

_____

_____

5. In the past two weeks, how many times have you heard from the media (newspapers, T.V., radio, magazines, etc.) about Hubert H. Humphrey? _____

6. In the past two weeks, how many times have you heard from family, friends, and acquaintances about Hubert H. Humphrey? _____

* * * * * *

The following questions are about George C. McGovern.

1. How familiar are you with George C. McGovern?

   Very familiar /_____/_____/_____/_____/_____/ Not familiar
   1 2 3 4 5

2. George C. McGovern is extremely important in American politics. (circle one)

Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree

3. What is George C. McGovern's occupation? _____

_____

4. What notable things has this person done? _____

_____

_____

5. In the past two weeks, how many times have you heard from the media (newspapers, T.V., radio, magazines, etc.) about George C. McGovern? _____

6. In the past two weeks, how many times have you heard from family, friends, and acquaintances about George C. McGovern? _____

The following questions are about Bella Abzug.

1. How familiar are you with Bella Abzug?

   Very familiar /_____/_____/_____/_____/_____/ Not familiar
   1 2 3 4 5

2. Bella Abzug is extremely important in American politics. (circle one)

Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree

3. What is Bella Abzug's occupation? _____

_____

4. What notable things has this person done? _____

_____

_____

5. In the past two weeks, how many times have you heard from the media (newspapers, T.V., radio, magazines, etc.) about Bella Abzug? _____

6. In the past two weeks, how many times have you heard from family, friends, and acquaintances about Bella Abzug? _____

* * * * * *

MICHIGAN STATE UNIVERSITY

COLLEGE OF COMMUNICATION ARTS
DEPARTMENT OF COMMUNICATION

EAST LANSING, MICHIGAN 48824

Dear Participant:

In the Department of Communication, we are engaged in ongoing research concerning student attitudes on a variety of topics. The purpose of this questionnaire is to see how you perceive others. Specifically, we are interested in how you perceive several political figures. We would like to know how you perceive these people in relation to words typically used to describe political figures; i.e., trait adjectives such as "informed", "experienced", etc.

Finally, we are interested in how you perceive the concept of the "Ideal Credible Source". Imagine that the "Ideal Credible Source" is an individual who you LIKE TO HEAR SPEAK, whose opinions YOU TRUST and WHOSE ADVICE YOU WOULD LISTEN TO.

To give you some information which will be helpful to you in filling out the questionnaire we have included, on the next pages, a description of a public figure and some excerpts from a recent speech. This will give you an idea of what the candidate is like and what he advocates. Please read this information carefully and thoroughly, it will be helpful to you.

Please read the instructions carefully. If you have any questions, please ask the researcher.

I will gladly discuss our research with you at any time. All answers will be kept in strict confidence. However, in order to sort the different questionnaires and to keep the questionnaires separate, please write the last four numbers of your student I.D.: __ __ __ __

Thank you,

Michael Cody

The following description of Birch Bayh is taken from a pamphlet written and circulated by "Nonpartisan Citizens Committee for the Promotion of Informed Voting". This group is composed largely of independents and is active primarily in Minneapolis and Indianapolis. The group has analyzed a large number of nationally known political figures in terms of voting record, interests and qualifications. The following is what the group had to say about Birch Bayh:

"Birch Bayh has demonstrated his skill and proficiency in public service time and time again. He is competent, demonstrably capable and decidedly qualified to address the issues in America today. He is a seasoned veteran whose background and past experiences in public life have made him one of the most experienced men on the political scene today. Many analysts have commented on the similarities between Birch Bayh and Hubert Humphrey. Indeed, Birch Bayh may be viewed as the Humphrey legatee; an advocate of that which Humphrey represents and has represented since he entered politics. Their philosophies are similar. Their practice of politics is similar. Their experiences and personalities are similar. In addition, Birch Bayh deals fairly with issues. He is just, even handed and unbiased in his speeches."

The following are excerpts from a speech recently given by Birch Bayh:

Nothing is more important to the American electorate than inflation and unemployment. Americans are concerned about their neighbors who are out of work and forced to struggle to get by. Americans are concerned about the rising cost of living, which has forced everyone to skimp and struggle. This nation cannot endure a painful "go slow" prescription for economic recovery.

We cannot afford to cut back on Government sponsored child-care centers and food programs. We cannot afford to cut back on Government sponsored job training programs for the disadvantaged. We cannot afford to cut back on jobs. Jobs are the key to getting this nation moving again. We need to increase employment and to get money to circulate more freely in the economy.

We cannot afford to spend time now quibbling about the federal government's deficit. We cannot sacrifice our nation's recovery by reducing government spending. We must increase Social Security benefits for the elderly whose fixed incomes have unjustly been strangled by inflation. We must provide more jobs to people---to stimulate this economy, get people off the streets and back on the job. A "go slow" prescription for economic recovery calls for balancing the budget. Doing so will keep unemployment in this nation way over 7 percent.

The last time the federal government reduced spending in order to reduce the federal deficit it was at the undue expense of the poor, the handicapped and the elderly on fixed incomes. In addition, it put undue pressures on young people in need of scholarship aid and training programs for the needy thus preventing them a fair start on the road to becoming successful and productive citizens. It is in our best interest not to cut back on these programs. Justice and decency demand that we continue to provide at least the minimum necessities for a decent life to those among us who, through no fault of their own, cannot provide for themselves. A reasoned and prudent concern for our own futures and those of our children dictates that we continue to invest in the development of our most valuable national resource, our young people.

If a balanced budget means surrendering our humanitarian concern for those less fortunate, and if it means surrendering our prudent concern for preparing our children to keep America great in the future--and it does mean surrendering those concerns--then we cannot afford it at this time.

We would like you to respond to a few additional attitude statements. Recall that space (1) represents very strong agreement with the attitude expressed in the statement, and space (11) on the far right, closest to DISAGREE, represents very strong disagreement with the attitude expressed in the statement. Similarly, if you are in only slight agreement with the attitude expressed in the statement, use one of the spaces to the right of the first space. If you neither agree or disagree with the statement, or have no opinion on the subject, then place your X in the middle space; space (6).

Statement 1:

FEDERAL SPENDING OUGHT TO BE CURTAILED IN ORDER TO BRING THE NATIONAL BUDGET INTO BALANCE.

AGREE /___/___/___/___/___/___/___/___/___/___/___/ DISAGREE
1 2 3 4 5 6 7 8 9 10 11

Statement 2:

CANDIDATES WHO RUN FOR PUBLIC OFFICE SHOULD AGREE WHEN THEY DO SO TO SURRENDER THEIR RIGHT TO PRIVACY AND EXPOSE ALL OF THEIR AFFAIRS TO PUBLIC SCRUTINY.

AGREE /___/___/___/___/___/___/___/___/___/___/___/ DISAGREE
1 2 3 4 5 6 7 8 9 10 11

Statement 3:

THE GOVERNMENT SHOULD SPEND AS MUCH MONEY AS NECESSARY IN ORDER TO START FEDERAL PROGRAMS TO PROVIDE JOBS FOR THE UNEMPLOYED WHO WANT TO WORK.

AGREE /___/___/___/___/___/___/___/___/___/___/___/ DISAGREE
1 2 3 4 5 6 7 8 9 10 11

INSTRUCTIONS

In this questionnaire, we would like you to tell us how different (or, in other works "how far apart") certain people and trait adjectives are from each other. Differences between these concepts can be measured in Social Units.

"Social Units" refer to the psychological distance or dissimilarity between people and words. The meaning of some words may be extremely different or they may be extremely similar. To aid in understanding what we mean by "distance", please use the following rule:

The distance between INTELLIGENT and INEXPERIENCED is 100 Social Units.

We would like you to tell us how many Social Units apart the people and trait adjectives are from each other. Remember, the more different they are from each other, the bigger the number of Social Units. The less different they are, the smaller the number of Social Units.

The following can serve an an example. First you are given the rule and then you are asked to report the distances between pairs of words and persons. For example:

IF THE DISTANCE BETWEEN INTELLIGENT AND INEXPERIENCED IS 100 UNITS, HOW FAR APART ARE?

Mickey Mouse and awful	_____	units
Mickey Mouse and nice	_____	units
awful and nice	_____	units

If you perceive Mickey Mouse as being close to the meaning you have for the word "awful", then you would write, in the space provided, a small number of Social Units. If you perceive Mickey Mouse as very distant from "awful", then you would write a number that is very large.

Similarly, if you perceive Mickey Mouse as close to "nice", report a small number of Social Units in the space provided, and if you perceive that Mickey Mouse is very far from "nice", then report a larger number of Social Units.

FEEL FREE TO USE ANY NUMBER TO REPORT AS ACCURATELY AS POSSIBLE THE DISTANCE THAT YOU SEE BETWEEN THE TWO CONCEPTS. You may use a number over 100 if the distance between any two concepts is greater than the distance between the concepts INTELLIGENT and INEXPERIENCED. If you perceive two words to be extremely similar to each other in meaning, then report a very small number. If you think that there is no difference in the meaning of two concepts, then you may write zero (0) to represent no distance between them.

On the following pages, you will find lists of pairs of words similar to those shown above. Please write a number in the blank space after each pair of concepts. Ignore the column of numbers next to the blanks; they are for clerical use only.

Please try not to skip any item. Try to report some distance between each pair of concepts. Keep in mind that there is no one correct answer; all that we ask is that you give us honest and careful responses about how you perceive the meaning of these trait adjectives and how these adjectives relate to these people.

If you have any questions, feel free to ask the researcher.

Thank you.

REMEMBER: IF INTELLIGENT AND INEXPERIENCED ARE 100 UNITS APART, HOW FAR APART ARE:

ID# ____ 1-4
Group ____ 5
Wave ____ 6

How far apart are:		Card 01 7-8
competent and inexperienced	____units	9-13
competent and Birch Bayh	____units	14-18
competent and repulsive	____units	19-23
competent and unintelligent	____units	24-28
competent and just	____units	29-33
competent and reliable	____units	34-38
competent and unreliable	____units	39-43
competent and Hubert Humphrey	____units	44-48
competent and unjust	____units	49-53
competent and intelligent	____units	54-58
competent and Ideal Credible Source	____units	59-63
competent and attractive	____units	64-68
competent and incompetent	____units	69-73
competent and experienced	____units	74-78

DUP 1-6

How far apart are:		Card 02 7-8
competent and George McGovern	____units	9-13
inexperienced and Birch Bayh	____units	14-18
inexperienced and repulsive	____units	19-23
inexperienced and unintelligent	____units	24-28
inexperienced and just	____units	29-33
inexperienced and reliable	____units	34-38
inexperienced and unreliable	____units	39-43
inexperienced and Hubert Humphrey	____units	44-48
inexperienced and unjust	____units	49-53
inexperienced and intelligent	____units	54-58
inexperienced and Ideal Credible Source	____units	59-63
inexperienced and attractive	____units	64-68
inexperienced and incompetent	____units	69-73
inexperienced and experienced	____units	74-78

DUP 1-6

How far apart are:		Card 03 7-8
inexperienced and George McGovern	____units	9-13
Birch Bayh and repulsive	____units	14-18
Birch Bayh and unintelligent	____units	19-23
Birch Bayh and just	____units	24-28
Birch Bayh and reliable	____units	29-33
Birch Bayh and unreliable	____units	34-38
Birch Bayh and Hubert Humphrey	____units	39-43
Birch Bayh and unjust	____units	44-48
Birch Bayh and intelligent	____units	49-53
Birch Bayh and Ideal Credible Source	____units	54-58
Birch Bayh and attractive	____units	59-63
Birch Bayh and incompetent	____units	64-68
Birch Bayh and experienced	____units	69-73
Birch Bayh and George McGovern	____units	74-78

REMEMBER: IF INTELLIGENT AND INEXPERIENCED ARE 100 UNITS APART, HOW FAR APART ARE:

How far apart are:		DUP Card 04	1-6 7-8
repulsive and unintelligent	_____units		9-13
repulsive and just	_____units		14-18
repulsive and reliable	_____units		19-23
repulsive and unreliable	_____units		24-28
repulsive and Hubert Humphrey	_____units		29-33
repulsive and unjust	_____units		34-38
repulsive and intelligent	_____units		39-43
repulsive and Ideal Credible Source	_____units		44-48
repulsive and attractive	_____units		49-53
repulsive and incompetent	_____units		54-58
repulsive and experienced	_____units		59-63
repulsive and George McGovern	_____units		64-68
unintelligent and just	_____units		69-73
unintelligent and reliable	_____units		74-78

How far apart are:		DUP Card 05	1-6 7-8
unintelligent and unreliable	_____units		9-13
unintelligent and Hubert Humphrey	_____units		14-18
unintelligent and unjust	_____units		19-23
unintelligent and intelligent	_____units		24-28
unintelligent and Ideal Credible Source	_____units		29-33
unintelligent and attractive	_____units		34-38
unintelligent and incompetent	_____units		39-43
unintelligent and experienced	_____units		44-48
unintelligent and George McGovern	_____units		49-53
just and reliable	_____units		54-58
just and unreliable	_____units		59-63
just and Hubert Humphrey	_____units		64-68
just and unjust	_____units		69-73
just and intelligent	_____units		74-78

How far apart are:		DUP Card 06	1-6 7-8
just and Ideal Credible Source	_____units		9-13
just and attractive	_____units		14-18
just and incompetent	_____units		19-23
just and experienced	_____units		24-28
just and George McGovern	_____units		29-33
reliable and unreliable	_____units		34-38
reliable and Hubert Humphrey	_____units		39-43
reliable and unjust	_____units		44-48
reliable and intelligent	_____units		49-53
reliable and Ideal Credible Source	_____units		54-58
reliable and attractive	_____units		59-63
reliable and incompetent	_____units		64-68
reliable and experienced	_____units		69-73
reliable and George McGovern	_____units		74-78

REMEMBER: IF INTELLIGENT AND INEXPERIENCED ARE 100 UNITS APART, HOW FAR APART ARE:

DUP 1-6
Card 07 7-8

How far apart are:

unreliable and Hubert Humphrey	_____units	9-13
unreliable and unjust	_____units	14-18
unreliable and intelligent	_____units	19-23
unreliable and Ideal Credible Source	_____units	24-28
unreliable and attractive	_____units	29-33
unreliable and incompetent	_____units	34-38
unreliable and experienced	_____units	39-43
unreliable and George McGovern	_____units	44-48
Hubert Humphrey and unjust	_____units	49-53
Hubert Humphrey and intelligent	_____units	54-58
Hubert Humphrey and Ideal Credible Source	_____units	59-63
Hubert Humphrey and attractive	_____units	64-68
Hubert Humphrey and incompetent	_____units	69-73
Hubert Humphrey and experienced	_____units	74-78

DUP 1-6
Card 08 7-8

How far apart are:

Hubert Humphrey and George McGovern	_____units	9-13
unjust and intelligent	_____units	14-18
unjust and Ideal Credible Source	_____units	19-23
unjust and attractive	_____units	24-28
unjust and incompetent	_____units	29-33
unjust and experienced	_____units	34-38
unjust and George McGovern	_____units	39-43
intelligent and Ideal Credible Source	_____units	44-48
intelligent and attractive	_____units	49-53
intelligent and incompetent	_____units	54-58
intelligent and experienced	_____units	59-63
intelligent and George McGovern	_____units	64-68
Ideal Credible Source and attractive	_____units	69-73
Ideal Credible Source and incompetent	_____units	74-78

DUP 1-6
Card 09 7-8

How far apart are:

Ideal Credible Source and experienced	_____units	9-13
Ideal Credible Source and George McGovern	_____units	14-18
attractive and incompetent	_____units	19-23
attractive and experienced	_____units	24-28
attractive and George McGovern	_____units	29-33
incompetent and experienced	_____units	34-38
incompetent and George McGovern	_____units	39-43
experienced and George McGovern	_____units	44-48

INSTRUCTIONS:

Another popular way of making comparisons is indirectly, through the use of rating scales. In this section you will be asked to fill out a number of such scales. For example, you might be asked to rate the concept "weather." The scale would look like this:

(WEATHER)

GREAT:	____	____	____	____	X	____	____	:LOUSY
	3	2	1	0	1	2	3	

3 = Strongly Applies
2 = Applies
1 = Sort of Applies
0 = Neutral of Doesn't Apply

In this example, the person marked the space indicating his feelings about the weather were "sort of lousy." Had the person marked the one (1) on the "GREAT" side of the "0" space, it would be an indication that the weather had been "sort of great."

Please respond to the following scales according to your feelings. Work rather quickly, as your initial response is probably the most accurate. Read each scale term carefully, however, before responding. Thank you.

Col.
DUP. 1-3
RD 10 4-5

(HUBERT HUMPHREY)

9 COMPETENT: ____ : ____ : ____ : ____ : ____ : ____ : ____ :INCOMPETENT
3 2 1 0 1 2 3

Now, how IMPORTANT or UNIMPORTANT is the COMPETENT/INCOMPETENT distinction to your conception of HUBERT HUMPHREY?

10 IMPORTANT: ____ : ____ : ____ : ____ : ____ : ____ : ____ :UNIMPORTANT
3 2 1 0 1 2 3

And, how RELEVANT or IRRELEVANT is the COMPETENT/INCOMPETENT distinction to your conception of HUBERT HUMPHREY?

11 IRRELEVANT: ____ : ____ : ____ : ____ : ____ : ____ : ____ :RELEVANT
3 2 1 0 1 2 3

(HUBERT HUMPHREY)

12 EXPERIENCED: ____ : ____ : ____ : ____ : ____ : ____ : ____ :INEXPERIENCED
3 2 1 0 1 2 3

Now, how IMPORTANT or UNIMPORTANT is the EXPERIENCED/INEXPERIENCED distinction to your conception of BIRCH BAYH?

31 UNIMPORTANT:____:____:____:____:____:____:____:IMPORTANT
3 2 1 0 1 2 3

And, how RELEVANT or IRRELEVANT is the EXPERIENCED/INEXPERIENCED distinction to your conception of BIRCH BAYH?

32 RELEVANT:____:____:____:____:____:____:____:IRRELEVANT
3 2 1 0 1 2 3

(BIRCH BAYH)

33 ATTRACTIVE:____:____:____:____:____:____:____:REPULSIVE
3 2 1 0 1 2 3

Now, how IMPORTANT or UNIMPORTANT is the ATTRACTIVE/REPULSIVE distinction to your conception of BIRCH BAYH?

34 IMPORTANT:____:____:____:____:____:____:____:UNIMPORTANT
3 2 1 0 1 2 3

And, how RELEVANT or IRRELEVANT is the ATTRACTIVE/REPULSIVE distinction to your conception of BIRCH BAYH?

35 IRRELEVANT:____:____:____:____:____:____:____:RELEVANT
3 2 1 0 1 2 3

(BIRCH BAYH)

36 INTELLIGENT:____:____:____:____:____:____:____:UNINTELLIGENT
3 2 1 0 1 2 3

Now, how IMPORTANT or UNIMPORTANT is the INTELLIGENT/UNINTELLIGENT distinction to your conception of BIRCH BAYH?

37 IMPORTANT:____:____:____:____:____:____:____:UNIMPORTANT
3 2 1 0 1 2 3

And, how RELEVANT or IRRELEVANT is the INTELLIGENT/UNINTELLIGENT distinction to your conception of BIRCH BAYH?

38 RELEVANT:____:____:____:____:____:____:____:IRRELEVANT
3 2 1 0 1 2 3

(BIRCH BAYH)

39 JUST:____:____:____:____:____:____:____:UNJUST
3 2 1 0 1 2 3

Now, how IMPORTANT or UNIMPORTANT is the JUST/UNJUST distinction to your conception of HUBERT HUMPHREY?

22 IMPORTANT: 3 : 2 : 1 : 0 : 1 : 2 : 3 :UNIMPORTANT

And, how RELEVANT or IRRELEVANT is the JUST/UNJUST distinction to your conception of HUBERT HUMPHREY?

23 IRRELEVANT: 3 : 2 : 1 : 0 : 1 : 2 : 3 :RELEVANT

(HUBERT HUMPHREY)

24 RELIABLE: 3 : 2 : 1 : 0 : 1 : 2 : 3 :UNRELIABLE

Now, how IMPORTANT or UNIMPORTANT is the RELIABLE/UNRELIABLE distinction to your conception of HUBERT HUMPHREY?

25 IMPORTANT: 3 : 2 : 1 : 0 : 1 : 2 : 3 :UNIMPORTANT

And, how RELEVANT or IRRELEVANT is the RELIABLE/UNRELIABLE distinction to your conception of HUBERT HUMPHREY?

26 IRRELEVANT: 3 : 2 : 1 : 0 : 1 : 2 : 3 :RELEVANT

(BIRCH BAYH)

27 COMPETENT: 3 : 2 : 1 : 0 : 1 : 2 : 3 :INCOMPETENT

Now, how IMPORTANT or UNIMPORTANT is the COMPETENT/INCOMPETENT distenction to your conception of BIRCH BAYH?

28 IMPORTANT: 3 : 2 : 1 : 0 : 1 : 2 : 3 :UNIMPORTANT

And, how RELEVANT or IRRELEVANT is the COMPETENT/INCOMPETENT distinction to your conception of BIRCH BAYH?

29 IRRELEVANT: 3 : 2 : 1 : 0 : 1 : 2 : 3 :RELEVANT

(BIRCH BAYH)

30 EXPERIENCED: 3 : 2 : 1 : 0 : 1 : 2 : 3 :INEXPERIENCED

Now, how IMPORTANT or UNIMPORTANT is the EXPERIENCED/INEXPERIENCED distinction to your conception of the IDEAL CREDIBLE SOURCE?

67 UNIMPORTANT: ___ : ___ : ___ : ___ : ___ : ___ : ___ : IMPORTANT
3 2 1 0 1 2 3

And, how RELEVANT or IRRELEVANT is the EXPERIENCED/INEXPERIENCED distinction to your conception of the IDEAL CREDIBLE SOURCE?

68 RELEVANT: ___ : ___ : ___ : ___ : ___ : ___ : ___ : IRRELEVANT
3 2 1 0 1 2 3

(IDEAL CREDIBLE SOURCE)

69 ATTRACTIVE: ___ : ___ : ___ : ___ : ___ : ___ : ___ : REPULSIVE
3 2 1 0 1 2 3

Now, how IMPORTANT or UNIMPORTANT is the ATTRACTIVE/REPULSIVE distinction to your conception of the IDEAL CREDIBLE SOURCE?

70 IMPORTANT: ___ : ___ : ___ : ___ : ___ : ___ : ___ : UNIMPORTANT
3 2 1 0 1 2 3

And, how RELEVANT or IRRELEVANT is the ATTRACTIVE/REPULSIVE distinction to your conception of the IDEAL CREDIBLE SOURCE?

71 IRRELEVANT: ___ : ___ : ___ : ___ : ___ : ___ : ___ : RELEVANT
3 2 1 0 1 2 3

(IDEAL CREDIBLE SOURCE)

72 INTELLIGENT: ___ : ___ : ___ : ___ : ___ : ___ : ___ : UNINTELLIGENT
3 2 1 0 1 2 3

Now how IMPORTANT or UNIMPORTANT is the INTELLIGENT/UNINTELLIGENT distinction to your conception of the IDEAL CREDIBLE SOURCE?

73 IMPORTANT: ___ : ___ : ___ : ___ : ___ : ___ : ___ : UNIMPORTANT
3 2 1 0 1 2 3

And, how RELEVANT or IRRELEVANT is the INTELLIGENT/UNINTELLIGENT distinction to your conception of the IDEAL CREDIBLE SOURCE?

74 RELEVANT: ___ : ___ : ___ : ___ : ___ : ___ : ___ : IRRELEVANT
3 2 1 0 1 2 3

(IDEAL CREDIBLE SOURCE)

75 JUST:____:____:____:____:____:____:____:UNJUST
3 2 1 0 1 2 3

Now, how IMPORTANT or UNIMPORTANT is the JUST/UNJUST distinction to your conception of the IDEAL CREDIBLE SOURCE?

76 IMPORTANT:____:____:____:____:____:____:____:UNIMPORTANT
3 2 1 0 1 2 3

And, how RELEVANT or IRRELEVANT is the JUST/UNJUST distinction to your conception of the IDEAL CREDIBLE SOURCE?

77 IRRELEVANT:____:____:____:____:____:____:____:RELEVANT
3 2 1 0 1 2 3

(IDEAL CREDIBLE SOURCE)

78 RELIABLE: ____:____:____:____:____:____:____:UNRELIABLE
3 2 1 0 1 2 3

Now, how IMPORTANT or UNIMPORTANT is the RELIABLE/UNRELIABLE distinction to your conception of the IDEAL CREDIBLE SOURCE?

79 IMPORTANT:____:____:____:____:____:____:____:UNIMPORTANT
3 2 1 0 1 2 3

And, how RELEVANT or IRRELEVANT is the RELIABLE/UNRELIABLE distinction to your conception of the IDEAL CREDIBLE SOURCE?

80 IRRELEVANT:____:____:____:____:____:____:____:RELEVANT
3 2 1 0 1 2 3

DL
Dup 1-6
Card 11 7-8 If 0 represents total lack of competence and 100 represents the level of competence of the most competent person you know personally,

9-11 HOW COMPETENT IS BIRCH BAYH? _____ (Use any number to report as accurately as possible how competent you think Birch Bayh is.)

If 0 represents total lack of experience and 100 represents the level of experience of the most experienced person you know personally,

13-15 HOW EXPERIENCED IS BIRCH BAYH? _____

If 0 represents total lack of attractiveness and 100 represents the level of attractiveness of the most attractive person you know personally,

17-19 HOW ATTRACTIVE IS BIRCH BAYH? _____

If 0 represents total lack of intelligence and 100 represents the level of intelligence of the most intelligent person you know personally,

21-23 HOW INTELLIGENT IS BIRCH BAYH? _____

If 0 represents total lack of justness and 100 repsresents the level of justness of the most just person you know personally,

25-27 HOW JUST IS BIRCH BAYH? _____

If 0 represents total lack of reliability and 100 represents the level of reliability of the most reliable person you know personally,

29-31 HOW RELIABLE IS BIRCH BAYH? _____

Finally, we would like some information about you. There are several questions below that we would like you to answer. If, for any reason, you do not want to answer one of more of these questions, please feel free to skip it. However, try to answer as many questions as possible. Let me remind you that this information is kept strictly confidential. It is needed only to compare samples of subjects who are filling out this questionnaire and other questionnaires similar to it. Again, thank you for your time.

1. What is your age? _____

2. What is you sex?
   Male
   Female (Circle one)

3. What is your year in school?
   Freshman
   Sophomore
   Junior (Circle one)
   Senior
   Graduate student

4. What is your major? (If no major, please write "none")

   _____

5. Race.

   American Indian
   Black
   Caucasan
   Chicano (Circle one)
   Oriental
   Other (please specify) _____