TOWARD A MORE COMPLETE UNDERSTANDING
OF THE SOCIAL INFLUENCE PROCESS: A SOCIAL
JUDGMENT-INVOLVEMENT APPROACH

by

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CHAPTER I

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Introduction

The study of social influence processes has a long and extensive history. In surveying this field, Miller (1968) aptly noted that "because of both its social importance and its intellectual challenge, persuasion has never suffered from scholarly disinterest" (p. 268). As theoretical knowledge has accumulated and methodological capabilities have increased, the systematic examination of social influence processes has undergone various changes. One particularly significant development in persuasion research entails shifting the focus from the isolated study of single variables to a more comprehensive analysis of interactional effects of independent variables upon attitude change. In fact, Miller (1968) observed that several "studies show that scientific laws describing the persuasion process are extremely complex, that the effect of one communication variable is usually tempered by numerous others" (p. 269). While many plausible and useful explanations of attitude change processes have been advanced, the persuasion field is neither an exact nor a complete scientific discipline. A thorough analysis of the social influence literature reveals conflicting results, inadequate independent variable manipulations and dependent measures, and experimental designs which fail to incorporate or control for relevant factors. Thus, several experiments, which include key variables and employ an integrative theoretical framework, are needed to capture further the complex nature of persuasion processes. Although possible independent variables are quite numerous, the factors which
seem to account for the most attitude change variance are ego-involvement, position discrepancy, source credibility, and message characteristics. Unfortunately, no experiment which incorporates these variables has been reported in the social psychological literature. Using the Social Judgment Involvement framework, this research effort will explore the single and interactive effects of these variables upon attitude change processes. While ego-involvement, position discrepancy, and source credibility represent unitary dimensions, several message characteristics exist (e.g., implicit vs. explicit conclusion-making, message intensity, and one-sided vs. two-sided presentations). Message ambiguity, which is recognized by communication scholars and rhetoricians as an important aspect of human interaction and possesses considerable theoretical interest to this investigator, will be the message variable examined in this study. The following sections will explore the nature of attitudes; provide a detailed rationale for utilizing the Social Judgment-Involvement approach; survey the literature regarding ego-involvement, position discrepancy, source credibility, and message ambiguity; and generate theoretical predictions concerning the role of these variables in producing attitude change.

Attitudes

Many definitions of the attitude concept have been advanced by persuasion theorists. Allport (in Fishbein, 1967) defined attitude as a "mental and neural state of readiness organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects with which it is related" (p. 8). Accordingly, an attitude provokes consistently favorable or unfavorable behavior toward the object. Similarly, Zimbardo and Ebbesen (1970) viewed
attitudes as "implicit predispositions which exert some general and consistent influence on a fairly large class of evaluative responses" (p. 6). As Fishbein and Ajzen (1975) observed, though, the failure of attitudes to serve adequately as the central device for explaining and predicting behavior seriously limits most definitional efforts. They acknowledged the importance of delimiting the attitude concept, however, in contending that "an explicit definition of attitude appears to be a minimal prerequisite for the development of valid measurement procedures" (1975, p. 5). Hence, Fishbein and Ajzen argued that a satisfactory definition should point to measurement operations, and they devised a formula depicting an attitude as the summation of all belief strength-evaluation products for salient beliefs concerning the object. Further, they maintained that attitudes toward action alternatives and normative constraints must be considered as intervening variables to account for the frequent lack of attitude-behavior consistency.

Other persuasion theorists have adopted a similar approach to conceiving the structural properties of attitudes. For instance, Rosenberg (1953) delineated two components of attitude structure: value satisfaction and perceived instrumentality. Value satisfaction entails the affective intensity of a person's values (i.e., expected rewards from possessing these values), while perceived instrumentality involves beliefs concerning the importance of the attitude object leading to or blocking the attainment of the values. Rosenberg found that these components correlated significantly with a person's attitude and concluded that attitude change should result from modification of one or both of these dimensions. Carlson (1956) performed a study which
examined the relationship of perceived instrumentality to attitude change. He exposed subjects to a persuasive message designed to increase their awareness that nonsegregation would lead to the attainment of four important values: American prestige in other countries; protection of property values; equal opportunity for personal development; and perceiving one's self as experienced, broad-minded, and worldly-wise. Carlson reported that the experimental procedure was successful in that "changes in attitude were related significantly to changes in perceived instrumental relationships" (1956, p. 261).

Sherif, Sherif, and Nebergall (1965) adopted an interesting approach to the nature of attitudes and their relationship to behavior. They observed that attitudes involve "...a set of evaluative categorizations formed toward an object or class of objects as the individual learns, in interaction with others, about his environment, including evaluations of other persons" (1965, p. 20). While concurring with other theorists regarding the consistent, evaluative, learned nature of attitudes, Sherif, Sherif, and Nebergall's viewpoint diverged in certain important respects. In contending that attitudinal reactions imply that the individual compared, evaluated, or chose among alternatives, these researchers suggested that a definition of attitude should point to operational tools for assessing the concept and should allow for psychosocial scales so that a person's attitude can be located relative to a persuasive message. While attitude measurement based upon the Social Judgment-Involvement framework will be considered later, attitude was operationally defined as an individual's set of categories for evaluating a stimulus domain, which he has established as he learns about that domain in interaction with
other persons and which relates him to various subsets within the domain with varying degrees of positive or negative affect (Sherif and Sherif, 1967, p. 115).

Here, the researchers disagreed with persuasion theorists who viewed an attitude as a single point. Essentially, Sherif, Sherif, and Nebergall argued against measuring attitudes in this manner, because "such scores do not provide a sufficient basis for conclusions about an individual's possible susceptibility to change or the direction in which he is most likely to change" (1965, p.8). Thus, they preferred to conceptualize an attitude as a range of evaluative positions and introduced the notion of latitudes. From this perspective, an attitude is cast as a psychological continuum, and regions of acceptance, rejection, and noncommitment are identified. The latitude of acceptance, which includes the individual's most acceptable point, encompasses all positions perceived as agreeable. The latitude of rejection incorporates all stands unacceptable to the person, including his most objectionable point, and the latitude of noncommitment is a residual category of positions not represented by either of the other ranges. An obvious advantage of this attitude formulation is its ability to explain why people with the "same" attitude (represented as a point) may differ in terms of tolerance of other people's positions and susceptibility to attitude change.

As the Own Categories Procedure is the central methodological framework in this research, a more detailed examination of its main features is warranted. Thus, the historical development of this approach will be described briefly to elucidate its advantages over alternative modes of attitude measurement. Also, the specific types
of information which the Own Categories Procedure provides will be identified in the context of the experimental hypotheses.

The Own Categories Procedure

The impetus for the Own Categories Procedure stemmed from Hovland and Sherif's (1952) analysis of Hinckley's classic experiment. Hinckley, performing the first empirical test of whether judges' attitudes are independent of placement for Thurstone scales, concluded that these concepts are wholly unrelated. Suspecting that this result and similar findings by later researchers were based upon minimally involving topics and acknowledging that Hinckley actually discarded many subjects who "overused" certain response categories, Hovland and Sherif replicated this study, including highly ego-involved subjects within their overall design. While similarities were noted for minimally involved subjects, significant differences were obtained between the studies, with highly involved respondents using fewer categories and exhibiting greater displacement in the Hovland and Sherif experiment. Hence, these investigators concluded that their findings contradicted the assumption of conventional attitude measurement that, in constructing scales, placement of items on an issue is independent of the judges' attitudes.

It is interesting to note that, although judges were instructed to place items objectively, the task became highly evaluative for ego-involved subjects. As a result, Hovland and Sherif suggested that ego-involvement mediates social judgments and contended that when the number of response categories is not fixed by the experimenter, the effects of judges' attitudes on item placement might be revealed even more clearly. Thus, they devised the Own Categories Procedure, which profiles an
individual's attitude, level of ego-involvement, and perceptual judgments and permits various attitude change predictions. Hovland and Sherif maintained that in everyday life, people choose the number of categories along a given attitude dimension and believed that indirect attitude assessment, which is potentially less reactive than direct measurement techniques, would provide a more accurate picture of the individual's social reality. As Weick (in Sherif and Sherif, 1967) observed, the use of unobtrusive measures is especially pertinent in testing a judgmental theory of attitude change because placement of communicative messages can be affected by measurement procedures. Further, Hartley (in Sherif and Sherif, 1967) favors the technique because

it builds toward a more adequate cognitive mapping of the individual's social field.
It locates the boundaries for positive and negative valence and gives a synthesis of cognitive and conative components in a manageable manner (p. 94).

A major difference between conventional attitude theories and the Social Judgment-Involvement framework entails the latter approach's theoretical and methodological emphasis on the individual's social environment as a major determinant of attitude acquisition and modification. Sherif and Hovland (1965) asserted that a person's attitude is comprised of affect-laden social motives which establish a psychological relationship between the person and his social milieu and define his stand on important issues. Rosenberg (in Sherif and Sherif, 1967) identified the self as the key motivational factor, contending that it is a highly valued object delineated by social attitudes and protected by selective perceptual structuring of environmental stimuli.
According to Sherif and Sherif (in Sherif and Sherif, 1967), people prize stability of self-image in the socialization process, with events which cause a person to lose his bearings in physical or social space being highly disruptive and resulting in a loss of critical anchorages. As a result, they posited the necessity of linking the individual to salient reference groups. Earlier, Sherif (1936) suggested that ego-formation involves anchoring the self within a framework of definite and enduring interpersonal relationships. As a result, the individual internalizes social values to satisfy the need for interpersonal social stability. As Sherif and Sherif (1964) noted,

underlying the individual's membership in informally organized groups through his own choosing, there is a motivational base in terms of the individual's sense of identity, the stability of this identity, his need for human company and mutual support, his felt need to act in concert with the fellow group members for the effective attainment of his cherished goals (p. 55).

Further, Sherif and Cantril (1947) indicated that

major attitudes are thus derived from groups to which we learn to relate ourselves or which we regard ourselves as members of; reference groups, membership groups... If I can relate myself securely to these reference groups, I feel secure in my general status, insofar as the values of the reference groups themselves are compatible. If I can anchor myself securely in a membership group, I feel secure in my more specific membership position (p. 114).

The individual's socially mediated attitudes exert significant influence on his perceptual judgments. Specifically, the self is comprised of personal and social values which serve as frames of reference in making important judgments, such as defining success and failure, determining loyalties, and specifying a person's social role. Further, when the person internalizes the reference group's values, they act as
shortcuts which are psychological realities capable of regulating feelings, likes, and dislikes (Sherif, 1936).

Clearly, the Social Judgment-Involvement approach to attitudes possesses many unique features. In addition to stressing the importance of the individual's social milieu and conceiving attitudes as psychological continua, this framework provides a comprehensive explanation of perceptual processes and permits integration of several important social influence variables. The next section thoroughly explores the major tenets of the Social Judgment-Involvement approach.

The Social Judgment-Involvement Approach

As the Social Judgment-Involvement framework is predicated upon extrapolations from principles of psychophysics to attitudinal judgment, a consideration of the psychophysical literature is a necessary starting point. While early studies of judgment were concerned mainly with keenness of discrimination and the physiology of receptors, the emphasis of researchers on developing methods conducive to accurate judgment focused attention on the underlying processes of item placement. In the process, psychophysical experiments, which involved simple, neutral stimulus materials, "discovered and measured certain constant errors of judgment" (Sherif and Hovland, 1965, p. 19). An early study by Wever and Zener (in Sherif, 1935) showed that the use of a standard stimulus is not necessary for judgment; after a few rounds, subjects established a scale and judged stimuli against the background of the scale. Kiesler, Collins, and Miller (1969) clarified this conception, stating that when "confronted with a series of stimuli, humans tend to...arrange them on a psychological dimension even in the absence of explicit standards" (p. 241). For instance, a person who lifts a set of objects would
probably arrange them on the basis of weight, despite an absence of specific instructions. Also, to the extent that explicit standards are lacking, judgments are generally less stable. Apparently, though, the presentation of extreme members of a body of stimuli enhances judgmental accuracy. As Needham (in Sherif and Hovland, 1965) noted, "the subject first 'learns' to recognize the boundaries within which he is judging, and to assign to these limiting stimuli the relatively more correct judgments" (p. 33). Hence, without an explicit standard, the end values of a stimulus series serve as anchorages for future judgments. In this respect, Volkmann (1951) demonstrated that errors of placement are more frequent for judgments of intermediate stimuli. Further, internal factors, such as motivation and attitude, and external variables, including instruction set and demand characteristics, influence judgments, especially when no objective standard exists or when a set of stimuli is not well-ordered.

Assimilation and Contrast Effects

Realizing the importance of end stimuli for judgmental processes, psychologists devoted empirical attention to analyzing the effects of anchor placement. Rogers (1941) observed that as an anchor was placed at increasing distances outside a stimulus series, shifts in judgment away from the standard also increased. In this manner, a contrast effect, operationalized as "a shift in judgment away from the value of another stimulus to which it is related in kind (dimension) and temporal occurrence" (Sherif and Hovland, 1965, p. 45) and not restricted to anchors located outside a stimulus series, was convincingly demonstrated. Sherif, Taub, and Hovland (1958), closely following Rogers' procedures, further examined assimilation (i.e., a shift in
placement of a stimulus toward an anchor value) and contrast processes in psychophysical judgments. These researchers depicted their general position in the following manner:

When an anchor is introduced at the end or slightly removed from the end of the series, there will be a displacement of the scale of judgment toward the anchor and assimilation of the new reference point in the series. When, however, the reference point is too remote there will be displacement in the opposite direction (i.e., away from the anchor), with a constriction of the scale to a narrower range (Sherif, Taub, and Hovland, 1958, p. 150).

Sherif, Taub, and Hovland required subjects to judge weights either in the absence of an anchor or with anchors at varying distances from the experimental series of weights. They reported an equal distribution of responses across categories with no anchor and the anticipated assimilation and contrast effects for close and distant anchors, respectively. Further, a supplemental study produced similar results when the experimental anchor was located at the opposite end of the judgment scale, thereby increasing the generality of the findings. Moreover, an experiment by Whittaker (in Sherif and Hovland, 1965) generally confirmed the proposition that the distance from an anchor to a person's judgment scale is inversely related to shifts toward the anchor.

Observing the preponderance of displacements for simple psychophysical tasks, Sherif felt that the continuity of findings on anchor effects from judgments of neutral to affectively-charged items might serve as an effective bridge to the study of social judgment. As Sherif, Sherif, and Nebergall (1965) observed, "the placement or categorization of a position on a social issue toward or away from the person's own position on the issue is functionally equivalent to the
experimentally demonstrated effects of an internal anchor which is near to or remote from the item judged" (p. viii). They acknowledged, though, three important differences between psychophysical and psychosocial judgment processes. First, psychophysical scales are based upon consensus referable to verifiable physical events, whereas psychosocial measures are traceable only to other social "facts." Also, with psychosocial scales, the individual is more likely to bring already established evaluative categories to the judgment situation. Finally, the parameters of psychophysical scales are usually clearly defined, while the limits of psychosocial scales, which depend upon group and cultural factors, entail greater response variability across individuals. Despite these differences, the key theoretical link between psychophysical and psychosocial judgments entails construing an individual's attitude as an anchor for judging messages concerning a topic. As previously noted, Social Judgment-Involvement theorists view an attitude as a set of evaluative categories or latitudes which mediate social judgment processes. In fact, Sherif, Sherif, and Nebergall observed that "...the anchoring effect of the individual's own stand is revealed in his judgments to the extent that the stimulus items lack objective attributes associated with consensual placement in a given category" (1965, p. 133).

Research on Anchoring Effects

The body of experimental research concerning anchoring effects of attitudes is quite large and diverse. For example, Hovland and Sherif (1957) reported that an individual places a statement on an issue in terms of the item's relative proximity to his own position and the latitude which is acceptable to him around his focal point of acceptance. Hovland, Harvey, and Sherif (1957) examined assimilation and contrast
effects within the Social Judgment-Involvement approach. In recommending a comprehensive analysis of persuasion situations, they stated that "when Ss have established attitudes and are personally involved in a controversial social issue, their 'own stand' functions as the major anchorage affecting reaction to and evaluation of communication" (Hovland, Harvey, and Sherif, 1957, p. 245). Also, they maintained that whether assimilation or contrast effects appear would be a function of the relative distance between the subject's own stand and the position of the communication. To specify further the complex connection between position discrepancy and attitude change, Hovland, Harvey, and Sherif focused upon judgmental and perceptual processes in the sender-message-receiver chain. They hypothesized that as position discrepancy increased, the following results would be obtained: a decrease in perceived favorableness of the message, contrast effects as messages reached the latitude of rejection, and less frequent opinion change. The researchers selected subjects for an experiment concerning a highly controversial issue (i.e., alcohol prohibition) based upon known group membership or the attainment of college student status. In all cases, high ego-involvement was assumed, though not measured, for experimental subjects. The results strongly supported the researchers' theoretical predictions. Subjects' evaluations of the message's fairness were closely linked to their own stand on alcohol prohibition, such that messages entailing low position discrepancy, regardless of subjects' initial position, were judged as significantly more fair than communications which were highly discrepant. These results supported other studies (e.g., Hovland, Janis, and Kelley, 1953; Weiss and Fine, 1955) which showed that "individuals who are in favor of the opinion advocated will consider the communication fair and
unbiased, but that those with an opposed stand will regard an identical communication as propagandistic and unfair" (Hovland, Harvey, and Sherif, 1957, p. 247). In terms of placement of the message's position, a significant contrast effect occurred. As Hovland, Harvey, and Sherif noted,

> the expectation is fulfilled that those at the wet end judge that the communication advocated a drier position than it did and those at the dry end judge that it was advocating a wetter position than it did...Those nearer the position of the communication reported it more objectively (1957, p. 248).

However, the lack of sufficient subjects possessing intermediate positions mediated against the emergence of a significant assimilation effect. As previously noted, item placement and acceptance/rejection of a message are closely related. Hovland, Harvey, and Sherif found that subjects with more extreme positions rejected viewpoints not in their latitude of acceptance more frequently than did individuals with moderate positions. These individuals rated viewpoints removed from their own as indifferent. In terms of latitude size, though, the only significant difference between latitudes for those with moderate positions (i.e., low discrepancy) and extreme positions (i.e., high discrepancy) was that the latter group possessed a larger rejection region. Finally, extreme subjects demonstrated significantly less attitude change than unselected individuals, who possessed moderate positions, and thus little discrepancy from the message's position. It should be acknowledged that this pattern of results was obtained under conditions of high ego-involvement. The roles of position discrepancy and ego-involvement in the persuasion process will be explored in later sections.

Personality Variables and Social Judgment Processes

Several experiments have focused upon the effects of message
recipients' personalities and attitudes in combination with other variables, as determinants of social judgments. For example, Weiss and Fine (1955) examined intrapersonal characteristics of receivers which mediate the persuasion process. They studied the effects which aggressiveness and extrapunitiveness (i.e., the tendency to react aggressively against the environment, given adequate provocation) exert upon judgmental distortion of a persuasive message and the extent of attitude change that ensues. Weiss and Fine hypothesized that subjects high in aggressiveness and extrapunitiveness would be more influenced by a message designed to effect an aggressive opinion regarding action toward juvenile delinquents than subjects who score low on these personality variables. They reported that judgment of the communication was significantly related to its persuasiveness effectiveness. Specifically, Weiss and Fine indicated that "among the judgmental reactions found to be significant are those concerned with the attributes of fairness of presentation and propagandistic intent" (1955, p. 253). Further, Weiss and Fine reported that "...those Ss viewing the communication as fair and not propagandistic were affected more than those judging it as one sided and propagandistic" (1955, p. 253). Thus, they contended that attitude change, as mediated by perceptual processes, is dependent upon consistency between a communication's appeal and a receiver's personality predispositions. Weiss and Fine concluded that maximum effectiveness of communication is achieved when the viewpoint expressed in a communication is congruent with personality needs and consistent styles of reactions of the communicatees.

Attitudes and Social Judgment Processes

Manis (1960, 1961A, 1961B) performed a series of experiments to
ascertain the effects of a message recipient's attitude, a source's prestige, and message ambiguity upon the interpretation of opinion statements. He measured subjects' attitudes toward college fraternities, exposed them to several favorable, neutral, and unfavorable messages concerning this topic, and assessed their interpretation of the sender's position on each message using six evaluative semantic differential scales. His studies did not, however, focus upon attitude change.

Manis asserted that "...given the fact that most messages can be plausibly interpreted in a number of ways, the recipient may be expected to select that interpretation which is least likely to affect his beliefs" (1961B, p. 82). He observed significant displacement effects in all three studies, noting that over all messages, there was a linear relationship between the subjects' own attitudes and their judgments of others' attitudes. While significant assimilation and contrast effects were frequently exhibited, Manis' discovery of a curvilinear relationship between attitude and scale constriction was surprising. Specifically, neutral subjects viewed messages as reflecting a narrower range of positions than did individuals with more extreme attitudes. As Manis noted,

If we make the assumption that the neutral Ss were probably less intensely involved in the fraternity issue than the committed Ss, these results appear to contradict Sherif and Hovland's contention that intensely involved individuals with an extreme position are likely to adopt a constricted scale of judgment (1960, p. 344).

Although Manis attributed these results to a larger latitude of acceptance and greater degree of assimilation for neutral subjects, further examination of his theoretical and experimental framework
reveals plausible alternative explanations. First, Manis defined scale constriction in terms of perceptual discriminations across all attitudinal positions, with more extreme subjects making finer distinctions. Sherif and Hovland (1953) defined scale constriction in terms of the width of an individual's latitude of rejection, such that attitude extremity varies directly with the size of this category. Hence, they focused upon a specific subset of attitudinal positions, while Manis employed a more global notion of scale constriction. In fact, their results are not necessarily contradictory, as they were measuring different entities in different ways. Further, Sherif and Hovland (1953) assessed latitude width by requiring subjects to judge statements as acceptable or objectionable (with a residual category of non-commitment), while Manis based his results on subjects' responses to the previously mentioned semantic differential scales (i.e., kind-cruel; valuable-worthless; honest-dishonest; nice-awful; fair-unfair; and good-bad). Clearly, the utilization of different measures could have produced incongruous results. For instance, a message could be placed in the latitude of rejection as being objectionable, while also being perceived as "honest," "valuable," and "kind."

Segall (1959) explored the effects of recipient attitude and experience (i.e., learning over trials) on the interpretation of controversial statements. He obtained main effects for both variables, although he reported that the level of significance for the order effect is higher than that for the effect of judge's attitude, leading to a relative lack of confidence in the reliability of the attitude effect. Nonetheless, differences along both major dimensions were in the predicted direction (1959, p. 64).
For neutral items, however, judges’ attitudes concerning college fraternities were not significant determinants of their interpretations of the statements. Segall concluded that the data indicated that attitude had little effect on the absolute judgment of the experimental stimuli. This finding, which contradicts the results of several other studies, was closely examined by Manis (1960). He noted that Segall failed to find a significant relationship between recipient attitude and judgment because of the small range of opinions represented by experimental subjects. In fact, Segall similarly assessed his own data in asserting that "it may be well to consider that the residual factor was not adequately varied in the present case" (1959, p. 66). Also, Manis argued that his own sample consisted of big city campus students, for whom the attitude topic was more ego-involving. Meanwhile, Manis contended that the topic was less controversial for Segall's subjects, thereby reducing the impact of recipient attitude on item judgment. Finally, Manis illustrated an important methodological difference between the studies. Specifically, Segall asked subjects to judge the extremity of opinion statements, while Manis (1960, 1961A, 1961B) required subjects to predict positions advocated by persons who had made the statements. As such, Manis suggested that his experimental set was more likely to call the subjects’ own views into play as an implicit standard and determinant of their responses. Generally, it appears reasonable to conclude that an individual's attitude regarding a topic significantly affects his judgment of persuasive messages.

Item Placement and Attitude Change

Having explored the relationship of recipient attitude and judgmental
processes, it is necessary to consider the connection between item placement and subsequent attitude change. Basically, individuals are expected to exhibit assimilation for items which fall within their latitude of acceptance (and possibly their latitude of noncommitment) and contrast for statements located in their latitude of rejection. Further, Sherif, Sherif, and Nebergall (1965) observed that assimilation and contrast effects are more likely to occur when ego-involvement is high, more extreme positions are held (such that greater position discrepancies are possible), salience of reference groups or individual sources is high, and considerable message ambiguity exists. These variables, which systematically affect the size of an individual's latitudes and mediate social influence processes, will be analyzed in later sections. Generally, though, attitude change toward the position advocated in a message is expected for assimilated items, whereas no attitude change or modification away from the communicator's position is predicted for statements which are displaced through contrast.

Problems Regarding the Social Judgment-Involvement Approach

Although the Social Judgment-Involvement approach possesses many advantages, certain theoretical and empirical problems exist and require consideration. For instance, Sherif clearly specified that the attitude change process is composed of a temporally-ordered two-step sequence. The individual first judges and places a communication relative to his position and then experiences attitude modification relative to perceived position discrepancy. Kiesler, Collins, and Miller (1969) questioned the validity of this temporal relationship, suggesting that the simultaneous occurrence of judgment and change is a more accurate representation of the overall process. They proposed that
this process begins with the individual's attitude serving as an anchor for placement and concludes with simultaneous judgment and attitudinal shift contingent upon perceived position discrepancy. Unless these stages can be experimentally isolated, the Social Judgment-Involvement framework loses some of its explanatory value.

Another controversial issue involves the relationship of ego-involvement to position extremity. Cantril (in Sherif and Cantril, 1947) reported that the more extreme an attitude is directionally, the greater is the likelihood of high ego-involvement. Similarly, Sherif, Sherif, and Nebergall (1965) observed that "individuals who uphold extreme stands are least likely to change that stand in response to communication" (p. 176). Kiesler, Collins, and Miller (1969), however, identified instances in which these concepts are not necessarily related (e.g., a highly involved person with a moderate position) and argued for their independent specification. Sherif, Sherif, and Nebergall (1965) seemingly realized the lack of perfect correspondence between ego-involvement and position extremity, noting that "the individual taking a more moderate stand may, however, be strongly committed to his position and strongly opposed to contrary stands" (p. 59). Nebergall (1966) provided insight concerning the relationship between these variables by focusing upon individuals maintaining "moderate" positions. He posited that these persons might be unconcerned about a particular topic or they might truly oppose both extremes along an attitude continuum. Further, the former individual could be identified as possessing a narrow latitude of rejection and a wide latitude of noncommitment, while the latter person could be discernible by his displaying a narrow latitude of noncommitment and a wide latitude of rejection. The former
pattern is characteristic of an unstable attitude, whereas Nebergall argued that the latter formation typically reflects a stable, partisan viewpoint. He noted, however, that while both patterns are possible, the existence of a "neutral" or moderate position, accompanied by high ego-involvement, is rather uncommon. In fact, the inability to obtain a sufficient number of subjects manifesting this attitudinal profile has limited the scope of many experimental endeavors in the persuasion field. Thus, with the exception of moderate position—highly ego-involved individuals, Nebergall maintained that extremity of stand is related to position stability. Sereno and Mortensen (1969) clearly depicted the difference between ego-involvement and position extremity in an experimental manner. Examining conflict negotiation in dyads, they noted that, contrary to popular belief, extreme attitude positions are not necessarily less susceptible to change. Specifically, Sereno and Mortensen suggested that "a person who endorses a moderate position in which he is highly involved...would be less apt to change his stand than would someone who endorses a more extreme position in which he is less involved" (1969, p. 8). Thus, they predicted that dyads comprised of slightly ego-involved subjects would reach public agreement more frequently and would exhibit more attitude change than highly ego-involved subjects who initially disagreed on the issue of legalizing marijuana. Sereno and Mortensen reported strong confirmation for their expectations for measures of public agreement and private expressions of attitudes. Although position extremity was not actually manipulated (only subjects with extreme attitudes were selected), these researchers did demonstrate that ego-involvement is distinct from position extremity. The results of theoretical and empirical investigations of the relationship between
ego-involvement and position extremity can be summarized in the following way: although these concepts are distinct, they are usually closely linked and provide perceptual stability for the individual. Still, further research is necessary to clarify the connection between ego-involvement and position extremity.

The preceding section has reviewed the principal tenets of the Social Judgment-Involvement framework and described limitations which might influence interpretation of experimental results obtained using this approach. The following discussion focuses on key variables which affect the social influence process: ego-involvement; position discrepancy; source credibility; and message ambiguity. Also an explicit statement regarding the need for the systematic examination of these factors as mediators of persuasion is made and theoretical predictions are advanced.

**Ego-Involvement**

According to Sherif, Sherif, and Nebergall (1965), "ego-involvement, in plain terms, is the arousal, singly or in combination, of the individual's commitments or stands in the context of appropriate situations be they interpersonal relations or a judgment task in actual life or an experiment" (p. 65). Similarly, Sereno stated that ego-involvement refers to "...the relevance, significance, or meaningfulness of the issue or topic to the individual" (1969, p. 70). Further, he noted that as ego-involvement increases, it becomes a more crucial variable in determining a person's response to all elements of a persuasive communication. Mortensen and Sereno (1970) extended this viewpoint, observing that ego-involvement "constitutes an important determinant of perceptions formed within the ongoing situation" (p. 127). Thus, in relating
ego-involvement to the social judgment process, the initial applica-
tions concern the effect of different levels of involvement upon per-
ceptual processes and the size of a person's latitudes for a given
issue.

Ego-Involvement and Social Judgment Processes

Sherif and Cantril (1947) maintained that "reactions are modified
and altered to a greater or lesser degree when they are ego-involved"
(p. 2). Similarly, Mortensen and Sereno (1970) contended that ego-
involvement influences information processing. They examined the
communicative and relational effects of this factor, advancing the
following hypotheses:

1. Highly ego-involved persons would perceive an individual
advocating a discrepant stand as less credible than
slightly ego-involved persons.

2. Highly ego-involved persons would differ from slightly
ego-involved persons in the degree to which they are
predisposed to communicate with an individual who ad-
vocates a discrepant stand.

3. Highly ego-involved persons would have lower expectations
of achieving consensus with an individual advocating a
discrepant stand than slightly ego-involved persons.

Eighty-five subjects completed semantic differential scales on four
topics, using Diab's attitude measurement procedures. Five days later,
the subjects were asked to examine scales supposedly completed by three
other students and to provide their impressions of these individuals,
rate the desirability of interacting with them, and describe their
expectations of achieving consensus with them. Mortensen and Sereno
reported no main effects for ego-involvement, but obtained a significant
relationship between ego-involvement and position discrepancy. Under
high position discrepancy, increases in ego-involvement were related
to decreases in predisposition toward communication and expectations of achieving consensus. The interaction of ego-involvement and position discrepancy for source credibility perceptions was not significant. In accounting for the surprising absence of ego-involvement effects, Mortensen and Sereno suggested that their results were partially attributable to strict procedures for selecting slightly ego-involved subjects. They noted that "subjects who differed on involvement level were regarded as comparable on extremity of attitude position" (Mortensen and Sereno, 1970, pp. 131-132) and indicated that highly and slightly ego-involved individuals may not have been sufficiently different in this experiment. Emphasizing the significant ego-involvement-position discrepancy interactions, Mortensen and Sereno concluded that "ego-involvement appears to have an influence upon selected perceptions of communication where discrepancy is clearly apparent to the individual" (1970, p. 134). Although the contention that ego-involvement exerts strong influence on social perceptions possesses considerable intuitive sense, this study failed to provide much support for this relationship.

Social Judgment-Involvement theorists posit that ego-involvement is the major factor affecting an individual's latitudes of acceptance, rejection, and noncommitment. For instance, Sherif and Hovland (1965) postulated that high levels of ego-involvement would be associated with smaller latitudes of acceptance and noncommitment and an enlarged latitude of rejection, as the individual becomes more selective judgmentally. Here, the ego-involved person, using his attitude as an anchor for judgment, is more likely to displace systematically neutral items, especially when they are ambiguous or subject to alternative interpretations. Edwards (1941), for example, reported that listeners
assimilated statements which conformed to their biases better than statements which were contrary to their prior beliefs. Hovland and Sherif (in Sherif and Hovland, 1965), studying attitudes regarding alcohol prohibition, discovered a significant difference in size of the latitude of rejection between highly and minimally involved subjects, such that the former group possessed larger rejection ranges. They also reported no difference regarding the latitude of acceptance, while the latitude of noncommitment increased in size moving from extreme to low ego-involvement. Sherif, Sherif, and Nebergall (1965) attributed these results to a lowered threshold of rejection for strongly committed individuals. Further, Hovland, Harvey, and Sherif (1957) found that the only significant difference in latitude size was that highly ego-involved persons possessed a larger rejection region than did moderately committed individuals.

Sherif, Sherif, and Nebergall (1965) cited evidence from eight studies which demonstrated that when an individual is ego-involved, the distribution of his judgments shows a more consistent and stabilized pattern. Based upon Hovland and Sherif's (1952) finding that placement of attitude statements on an issue is not independent of judges' attitudes, Sherif and Hovland (1953) investigated the extension-constriction of subjects' attitude scales. They hypothesized that subjects with strong personal involvement in an extreme position would establish an attitude scale with fewer categories than would less involved subjects. Also, these experimenters predicted that highly ego-involved subjects would be very discriminating in accepting items at their own end of the scale and would lump statements they rejected together at the other end of the scale. Experimental
subjects were selected based upon membership in various groups and their attitudes toward Negroes were assessed by Thurstone scales and the Own Categories Procedure. Sherif and Hovland discovered that highly ego-involved subjects employed fewer categories than did less ego-involved subjects, piling up attitude statements at one extreme such that a skewed distribution of judgments was exhibited. In summarizing similar results of several other studies, Sherif, Sherif, and Nebergall (1965) indicated that this pattern was obtained regardless of which extreme position subjects maintained. Specifically, they argued for the generality of these results, noting that respondents who have attitudes favorable and unfavorable to the object of judgment will show the same characteristics (namely, the use of few categories with disproportionate accumulation of items in the categories opposed to their own stand on the issue) provided that both are equally involved in their stands (Sherif, Sherif, and Nebergall, 1965, pp. 118-119).

Ego-Involvement and Motivation

Before reviewing research concerning the impact of ego-involvement on attitude change, it is necessary to consider briefly the motivational basis underlying personal commitment. As previously noted, ego-involvement constitutes one manner of maintaining self-esteem by promoting selective exposure and interpretation of incoming stimuli. Here, ego attitudes function to satisfy basic needs, including stability of self-identity and security within the individual's constellation of social relationships. Thus, ego-involvement is closely aligned with the individual's reference groups. Rokeach (1960) explicitly depicted this relationship in stating that attitudes and perceptions are to a large extent determined by the person's membership groups and operative social norms. Further, Rosenbaum and Franc (1960) asserted that situational cues which make a person's membership in a particular group
salient favor responses similar to those responses learned and adopted in the context of that group membership. In interpreting their results concerning external commitment, they noted that this process could plausibly explain the smaller persuasive impact of congruent versus incongruent attribution. Specifically, the congruent attribution of audience opinion was viewed as evoking relevant membership groups to a greater degree than incongruent attribution. This positive reinforcement of the individual's successful integration within his social milieu created greater resistance to social influence attempts. Other investigations provide similar insight regarding the importance of salience of group membership in the persuasion process. For example, Charters and Newcomb (1952) demonstrated that Catholics were more likely to express opinions of orthodox Catholicism when situational cues concerning membership were present in an otherwise nondenominational context than when such membership cues were absent. Further, Kelley (1955) obtained similar results indicating that greater resistance to attempts at changing the opinions of Catholic high school students occurred in the presence versus absence of the appropriate membership cues.

Ego-involvement, which is intricately related to reference group influences and personal need satisfaction, appears to mediate the persuasion process in a fairly consistent manner. Typically, individuals who are highly involved are less susceptible to attitude change as a result of increased perceptual selectivity and enlarged latitudes of rejection. As Sherif, Sherif, and Nebergall observed,

It is one thing to change a person's momentary guess in a laboratory atmosphere on the topic, say, of the number of leaves on a tree or his preference for one brand of candy over another. It is another thing to try to change the person's commitment to the value of the
family, to his religion, to his politics, to his stand on the virtue of his way of life. The latter commitments and stands are ingredients of his self-picture-intimately felt and cherished in his own eyes. As such, the latter are among his ego-involved attitudes (1965, p. vi).

Similarly, Hovland (1959) maintained that most laboratory experiments unearth more attitude change than field studies because they usually entail relatively uninvolving topics. Hovland stated that opinion change due to persuasive messages should thus be expected in the laboratory, but noted that "the types of issues most often utilized in survey studies are ones which are basic and involve deep commitment. As a consequence small changes in opinion due to communication would be expected" (1959, p. 13).

Fishbein and Ajzen (1975) utilized McGuire's two-factor theory of attitude change to examine the operation of different variables in the Social Judgment-Involvedment framework. McGuire (1968, 1969) asserted that reception (attention and comprehension) and yielding curves accurately depict attitude change processes. According to Fishbein and Ajzen, reception is reflected in a person's placement of an attitude statement and is subject to perceptual distortion, while yielding is a function of locating the message within the appropriate latitudinal ranges. Further, they suggested that ego-involvement affects reception by increasing the occurrence of assimilation and contrast effects, while positing that ego-involvement reduces yielding by increasing the size of the individual's latitude of rejection and decreasing the size of the latitude of noncommitment. Thus, ego-involvement has been identified theoretically as an important determinant of attitude change.

Ego-Involvement Research

The experimental literature attests fairly well to the effect of
ego-involvement upon attitude change specified in earlier sections. For example, in manipulating ego-involvement, position discrepancy, and source credibility, Rhine and Severance (1970) obtained a main effect for ego-involvement only, with more change occurring, as expected, for minimally versus highly committed subjects. Similarly, Hovland, Harvey, and Sherif (1957) reported that extreme, highly involved subjects demonstrated significantly less attitude change than unselected individuals, who admittedly possessed more moderate attitudinal positions. Also, Sherif, Sherif, and Nebergall (1965) found that "individuals who uphold extreme stands are least likely to change that stand in response to communication" (p. 176). In analyzing these results, however, the previously discussed distinction between ego-involvement and position extremity must be considered.

Although these studies provide strong support for the depressing effect of ego-involvement on attitude change, other experiments have produced somewhat conflicting findings. For instance, Zimbardo (1960A) examined the impact of ego-involvement from a cognitive dissonance perspective. He stated that cognitive dissonance is created by the expression of a contrary opinion by a source, increasing with correspondingly larger amounts of position discrepancy, source credibility, and ego-involvement. Additionally, Zimbardo noted that "the strength of the pressure to reduce dissonance is a direct function of the dissonance created" (1960A, p. 86). Further, he posited that "if the other avenues of dissonance reduction are restricted, opinion change should be a function of variables that intensify dissonance" (1960A, p. 87). Thus, Zimbardo predicted a positive relationship between ego-involvement and attitude change.
In generating his hypotheses, Zimbardo employed a definition of ego-involvement which differed significantly from most other studies. Instead of conceiving ego-involvement as simply being related to a person's needs and values, Zimbardo viewed it as "the individual's concern with the consequences of his response or with the instrumental meaning of his opinion" (1960A, p. 87). Theoretically, this definition permitted the differential imposition of ego-involvement on a previously neutral opinion area, thereby controlling contaminating factors sometimes associated with the selection of different levels of ego-involvement. A description of Zimbardo's methodology is presented to illustrate his manipulation of response versus issue-involvement.

Zimbardo required pairs of female friends to read a case concerning a juvenile delinquent, give their opinions, and judge the delinquents from a set of photographs. At this point, each subject was told that her friend correctly judged all eight pictures, while the subject was correct on five of the eight photographs. Next, the subjects were either informed that their judgments were not meaningful (i.e., low ego-involvement condition) or that the results would indicate their basic social values and personalities (i.e., high ego-involvement condition). Position discrepancy was also manipulated and subjects were asked to complete the opinion statement questionnaire concerning the juvenile delinquent again. Zimbardo reported a main effect for position discrepancy only and found that the high position discrepancy-high ego-involvement condition yielded significantly more attitude change than the other experimental conditions.

Although there was no main effect for ego-involvement, the existence of a strong, nonsignificant trend (p < .10) and the apparently additive
relationship with position discrepancy contradict the results of many other social influence studies. An analysis of the experimental design, though, may facilitate a reconciliation of these inconsistent outcomes. First, it is doubtful that ego-involvement, as defined by Sherif, can be truly high for a topic in which individuals possessed a previously neutral or non-existent attitude. Also, the enduring nature of this effect, which actually was in itself not significant, is highly questionable. Zimbardo's manipulation of ego-involvement seemingly reflects a state of arousal rather than true commitment. In fact, Sherif, Sherif, and Nebergall (1965) observed that "generalizations about attitude change based on short-term laboratory studies that utilize unfamiliar or uninvolving issues are, therefore, of limited applicability" (p. 181). Further, the results may have been affected by Zimbardo's utilization of high source credibility throughout the experiment. In discussing the "message" source's credibility, Zimbardo observed that "the friendship, along with the alleged expertness of the communicator, served to make the communicator highly positive" (1960A, p. 89). Despite these possible drawbacks, Zimbardo does cite other evidence (e.g., Brehm and Lipsher) that opinion change is sometimes directly related to level of ego-involvement. Hence, his findings possess some validity, rendering unequivocal conclusions regarding the persuasive impact of ego-involvement difficult at the present time.

Sereno and Bodaken (1972) adopted a different approach to studying the relationship of ego-involvement and attitude change. Observing that experiments which treat an attitude as a single point focus upon the individual's most acceptable position, they posited that a stable most acceptable position does not necessarily indicate the absence of
attitude change. Hence, Sereno and Bodaken examined the effects of ego-involvement on changes in latitude size and generated the following hypotheses:

1. Highly ego-involved subjects would exhibit a decrease in latitude of rejection size following a belief-discrepant persuasive communication.

2. Highly ego-involved subjects would display an increase in latitude of acceptance size following a belief-discrepant persuasive communication.

3. Highly ego-involved subjects would exhibit an increase in latitude of noncommitment size following a belief-discrepant persuasive communication.

4. Highly ego-involved subjects would display no change in their most acceptable position following a belief-discrepant persuasive communication.

Using a pretest-posttest design, Sereno and Bodaken administered Diab's semantic differential scales on the topic of eliminating draft deferments for college students. They found that highly involved subjects displayed significant negative change in latitude of rejection size, significant positive change in latitude of noncommitment size, and no modification of the latitude of acceptance. Contrary to expectations, these highly committed subjects exhibited significant change toward the advocated position in terms of their most acceptable point. Less ego-involved subjects also displayed significant change in their most acceptable position, without any alteration of latitude sizes. The amount of attitude change reflected by modification of the most acceptable position did not differ for highly versus minimally involved persons.

Sereno and Bodaken accounted for the change in the most acceptable position for highly involved subjects by referring to the actual magnitude of change. On a 28 point scale, the average most acceptable
position for these subjects shifted from 27.50 to 24.90. Although statistically significant, the actual change was only 2.6 units, and the researchers indicated the possible operation of ceiling effects or statistical regression. However, Sereno and Bodaken did not explain why less involved subjects failed to display significantly more attitude change. Additionally, their hypothesis concerning latitude of acceptance size was not supported. Discussing the latitude of rejection, Sereno and Bodaken noted that "it seems plausible that an individual would replace these positions with ones toward which he was non-committal prior to changing them completely to stands of acceptance" (1972, p. 156). This notion of gradual attitude change is consistent with the Social Judgment-Involvement framework. However, this study failed to demonstrate the decrease in susceptibility to attitude change which supposedly accompanies greater levels of ego-involvement.

Reconciling Conflicting Research Concerning Ego-Involvement

The preceding review of experiments linking ego-involvement to attitude change has yielded contradictory patterns of results. Given this conflicting state of affairs, it is instructive perhaps to focus upon conceptual and operational problems associated with the ego-involvement variable. For example, Wilmot (1971) identified the following difficulties concerning ego-involvement: the lack of specification of its component elements; its transitory versus stable nature; its general versus topic-bound character; and the extent to which the variable can be randomly assigned to subjects in experiments. He contended that ego-involvement is not an easily interpreted speech communication variable which can be studied without conceptual confusion. Furthermore, Wilmot stated that ego-involvement can be a function of various elements. These elements
include the willingness to join a social group that is concerned with a
topic, the amount of social support one has for his position, an unknown
personality variable, the amount of information the person possesses on
the issue, the strength of emotional feeling on the issue, the extent of
public commitment, position extremity, or a combination of these factors.
Thus, experiments utilizing different bases of ego-involvement are not
necessarily addressing the same issue.

Wilmot (1971) extended these considerations by employing Zimbardo's
(1960A) distinction between response-involvement and issue-involvement.
Response-involvement entails the experimental manipulation of instrumental
value relationships (i.e., situational importance) and either stresses task
performance or heightens the subjects' awareness of themselves. Issue-
involvement entails a priori selection and assignment of subjects, thereby
treating ego-involvement as a subject variable. The selection/assignment
process is typically accomplished in one of three different ways: assessing
ego-involvement using ordered-alternatives (i.e., presenting nine state-
ments to assess subjects' latitudes); the Own Categories Procedure; or
Diab's (in Sherif and Sherif, 1967) semantic differential approach to
latitude assessment. Unfortunately, Wilmot noted that "it has been demon-
strated that the different operational definitions are very lowly corre-
lated with one another. In short, it appears that different operational
definitions measure diverse variables" (1971, p. 433). Thus, adequate
comparison of attitude change experiments hinges on identifying the type
of ego-involvement examined and the specific methodology employed in the
studies. It should be noted, though, that Sereno (1969) reported highly
comparable results in measuring subjects' most acceptable position using
Diab's semantic differential technique and Sherif's Own Categories
Another difficulty in studying ego-involvement concerns its treatment as a subject variable. According to Clark and Stewart (1971), "the main charge is that observed differences in persons' behavior which have previously been attributed to their presumably varying levels of ego-involvement may in fact be attributed to differences in individual traits" (p. 228). These traits include educational level, age and experience, dogmatism, position discrepancy, and race. As Wilmot (1971) reported in analyzing issue-involvement studies,

Because random assignment was not utilized, any observed differences between highly and lowly involved subjects on any dependent variable should be attributed to ego-involvement only with great caution. Edwards notes that when subjects are not assigned at random to levels of a variable, the different degrees of the variable cannot be taken as the cause of the observed effect unless "these are the only differences between the two groups" (p. 434).

As a result, Wilmot concluded that it was currently impossible to define theoretically and operationally ego-involvement with adequate precision. Hence, he suggested comparing results of issue-involvement and response-involvement studies, using more than one operational definition of ego-involvement within an experiment, assessing the temporal stability of ego-involvement effects on attitude change, and viewing ego-involvement as a dependent variable to enhance understanding of its role in the persuasion process.

Clark and Stewart (1971) focused upon various descriptions of ego-involvement in attempting to account for conflicting results in various experiments. They conducted a study to determine whether the latitude of rejection, which Sherif identified as an operational measure of ego-involvement, was related to the following components of ego-involve-
ment: belief intensity, centrality of belief in the total belief structure; centrality of belief to the person's identity; and relevance or significance of the issue. Clark and Stewart selected 17 issues varying in ego-involving nature and employed semantic differential scales to assess centrality, prior consideration of the topic, and personal importance of the topic. They found that the size of the latitude of rejection did not vary much across topics and was uncorrelated with centrality ($r = 0.15$). Thus, Clark and Stewart questioned the validity of latitude of rejection size as an indicator of ego-involvement. Instead, they reported that a priori ratings of ego-involvement were correlated with these three dimensions and concluded that "in general, then, the scales designed to assess specific dimensions of ego-involvement yielded results more consistent with expectations about the ranking of issues than did the latitude of rejection" (1971, p. 232). Also, they asserted that this study provided further evidence that the latitude of rejection reflects an individual personality trait and suggested that more direct measures of the dimensions of ego-involvement be employed in subsequent experiments.

Close inspection of Clark and Stewart's methodology, however, indicates that their conclusions are not entirely warranted. First, Clark and Stewart acknowledged that a response set may have been partially responsible for the obtained correlations. Also, they realized that their format of scales to measure the size of the latitude of rejection differs significantly from Sherif's approach. Their utilization of the ordered-alternatives procedure is especially important in examining the obtained results. Unlike Sherif's Own Categories Procedure, only nine items are provided and the middle ground is represented by objectively
neutral items. In contrast, Sherif's method requires many more attitude statements, several of which are indeterminate in meaning. These statements, which produce considerable displacement based upon the respondent's evaluative anchor (i.e., his attitude), are essential items for measuring latitude of rejection size. Thus, Clark and Stewart's method does not permit the perceptual displacement critical to the Social Judgment-Involvement approach and their results are not wholly interpretable within this theoretical framework.

Obviously, ego-involvement research has produced inconsistent results. One possible explanation which extends beyond this factor is that other variables interact with ego-involvement to produce attitude change. Thus, it is necessary to consider systematically other important social influence variables. As such, the next section thoroughly examines the role of position discrepancy in the persuasion process.

Position Discrepancy

Sherif, Sherif and Nebergall succinctly captured the importance of position discrepancy in the persuasion process, noting that

...stripped to its bare essential, the problem of attitude change is the problem of the degree of discrepancy from communication and the felt necessity of coping with the discrepancy. The discrepancy in question is the degree of divergence between the position advocated in a communication or message and the own position of the subject exposed to it (1965, p. 225).

Further, they maintained that whether a person experiences a tension-arousing discrepancy depends upon the position of the message, as it is placed relative to the individual's latitudes. As a communicator's position extends further from the receiver's attitude, the likelihood of the message being placed in the recipient's latitude of rejection increases. As stated earlier, a major principle of the Social Judgment-
Involvement approach is that messages located within a person's latitude of acceptance (and possibly noncommitment) will be assimilated, while messages placed in the latitude of rejection are contrasted. Thus, attitude change is the expected result in the former, but not the latter, situation. Clearly, the relationship between position discrepancy and attitude change is quite complex. It appears that, according to the Social Judgment-Involvement framework, attitude change varies directly with degree of discrepancy to a certain point; thereafter, increasing position discrepancy produces decreasing attitude change. To determine the validity of this contention, it is necessary to examine theoretical aspects and the experimental literature regarding position discrepancy.

In discussing position discrepancy, Bochner and Insko (1966) observed that "according to judgmental theory a communication is an external anchor that produces increasing positive influence (assimilation) with moderate discrepancy and decreasing influence (contrast) with extreme discrepancy" (p. 614). Insko, Murashima, and Saiyadan (1966) explained this distinction by contending that attitude change dissipates at extreme discrepancies because extreme attitude change would produce too much dissonance with previously held cognitions. Conversely, Zimbardo (1960A) argued that increasing position discrepancy, which entails greater cognitive dissonance, will increase persuasive impact within an experimental setting. Given this theoretical disagreement among communication theorists, careful inspection of the relevant experimental literature is warranted. As Sherif has noted, there are three general findings of studies addressing this issue: a direct relationship between discrepancy and change; no substantial change as related to differential discrepancy following a communication; and a curvilinear
relationship of these concepts, producing a distribution where some respondents experience attitude change while other individuals actually shift away from the position advocated in a persuasive message.

**Position Discrepancy Research**

Several experiments (e.g., Fisher and Lubin, 1958; Fisher, Rubenstein, and Freeman, 1956; Goldberg, 1954; Harvey, Kelley, and Shapiro, 1957; Hovland and Pritzker, 1957; Zimbardo, 1960A; Cathcart, 1955; Cohen, 1959; and Rosenbaum and Franc, 1960) have yielded significant results for position discrepancy, indicating that it is positively related to attitude change. For instance, Hovland and Pritzker (1957) devised an experiment which tailored messages to subjects based upon previously measured positions on different topics. Here, subjects received four messages within each of three position discrepancy conditions and provided their opinions on a Likert scale. Hovland and Pritzker reported a main effect for position discrepancy, such that it increased linearly with opinion change, holding for 21 of 24 comparisons over the twelve experimental topics. Also, Hovland and Pritzker stated that

the relationship between amount of change in opinion actually obtained and the amount of change advocated was found to be substantially the same for Ss holding the more extreme positions (strong or moderate agreement or disagreement) and for those holding more neutral positions (slight agreement or disagreement or undecided) (1957, p. 259).

Here, the researchers found that position extremity was unrelated to susceptibility to attitude change. Interpretation of these results hinges upon identification of salient variables in the experimental situation. As Hovland and Pritzker indicated, "the issues were not those involving deep-seated attitudes and beliefs. They would not be described as ego-involving; they were generally concerned with opinions
that rest to a considerable extent on factual evidence" (1957, p. 260). For high ego-involvement, they expected that increased resistance would occur when the individual's own position deviated markedly from that of the communicator. A related finding was that the ratio of change produced to change advocated declined as position discrepancy increased. Finally, Hovland and Pritzker affirmed that their study utilized only authoritative sources. For low source credibility, Hovland and Pritzker speculated that "advocacy of more extreme positions is likely to cause more resistance with occasional outright rejection of the communicator" (1957, p. 260).

Fisher and Lubin (1960) examined position discrepancy between communicators in dyadic interaction situations. They exposed subjects briefly to ambiguous stimuli (i.e., pictures of several paratroopers) and required them to make initial judgments regarding the number of paratroopers in the pictures. Subjects were informed of their partner's estimates, which were varied to create the position discrepancy levels, and made subsequent judgments with this additional information. This procedure was enacted five times per picture for two pictures, with the partner's estimate remaining constant across the five trials. In reporting their results, Fisher and Lubin generated two independent measures of social influence: movement and conformity. Movement refers to the amount of change from the subject's initial estimate to the next estimate, while conformity reflects the subject's change proportional to the distance between himself and his partner. Fisher and Lubin reported that "the median amount of movement increases with distance - at least up to a certain point, after which a decreasing trend is suggested" (1958, p. 232). They discovered, however, that conformity was a
decreasing nonlinear, monotonic function of distance. With repeated influence attempts on the same stimulus, though, the amount of influence, in terms of movement and conformity, was increased. Overall, Fisher and Lubin (1958) concluded that "distance is a significant determinant of social influence..." (p. 236) and "there is a slight suggestion (supported by rational consideration) that the curve begins to decrease at extremely large distances" (p. 237). For now, it should simply be noted that this experiment apparently entailed low levels of ego-involvement.

Goldberg (1954) explored the position discrepancy issue within a small group context. He predicted a linear relationship between discrepancy and attitude change, based upon previous small group research (e.g., Schacter, 1950) which indicated that opinion-deviates conformed more than other members because the group exerted greater pressure on them to conform by directing more communication toward these deviating individuals. Goldberg required subjects to judge the intelligence of Negroes from photographs and reported a main effect for distance in the expected direction. A more detailed breakdown of this relationship indicated that two of three comparisons between the three levels of position discrepancy were statistically significant. Although Goldberg's results supported his prediction concerning attitude change, he rejected Schacter's explanation because the amount of communication was constant across distance conditions.

Cathcart (1955), though primarily studying the effects of various methods of presenting evidence on social influence processes, focused upon subjects' attitudes as they occurred at varying distances from the position adopted in the experimental messages. He presented subjects
with a speech favoring the abolition of capital punishment under the following evidence conditions: generalized statements with no specific evidence (A); all contentions supported with evidence but not linked to a source or documented (B); all contentions supported with documented evidence (C); and documented evidence with the addition of the source's qualifications (D). Cathcart discovered that all four speeches produced a positive shift of opinion, with significantly greater change occurring in conditions B and D. Closer analysis revealed that there was a positive, linear connection between position discrepancy and opinion change. This relationship explicated the stronger impact of speeches B and D, as subjects in these conditions were less favorable (i.e., had more discrepant positions from the viewpoint advocated by the message) initially than subjects in the other conditions.

Rosenbaum and Zimmerman (1959) studied external commitment, which refers to a message source's statement of his perception of an audience's attitude prior to presenting a persuasive message. Varying the degree of correspondence between the audience's actual position and the source's perception of this position, they found that congruent attribution resulted in significantly greater resistance to a persuasive communication than the absence of external commitment. However, they obtained no significant differences between the control and incongruent attribution conditions. Rosenbaum and Franc (1960) suggested that the failure of incongruent attribution to increase persuasiveness was perhaps due to "the deep-seated and emotional character of the opinion area studied or to the extreme amount of change advocated or both" (p. 15). Thus, they manipulated position discrepancy and external commitment under less ego-involving conditions. They utilized the same topics as Hovland and
Pritzker (1957)* and reported main effects for external commitment and opinion discrepancy in the expected direction. In other terms, the incongruent attribution-high position discrepancy condition yielded the most opinion change, as reflected in the main effects and the external commitment-position discrepancy interaction. Interestingly, the impact of position discrepancy was greatest in the control (i.e., no external commitment) condition, supporting Hovland and Pritzker's finding of a linear relationship between discrepancy and attitude change. Rosenbaum and Franc, though, did acknowledge that "the positive relationship obtained may apply only to certain types of opinion items and up to certain degrees of opinion discrepancy" (1960, p. 16).

Employing a cognitive dissonance framework to discern the relationship between position discrepancy and attitude change, Cohen (1959) observed that if "the individual has chosen to expose himself to contrary information, or if he engages in some behavior with regard to the contrary communication which he would ordinarily avoid doing because it does not follow from his cognitions (attitudes), then the greater the discrepancy, the greater the opinion change..." (p. 387). Thus,

*Interestingly, Rosenbaum and Franc noted that many attitude change studies fail to distinguish between advocated change and the presentation of a discrepant message. They observed that several studies, including Hovland and Pritzker's (1957) and their own, presented a discrepant message without actually directing, recommending, or in any other way indicating the desirability of attitude change. Advocacy of change is usually implicit in this presentation, but it is not directly operationalized or affirmed. Rosenbaum and Franc suggested that different processes may be involved in change produced by advocacy and by simple presentation of position discrepancy.
he focused upon the extent of behavioral commitment (i.e., effort) devoted to understanding a communication which was slightly or highly discrepant from the receiver's own position. Specifically, Cohen hypothesized that under greater degrees of perceived effort expended, increasing the discrepancy between a person's initial position and new information counter to that opinion would produce increased dissonance and subsequent attitude change. Further, he claimed that if a subject made little effort to comprehend a message, little dissonance would be produced. In this case, "increasing discrepancy does not make for increasing dissonance and consequent attitude change" (Cohen, 1959, p. 393).

Although Cohen did not statistically consider the effect of position discrepancy alone, the results indicated a linear relationship of undetermined significance with attitude change ($\bar{x}_L = 2.94$ versus $\bar{x}_H = 3.44$ for low versus high discrepancy, with $N=36$). Additionally, he reported a significant interaction between effort and position discrepancy. For low effort, increasing discrepancy produced less attitude change, while discrepancy and change were linearly related in the high effort conditions. Strangely, increased effort yielded less attitude change under low position discrepancy conditions. This result is attributable perhaps to methodological flaws of the experiment. First, the results of the manipulation check for perceived effort were not significant, indicating that subjects did not perceive their level of expended effort in the same manner as the experimenter. Also, the selection of only "anti-foster parent" subjects based on pretest scores precluded random selection and possibly entailed regression effects. Finally, a single scale was utilized to measure opinion change. This procedure does not seem to
yield a very sensitive measure of modifications of subjects' belief and attitudinal structures.

Conflicting Position Discrepancy Research Findings

The previous discussion has described experimental support for a positive relationship between position discrepancy and attitude change. Although other studies could have been reviewed, the research examined seems to represent adequately important aspects of position discrepancy as a key variable in the persuasion process. Still, these studies were generally not very ego-involving and the results may be limited to only similar situations. In fact, Sherif, Sherif, and Nebergall (1965) believed that studies obtaining a positive relationship between discrepancy and change were not very ego-involving, whereas experiments demonstrating a curvilinear relationship were more ego-involving. Specifically, they felt that change increases with discrepancy until the point separating the individual's latitudes of noncommitment and rejection is reached. Here, contrast in judgment occurs and either no attitude change or a boomerang effect should be exhibited. Fishbein and Ajzen, casting position discrepancy as the difference between source and proximal beliefs, noted that "according to social judgment theory, a highly discrepant position is likely to fall within the latitude of rejection for involved subjects, but that need not be so for uninvolved receivers" (1975, pp. 481-482).

Several experiments indicate a non-linear relationship between position discrepancy and attitude change. For instance, Rhine and Severance (1970) reported no main effect for discrepancy, although its interaction with ego-involvement was significant and in the direction predicted by the Social Judgment-Involvement framework. Hovland,
Harvey, and Sherif (1957), employing a highly controversial and ego-involving issue (i.e., alcohol prohibition), found that attitude change decreased as position discrepancy increased. Hovland, Harvey, and Sherif cogently depicted the important mediating effect of ego-involvement on position discrepancy, postulating that

with low ego-involvement issues one would anticipate increase in opinion change with increased separation over a considerable range, whereas with high involvement issues one would expect opinion change over only a narrow range of separation, with resistance to acceptance of the communication for the remaining distances (1957, p. 251).

Insko, Murashima, and Saiyadain (1966) argued that many studies demonstrating a linear relationship between position discrepancy and attitude change might have found a curvilinear connection if position discrepancy had been explored into more extreme regions. Thus, Bochner and Insko (1966) studied position discrepancy for a finite dimension (which permitted the establishment of extreme discrepancies), hypothesizing a curvilinear relationship for discrepancy and change. They required subjects to read a three page essay which argued for a reduction of sleeping time and assessed subjects' opinions regarding sleep, disparagement of the message, and disparagement of the source. Bochner and Insko obtained a complex effect for position discrepancy, such that opinion change increased through moderately extreme discrepancies and then weakened in the most extreme of the eight experimental conditions. They did indicate that their position discrepancy dimension was not intervally-scaled psychologically, thereby producing greater perceived differences at the extreme positions. Observing that this situation may have limited the results, Bochner and Insko suggested that "the most extreme communication should be far enough along the dimension so that
any possible further extreme communication would appear only trivally
different" (1966, p. 621). The implication is that many studies re-
porting a positive relationship between position discrepancy and
attitude change may have employed inadequate discrepancy parameters, thus
yielding results reflecting only a portion of the social influence curve.
Finally, it is worth noting that the topic of the optimal number of
hours of sleep is seemingly not very ego-involving. While this sub-
ject may possess some importance for people, it is unlikely that deep-
seated, intense attitudes have been formed previously, that a person's
reference groups exert much influence, or that significant needs are
involved in holding an attitude about this topic. In this context,
Bochner and Insko's suggestion of a nonmonotonic relationship between
position discrepancy and attitude change is especially significant.
Reconciling Conflicting Research Concerning Position Discrepancy

This analysis of the experimental literature concerning position
discrepancy has revealed highly conflicting results. In fact, Whittaker
(in Beisecker and Parson, 1972) summarized this research by noting that
"...it is surprising that when we look to the psychological literature
for an answer to the discrepancy problem, we find a mass of contradictory
evidence" (p. 377). Thus, he scrutinized several attitude change studies
in attempting to reconcile these disparate experimental findings. Al-
though several studies reported a positive, linear relationship between
position discrepancy and attitude change, Whittaker attributed these
results to low levels of ego-involvement, inadequate parameters within
experimental designs, high degrees of source credibility, or some com-
bination of these factors. Indeed, Whittaker (1963) partially replicated
Hovland and Pritzker's study to identify the mediating role which these
factors assume in the persuasion process. He included three of their twelve topics and nine new topics, employing different degrees of ego-involvement, less credible sources, greater opinion discrepancies, and an expanded response scale. While the experimental results were similar for the three topics retained from Hovland and Pritzker's research, Whittaker did not otherwise obtain a linear relationship between discrepancy and attitude change.

In rejecting a generalizable linear connection between these variables, Whittaker asserted the importance of an appropriate theoretical framework to generate predictions. He rejected cognitive dissonance theory, arguing, for example, that "Festinger's theory would lead us to predict that under some circumstances, the more biased and propagandistic we perceive a communication to be, the more likely we are to be influenced by it" (Whittaker, in Beisecker and Parson, 1972, p. 380). Instead, Whittaker believed that the Social Judgment-Involvement approach, which focuses upon latitudes and yields complete attitudinal profiles, presents a more veridical picture of the discrepancy-change relationship. Whittaker stated that "in general, it has been demonstrated in several experiments that as the individual's own position becomes more extreme, his tolerance for other positions diminishes" (in Beisecker and Parson, 1972, p. 380). Further, as a message moves further from a receiver's position while remaining in or adjacent to his latitude of acceptance, its effectiveness should increase; as the message moves into the person's latitude of rejection, persuasive effects should dissipate. Hence, Whittaker convincingly proposed a curvilinear relationship between position discrepancy and attitude change. He incorporated ego-involvement into this framework, positing that as it increases, the range of messages deemed acceptable
and productive of attitude change becomes more constricted. While he concurred with Freedman's (1964) report of a curvilinear relationship under conditions of high ego-involvement, he disagreed with the finding of a linear connection between position discrepancy and attitude change under low ego-involvement. Whittaker argued that Freedman "neglected to employ adequate parameters, at least under the condition of low involvement. Had he increased the discrepancy still more under this condition, decreased change would doubtless have been the result" (in Beisecker and Parson, 1972, p. 387). This statement depicts Whittaker's prediction of a curvilinear relationship between discrepancy and attitude change, regardless of the level of ego-involvement. As Whittaker notes that "involvement is important insofar as it determines the relative sizes of the latitudes of acceptance and rejection..." (in Beisecker and Parson, 1972, p. 390), it appears he would agree that the peak of the attitude change curve occurs further out under conditions of low versus high ego-involvement. Here, Whittaker concluded that if persuasive speakers wish to be effective, the stands they present should be predicated on knowledge of the optimal discrepancy existing for specific audiences on specific issues. Even more important, from a conceptual standpoint, is the implication that a resolution to the position discrepancy-attitude change relationship depends on identifying the entire attitudinal spectrum (rather than just a portion of the influence curve) and other interacting variables (e.g., ego-involvement, source credibility) which mediate the effects of discrepancy in the persuasion process. Hence, the next section examines the importance of source credibility as a factor in attitude change.
Source Credibility

According to Andersen and Clevenger (1963), ethos refers to "the image held of a communicator at a given time by a receiver—either one person or a group" (p. 59). Furthermore, Rosenthal (1966) noted that the effects of a persuasive message can be logical and emotional in nature. He thus asserted that "it is inappropriate and misleading to speak of ethos as we speak of logic and emotion—as a basic element of the communicative interaction—until such time as an 'ethical' physiological base can be established" (Rosenthal, 1966, p. 116). Hence, Rosenthal conceived ethos, not as a basic element of the persuasion process, but as an end product of the combined logical and emotional responses to a message. Additionally, he maintained that when delivering a speech, two distinct objects are potential foci of listener reaction: the message and the total personality of the speaker. Although not mutually exclusive, one element typically dominates the social influence process. Rosenthal stated that ethos, which is conveyed by the entire rhetorical situation, involves personal persuasion, as the message functions primarily as a medium by which the speaker's personality activates the dominant value response. Hence, initial consideration of source credibility must focus upon the dimensions of personality which it constitutes.

Giffin (1967) surveyed various theoretical attempts to define ethos and identify its underlying dimensions. As he noted, Aristotle postulated that ethos entails a favorable disposition toward a speaker, denoting the speaker's character as perceived by the listener. Hovland, Janis, and Kelley (1953) extended this definition in asserting that source credibility is the resultant value of
(1) the extent to which a communicator is perceived to be a source of valid assertions (his "expertness") and (2) the degree of confidence in the communicator's intent to communicate the assertions he considers most valid (his "trustworthiness") (p. 21).

Their approach paralleled Aristotle's (in McKeon, 1941), which listed intelligence, good will, and good character as the main constituents of source credibility. More recently, factor analytic procedures have permitted empirical discovery of major dimensions of ethos. For example, McCroskey (1966) and McCroskey and Dunham (1966) identified authoritativeness and character as the two key attributes. Similarly, Bowers and Phillips (1967) concluded that "apparently, trustworthiness and competence are appropriate perceptual dimensions for semantic-differential tests of source-concept constructions as well as for tests of sources separated from their concepts" (p. 186). Berlo, Lemert, and Mertz (1969) uncovered three major factors of source credibility: safety, qualification, and dynamism. Whitehead (1968) found different orderings of structure for low and high credible sources, although the dimensions were identical: Berlo, Lemert, and Mertz's (1969) three dimensions and objectivity. Whitehead concluded that "clearly, we can no longer regard ethos or source credibility as simply a three-factor structure composed of expertness, trustworthiness, and dynamism, since more than three factors emerged" (1968, p. 63). Applbaum and Anatol (1972) investigated the variant factor structure of source credibility within the context of situations in which communication typically occurs. Examining a classroom speech and lecture, a church sermon, and a speech to a social organization, they uncovered the following dimensions: trustworthiness, expertness, dynamism, objectivity, and combinations of these dimensions. The relative importance of these factors varied across situations,
however, leading Applbaum and Anatol to conclude that "the structure of the source credibility factors in the three situations indicates that there are differences between the receiver's perceptions of what qualities a speaker should possess in different situations" (1972, p. 221). Despite slight differences, however, Giffin (1967) observed that the consistency of identification and ordering of these factors is remarkable across several investigations regarding the nature of source credibility.

Source Credibility and Social Judgment Processes

Sherif, Sherif, and Nebergall (1965) adopted an interesting approach to studying source credibility effects, contending that "credibility and like terms do not represent attributes of communicators, they represent judgments by the listeners" (p. 221). Further, they postulated that a source's credibility, especially when high, is an additional, potent anchor for an individual in placing a communication. Here, high source credibility is expected generally to extend the receiver's latitude of acceptance and produce considerable assimilation, whereas low source credibility perhaps constricts this attitudinal range and produces increasing contrast effects. Manis (1961B) examined the impact of source prestige upon subjects' interpretations of opinion statements. He found that

when the experimental messages were presented as coming from high prestige sources, subjects tended to displace the communicators toward the end of the scale that they themselves favored; when these same messages were presented as coming from low prestige sources, there was no consistent relationship between the subjects' attitudes and their interpretations of the messages (Manis, 1961B, p. 84).

Manis explained these results by reference to position discrepancy and cognitive dissonance theory. Specifically, he noted that for any
appreciable communicator-recipient discrepancy, veridical interpretations would have created more pressure to change in the high versus low prestige condition. In the former situation, then, opposing messages were typically assimilated toward the recipient's stand; in the low prestige condition, however, where veridical interpretations would probably generate little pressure to change, there was scant motivation to distort.

Other studies have examined the effects of source credibility on learning and retention. For instance, Hovland and Weiss (1951) reported that neither the acquisition nor the retention of factual information is affected by the source's trustworthiness. Hendrick and Shaffer (1970) varied extraneous arousal (high versus low message volume) and source credibility to study their individual and interactive effects upon learning and persuasion. They suggested that as high arousal should generally enhance attitude change, the impact of source credibility should diminish significantly. While main effects were discovered in relation to dependent measures for arousal level, no significant difference in learning was observed for the source credibility manipulation. Gilkinson, Paulson, and Sikkink (1954) hypothesized that a speaker's use of statements made by prestigious or expert persons to support arguments would enhance his ethos and produce greater belief, retention, and convincingness regarding the subject matter. They found that "authority" and "nonauthority" presentations yielded significant attitude change compared with a control group, but did not differ themselves in terms of attitude shift, retention, or convincingness ratings. Gilkinson, Paulson, and Sikkink noted that

the speeches as a whole were clear statements in which the major propositions were supported by reasoning and
evidence. The inclusion or exclusion of the names and identification of the authorities...might have been a small factor in relation to the total impact of the speech (1954, p. 192).

They also attributed the failure of the intrinsic ethos manipulation to the easy listening task situation and the immediate administration of the retention tests. Generally, these studies indicate that source credibility exerts minimal influence upon learning and retention processes within communicative situations.

Source Credibility and Attitude Change

In considering the impact of ethos upon attitude change, Sherif, Sherif, and Nebergall (1965) asserted that "the assimilation range is smaller when . . . the communicator or source is not prestigious or is identified with a group unfriendly to one's own reference group" (p. 224). Further, Rhine and Severance (1970) indicated that "because of the effect of source credibility on the assimilation range, a given discrepant position will tend to mediate more attitude change if it is advocated by a credible source and less change if it is advocated by a source lacking credibility" (p. 175). In this sense, source credibility operates as an evaluative set influencing the person's acceptance or rejection of the content of a communication. As Fishbein and Ajzen maintained, a highly credible source can increase attitude change "via the reception mediator by increasing the pressure to assimilate the advocated position into the latitude of acceptance or via the acceptance mediator by widening the latitude of acceptance" (1975, p. 457). Although these statements consistently posit a direct relationship between ethos and attitude modification, theoretical consensus in this area is actually lacking. According to Sternthal, Phillips, and Dholakia (1978), "during
the past five years research has focused more on identifying the dimensions underlying a communicator's credibility than on understanding how source credibility affects social influence" (p. 286). They attributed this trend to the unwarranted beliefs that source credibility effects are well-documented and understood. Further, they recommended a systematic literature review pertaining to the joint effects of source credibility on persuasion processes.

Several experiments (e.g., Arnet, Davidson, and Lewis, 1931; Haiman, 1949; Kulp, 1953; Hovland and Weiss, 1951; Kelman and Hovland, 1953; Schulman and Worrall, 1970; Warren, 1969; Watts and McGuire, 1964; Whittaker and Meade, 1968; and Osgood and Tannenbaum, 1955) have reported a positive relationship between source credibility and attitude change. However, Sternthal, Phillips, and Dholakia (1978) argued that there is "considerable evidence indicating that credibility has no effect on social influence in some situations and is a persuasive liability in others" (p. 286). They cited many studies (e.g., Hovland and Mandell, 1952; Rhine and Severance, 1970; Johnson and Scileppi, 1969; Hendrick and Borden, 1970; and Dochner and Insko, 1966) which failed to produce a positive relationship between source credibility and attitude change. Similarly, although many experiments (e.g., Crane, 1970; Crisci and Kassinove, 1973; Ross, 1973; and Woodside and Davenport, 1974, 1976) demonstrated that ethos is directly linked to the capacity to induce behavioral commitment, other research (e.g., Frankel and Kassinove, 1974; and Wasserman and Kassinove, 1976) did not demonstrate this pattern of results. Clearly, the role of source credibility in the persuasion process cannot be stated unequivocally. Instead, it is necessary to delineate precisely the role of source credibility within the overall
social influence situation.

Rosenthal (1966) asserted that ethos influences attitude change most when listener-speaker, listener-message, and listener-environment relationships are appropriately configured. Specifically, when the speaker's intent is seeking personal support, when receivers possess little prior awareness of the message topic, and/or when the topic lacks relationship to the receiver's social and cultural milieu, ethos is a more significant factor in the persuasion process. Similarly, Sternthal, Phillips and Dholakia (1978) observed that "contextual factors have an important mediating effect on the impact of source credibility" (p. 287). They identified these contextual variables as attitudinal persistence of credibility effects, the timing of the source's identification, message factors, and audience individual differences. A few illustrations of the mediating effects of these variables on the source credibility-attitude change relationship is warranted.

Hovland and Weiss (1951) examined the effects of message sources on attitude change using a longitudinal design. The results typically addressed in this study are the capacity for more credible sources to produce greater amounts of immediate attitude change and the temporal deterioration of this effect, such that the low credible source actually generates slightly more attitude change later as there is "a decreased tendency over time to reject the material presented by an untrustworthy source" (Hovland and Weiss, 1951, p. 648). This temporal pattern of attitude change as related to source credibility is called the sleeper effect. Although further study (i.e., Kelman and Hovland, 1953) demonstrated that source effects are sustained when the message sender is reinstated within receivers' perceptual fields, other analyses of the
original data suggest that source credibility assumes a lesser role than other variables in the persuasion process. For instance, Hovland and Weiss found that a greater percentage of subjects who initially agreed with a low credible source rated the message sender as fair and justified in drawing conclusions than persons who initially did not agree with a highly credible source. While this difference is slight and outside the realm of Hovland and Weiss' analysis, it indicates that minimally, position discrepancy mediates the impact of source credibility in the persuasion process. Also, while the highly credible source produced more initial attitude change, this effect declined over time as receivers exhibited forgetting of the content. As Sternthal, Phillips, and Dholakia (1978) noted, "with the passage of time the systematic effect of credibility on persuasion is not maintained" (p. 288). For the untrustworthy source, meanwhile, there was a decreased tendency over time to reject the material presented, thereby enhancing attitude change. Kelman and Hovland (1953), as previously indicated, however, reported that "the effect of reinstatement is to restore almost completely the initial difference between the communications..." (p. 333). Generally, the results of these studies do not provide unequivocal support for a positive relationship between source credibility and attitude change. In fact, Fishbein and Ajzen (1975) summarized this research by stating that "clearly, then, the findings of the Hovland and Weiss study are far from consistent, and they provide only limited support for the conclusion that a high-credibility source produces more opinion change..." (p. 492).

Another temporal aspect of source credibility entails identification of the message sender. Greenberg and Miller (1966) conducted a series of
experiments to determine the relationship between source credibility level, timing of source identification, and subsequent attitude change. They assumed that a message attributed to a low credible source immediately before its presentation would generate maximum resistance to it and minimal favorable attitude change. Greenberg and Miller reasoned that when prior to its presentation, a persuasive message is attributed to a low credible source, the audience is forewarned that the information to follow may be unreliable. This forewarning is likely to cause audience members to ignore the message's persuasive appeals and to retain original attitudes toward the issue discussed (1966, p. 127).

Thus, Greenberg and Miller advanced the following hypotheses:

1. Attribution of a message to a low credible source after its presentation will produce more favorable attitudes towards its proposal than prior attribution to a low credible source.

2. A message from an unidentified source will produce more favorable attitudes than when it is attributed to a low credible source.

3. Immediate attribution of a message to a high credible source will produce more favorable audience attitudes than delayed attribution, while the opposite pattern will obtain for a low credible source.

The experimenters received strong support for their hypotheses, stating that "it can be concluded that when a source is likely to be perceived somewhat unfavorably, delay of information about the source of a persuasive message is more effective than immediate identification of the source" (Greenberg and Miller, 1966, p. 132). Other experiments (e.g., Sternthal, Dholakia, and Leavitt, 1978; Ward and McGinnies, 1974) have yielded similar results concerning temporal identification of the message sender.

Focusing on message variables and audience characteristics, Sternthal, Phillips and Dholakia (1978) observed that for subjects with high
authoritarianism, source credibility is positively related to attitude change only for very simple or highly complex arguments. When the message is comprised of moderately complex arguments, source credibility has no systematic effect on attitude change (e.g., Johnson, Torcivia, and Poprick, 1968). Further, Inske (1967) observed that if a communication is very logical and well supported by evidence, then variation in source credibility may not greatly influence attitude change. Aronson and Golden (1962), reporting that unprejudiced subjects exhibited significantly more opinion change than prejudiced subjects, concluded that "objectively irrelevant aspects of the communicator were a major source of variation" (p. 143). In this instance, topic-irrelevant aspects of the communication interacted with an audience attribute to determine the impact of the speaker's credibility upon attitude change. Finally, source credibility effects are mediated by other social influence variables, including ego-involvement, position discrepancy, and message ambiguity. While later discussion will explore these interactions, the next section examines the nature and role of message ambiguity in the persuasion process.

Message Ambiguity

A consideration of the role of message ambiguity in mediating social judgments and attitude change requires a theoretical examination of the nature of human language. In fact, Burke (1969A) argued that language, motives, and persuasive intentions are inseparable, noting that "in its essence communication involves the use of verbal symbols for purposes of appeal" (p. 271). Most rhetorical scholars focus on the unique symbolic capacity of humans and the relationship of this capacity to the generation of shared meaning within linguistic communities. Uexkull (in Cassirer, 1953) reported that all animals possess a receptor system for
receiving outward stimuli and an effector system for responding to these environmental inputs. In humans a symbolic system intervenes between the receptor and effector systems. As Cassirer (1953) noted, this intervention transforms human life in that "no longer can man confront reality immediately" (p. 43). Thus, human symbolicity mediates intrapersonal perception and interaction patterns.

Burke (1969B) depicted the motivational nature of symbols in asserting that:

men seek for vocabularies that will be faithful reflections of reality. To this end, they must develop vocabularies that are selections of reality. And any selection of reality must, in certain circumstances, function as a reflection of reality. In its selectivity, it is a reduction (p. 50).

The fundamental significance of this contention hinges on the abstractive nature of language. According to Cassirer (1953),

Classification is one of the fundamental features of human speech. To give a name to an object or action is to subsume it under a certain class concept. If this subsumption were once and for all prescribed by the nature of things, it would be unique and uniform. Yet the names which occur in human speech cannot be interpreted in any such invariable manner... The function of a name is always limited to emphasizing a particular aspect of a thing...It is not the function of a name to refer exhaustively to a concrete situation, but merely to single out and dwell upon a certain aspect (pp. 172-173).

This lengthy description clearly captures the partial nature of human symbolic behavior. As Burke (1969B) observed, "to name a thing, is to recognize some principle of identity or continuity running through the discontinuities that, of themselves, would make the world sheer chaos. To note any order whatever is to 'reduce'" (p. 96). Thus, abstractive processes reflect the hierarchically-arranged feature of language.

Each symbol actually represents a linguistic category, with elements being included in the category based upon common possession of some
attributes, while also varying in other respects. As certain symbols are more encompassing than others, they are also more ambiguous, reflecting higher levels of generalization. For instance, Samovar and Porter (1972) posited that "not all denotations have a physical correspondence. As we move to higher levels of abstraction, we often are dealing with words that represent ideas or concepts, which exist only in the mind and do not necessarily have a physical basis" (p. 98). Clearly, the absence of concrete referents indicates that ambiguity is inherent in human language. Further, this ambiguous feature is not limited only to supposedly "abstract" terms. In fact, as all symbols entail abstraction, the entire language is characterized by varying levels of ambiguity. Rapoport (1963) accurately captured the implications of linguistic abstraction, positing that

the flexibility of language plays a dual role. On the one hand, it confers on man a practically limitless potentiality for abstracting, thus for accumulating and transmitting stocks of general knowledge organized into deductive systems (science) and so for controlling and molding nature. On the other hand, since man reacts as readily to symbols as to reality, he stands in constant danger of mistaking verbal constructions of his own making for reality, regardless of whether the former correspond to the latter (pp. 440-441).

As Haney (1973) noted, the ambiguous nature of language causes bypassing, the miscommunication pattern which occurs when the message sender and message receiver miss each other with their meanings. As codification of experience involves a shift from the actual experience to a description of the incident, communicative misunderstanding can occur accidentally by poor codification by the sender, differential shifts by sender and receiver from direct to expressed experiences, and divergent denotative/connotative structuring of the meaning situation. Further, the ambiguous nature of human language can be intentionally
manipulated by the message sender. Haney astutely observed that "...the deliberate and judicious selection and suppression of detail can be a most cunning device for deception" (1973, p. 311). Similarly, Burke (1969b) stated that "the most clear-sounding of words can thus be used for the vaguest of reference..." (p. 52). Thus, it seems highly appropriate to acknowledge the effects of message ambiguity on receivers in communicative situations.

Characteristics of Message Ambiguity

Some communication theorists have identified characteristics of message ambiguity. For example, Campbell, Lewis, and Hunt (1958) posited that one aspect of semantic ambiguity is its situationally relative nature. As they noted, the term "heavy" derives its meaning from the specific comparative setting in which it is used. A sixteen pound bowling ball may be considered heavy in comparison with lightweight bowling balls but construed as light when compared with other personal possessions during the course of moving one's belongings to another house.

Rosenthal (1971) examined the specificity and verifiability of linguistic statements, especially as these concepts relate to message credibility and persuasive impact. Acknowledging that persuasive messages can contain five statement types (i.e., policy, definitional, value, predictive, and empirical), Rosenthal maintained that only empirical statements, which entail assertions purported to furnish empirical data about persons, events, or conditions in the real world, permit tests of credibility and verifiability. His rationale involved the ability of a message receiver to affirm, doubt, or deny the empirical object directly or through expert testimony. Rosenthal focused upon the ambiguity of empirical statements, which regarded the "capacity of a term or statement
in conventional usage to absorb a multiplicity of different specific meanings, the common feature(s) of which exists only at a high level of abstraction" (1971, p. 396). Although he suggested that message credibility is augmented by the specificity of the reality represented, Rosenthal also considered the perceptual operations involved in decoding an ambiguous message. Specifically, he contended there is a relationship between semantic ambiguity and the extent to which a receiver's attitudes mediate the perceptual situation. According to Rosenthal,

Ambiguity permits each receiver to fit his own knowledge to its semantic frame of reference, and this can evoke the desired motivating data from one segment of the audience while simultaneously inducing another segment to respond to data inimical to the speaker's proposition (1971, p. 397).

By contrast, highly specific statements present a more informationally complete picture of reality and thus do not motivate the person to search for additional data from past experience to give them meaning. In other terms, as semantic ambiguity increases, the likelihood of the receiver's frame of reference assuming an important role in perception and persuasion processes similarly increases. Likewise, Rosenthal noted that for non-verifiable statements, "primary rhetorical impact derives from the nature of the audience to which it has been directed" (1971, p. 400).

Message Ambiguity and Social Judgment Processes

Other communication scholars have examined the nature of message ambiguity and its impact on social judgment processes. For instance, Nebergall (1958) defined rhetorical clarity as the extent to which a speaker's intended meaning for a message agrees with the audience's obtained meaning from the message. He demonstrated that message senders differ in their ability to convey their intended meaning and that, at
least for oral messages, the ability of an audience member to obtain the speaker's intended meaning is related to his verbal ability.

Samovar (1962) defined ambiguity as "words or phrases having more than one meaning" (p. 277) and studied the impact of political affiliation on the interpretation of ambiguous and unequivocal messages in the 1960 Kennedy-Nixon television debates. He selected 24 messages representing 12 issues and had 25 communication experts evaluate their rhetorical clarity. Six ambiguous and six unequivocal passages were retained and manipulation checks revealed that the ambiguous passages had a significantly greater number of reported meanings than the unequivocal statements. Samovar's results, which focused primarily on perceptions of whether the message sender stated a position, were succinctly summarized in the following fashion:

Results of the content analysis, as applied to the interviewee responses, indicated that members of a political organization often found meaning in a message spoken by a speaker whose political affiliation was congruent with their own; when the source of the political message was incongruent with the listener's party many listeners tended to report that the speaker failed to offer any information (1962, pp. 278-279).

Samovar interpreted his results from a cognitive dissonance framework, asserting that people desire to impose structure on and give meaning to their environment. In achieving these goals, people seek to reduce tensions and ambiguity within themselves. When confronted with an ambiguous message, then, people typically impose their frame of reference on the stimulus material and interpret the stimulus in a manner which reduces the debilitating effects of psychological tension and uncertainty. As Samovar (1962) demonstrated, one approach is for a listener "to reaffirm his predispositions by finding meaning in a message that appears to lack meaning" (p. 279).
Steinfatt, Miller, and Bettinghaus (1974) hypothesized that the degree of difficulty in judging the validity of a syllogism would increase directly with the ambiguity of the premise combination associated with that syllogism. As syllogistic reasoning can be viewed as a set of statements comprising a persuasive message, this study clearly pertains to the discussion of message ambiguity. The researchers defined ambiguity as the number of different situational relationships from which the premises of a syllogism could have arisen and noted that greater ambiguity is associated with greater length and complexity of the task situation. Steinfatt, Miller, and Bettinghaus found a strong, positive relationship \((r = .70)\) between syllogistic ambiguity and judgmental difficulty, with an increasing number of errors occurring as ambiguity increased. Steinfatt, Miller, and Bettinghaus concluded that they had offered some data "...which argue for consideration of the ambiguity of a message form as a relevant variable in communication research" (1974, p. 328).

While these studies have focused upon complete communicative messages, some research has explored the ambiguous nature of specific symbols. Simpson (1944, 1945) performed a series of experiments concerning the specific quantification of various frequency terms. Assuming that people desire effective communication, Simpson asserted that "accuracy in the realm of expression demands that the reader or hearer know exactly what is meant by the speaker or writer" (1944, p. 328). However, a potential persuasive strategy might involve the intentional manipulation of semantic ambiguity, and Simpson’s results offer insight regarding one particular approach to using language as a persuasive mechanism. He required subjects to indicate the numerical frequency
(i.e., meaning) of 33 terms and computed the "meaning norm" for each item. Although some terms produced quite stable meanings, Simpson noted that "it is also interesting to see that the terms 'never' and 'always,' which one might think could be taken literally or exactly, actually have some elasticity of meaning" (1944, p. 330). Further, many items (e.g., "often," "generally," and "frequently") yielded highly variable meanings, such that "...the same term had a very different meaning for some individuals as compared with the meaning it had for other individuals" (Simpson, 1945, p. 328). Simpson reported no differences between subjects of varying educational level, gender, or regional location, suggesting strong consistency of his experimental results. Interestingly, few terms possessed intermediate meaning, prompting Simpson to observe that "there are perhaps some areas of 'frequency of occurrence' in which there is a paucity of appropriate terms" (1944, p. 330). As these few intermediate items had greater variability of meaning, they appear particularly susceptible to ambiguity effects. Additionally, Simpson noted that word meanings are contextually bound and that communicators using the terms discussed in his articles should be cognizant of their high elasticity of meaning.

Manis (1961A) directly addressed the relationship of semantic ambiguity to perceptual judgments of persuasive messages. Stating that "perception theorists have suggested that in ambiguous stimulus situations, the lack of environmental constraint may serve to magnify the importance of organismic variables" (1961A, p. 76), Manis predicted that ambiguous opinion statements would be more susceptible to attitude-related distortions than non-ambiguous statements. While the ambiguity manipulation produced a displacement of the subjects' judgments toward
the midpoint of the attitude scale, it did not yield increased differences between the judgments of the various recipient groups. Manis indicated that his failure to support the ambiguity hypothesis may have resulted from various factors. For instance, his word-deletion procedure (an artificial manipulation of message ambiguity) may have toned down the extremity of the opinion statements. Also, the focus of the study, which stressed judgmental accuracy rather than attitude change, may have over-ridden the ambiguity manipulation. Finally, Manis distinguished between free-choice (i.e., few response demands) and forced-choice situations, observing that the experimental emphasis on message evaluation severely constrained the subjects' response behavior. As such, Manis noted that perhaps "the introduction of ambiguity served mainly to increase the subjects' uncertainty as to the correct response" (1961A, p. 79) and indicated that his original prediction concerning message ambiguity was limited perhaps to free-choice situations.

**Message Ambiguity and Motivation**

Generally, the research reviewed in this section indicates that message ambiguity exerts a significant influence upon perception processes. This finding is consistent with the Social Judgment-Involvement approach, which considers the effects of ambiguity on a receiver's attitudinal ranges. According to Sherif and Cantril (1947), people need stable ego-attitudes to ensure personal security and ordinarily view the experience of ambiguity as unpleasant. This negative evaluation of ambiguity may be related to a societal value of decisiveness; at any rate, a restructured framework regarding the stimulus material frequently results. As Sherif, Sherif, and Nebergall (1965) noted, the major limit of possible attitudinal positions on an issue involves "the
bounds of linguistic categories available in the social setting" (p. 10). In other terms, the positions on an attitude scale are defined by the symbolically known stands which have been advocated regarding the issue. Further, Sherif, Sherif, and Nebergall asserted that "the anchoring effect of the individual's own stand is revealed in his judgments to the extent that the stimulus items lack objective attributes associated with consensual placement in a given category" (1965, p. 133). Thus, to the extent that communicative messages are ambiguous, they are amenable to displacement as a function of the individual's own stand. Specifically, Sherif, Sherif, and Nebergall maintained that "the more the communication situation lacks structure (thus, the more alternative interpretations of it are possible), the wider the range of discrepancies in which assimilation will occur" (1965, p. 187). These theorists acknowledged, though, that the impact of message ambiguity is moderated by other social influence variables (e.g., ego-involvement, source credibility). Zimbardo (1960B), analyzing the relationship of verbal ambiguity and judgmental distortion, reported a consistent, systematic relationship between displacement and attitude position for statements with indeterminate meaning (e.g., "Anyone who has known a scientist personally will know why science is where it is today"). Whereas well-structured items, double-barreled statements, and assertions containing an ambiguous word did not induce judgmental distortion, ambiguous stimuli of the indeterminate type produced an assimilation effect, with respondents' personal attitudes serving as judgmental anchors. This experiment, then, provided partial support for a message ambiguity-judgmental distortion link within the Social Judgment-Involvement framework.

Having established a connection between ambiguity and Social Judgment
processes, it is necessary to consider the effects of message ambiguity on attitude change. A survey of the relevant experimental literature reveals that persuasive impact has been examined for stimulus ambiguity and message ambiguity. These studies are examined in the following sections.

Stimulus Ambiguity and Attitude Change

Katz (in Sereno and Mortensen, 1970) suggested that "any situation... which is ambiguous for the individual is likely to produce attitude change" (p. 259). When ambiguity exists, people, in reaching for a ready solution, are more likely to be susceptible to social influence attempts. Luchins (in Sherif and Cantril, 1947), studying the effect of persuasive communications in regard to complex drawings, concluded that as stimulus ambiguity increases, the effect of social influence in producing attitude change is proportionally magnified. Apparently, as a stimulus field lacks structure, the role of factors not inherent in the stimulus itself (e.g., the person's own stand) becomes more important in regard to attitude change. Further, Insko, Murashima, and Saiyadain (1966), maintaining that "ambiguity should operate so as to require a more discrepant communication before conformity would produce inconsistency with already held cognitions and so as to allow more conformity along the entire discrepancy dimension" (p. 265), used a numerosity estimation task and found support for their contention.

Group dynamics research concerning conformity behavior illuminates the role of stimulus ambiguity in the social influence process. As Shaw (1976) observed, "the stimulus situation exerts a powerful influence upon conformity behavior; it appears to be the most powerful set of variables that has been identified" (p. 254). Conformity studies have
utilized various stimulus materials, including the autokinetic effect, metronome clicks, line lengths, and geometric figures. For instance, Sherif and Sherif (1956) reported that 75% of their subjects yielded to unanimous group pressure in the autokinetic situation. Shaw, Rothschild, and Strickland (1957) observed 50% conformity to the perceived group norm using metronome clicks, while Nickols (1964) found 50% conformity behavior for judgments of the areas of geometric figures. Finally, Asch's (1951) classic study of line lengths demonstrated 33% conformity behavior to a false group norm. These studies are presented in order of decreasing stimulus ambiguity and Shaw (1976) concluded that "in general, the more ambiguous the stimulus situation, the greater will be the conformity behavior" (p. 254). Clearly, message receivers' responses within social situations are influenced by the ambiguity of the stimulus material. While these studies involve stimulus ambiguity, other experiments have focused directly upon the degree of clarity or ambiguity of persuasive messages and are examined in the next section.

Message Ambiguity and Attitude Change

While many studies have focused upon message variables (e.g., primary-recency, fear appeals, implicit versus explicit conclusion-making), little attention has been devoted to the actual language which comprises persuasive messages. McEwen and Greenberg (1970) studied message intensity, which refers to the "strength or degree of emphasis with which a source states his attitudinal position toward a topic" (p. 340). This variable was manipulated through modifiers and verb forms, with words such as "positively," "extremely," "causes," and "must" reflecting high message intensity, and "perhaps," "slightly," "may cause," and "could" indicating low message intensity. McEwen and Greenberg's
research considered perceptions of message clarity, quality, and logicality, thereby pertaining to message ambiguity and warranting attention. Specifically, their operationalization of message intensity involved symbols which vary in terms of definiteness. Although McEwen and Greenberg observed no significant differences between message intensity levels concerning attitude change, they discovered that perceptions of message clarity vary directly with message intensity. McEwen and Greenberg summarized the importance of message intensity within their research by suggesting that

message intensity may be dealt with as an organizing construct for a set of objective message characteristics which contribute to perceptions of how strongly a given source "feels" about a given issue. Certain existing concepts, such as strength of fear appeal, one-sidedness, or opinionated language might attain greater conceptual clarity in the context of this broader framework (1969, p. 265).

Several other researchers have examined the effects of language intensity and opinionated statements upon attitude change processes. Bowers (1963) defined language intensity as "the quality of language which indicates the degree to which the speaker's attitude toward a concept deviates from neutrality" (p. 245). In other terms, intense language expresses the direction and strength of the source's attitude toward a topic. Although judgments of intensity are somewhat relative, there is some societal agreement regarding what constitutes intense language usage. As Bowers (1964) observed,

Apparently, a culture enforces on its members enough common experiences with the connotative dimension of language so that with some training and under controlled circumstances two groups within the culture can agree almost perfectly on direction and strength of language intensity (p. 416).

He hypothesized that language intensity would be positively related to
attitude change and that speeches using highly intense language would produce greater changes in perceptions of source credibility than speeches using language of low intensity. Neither hypothesis was supported and Bowers (1963) further observed that his results did not indicate a linear relationship between position discrepancy and attitude change. Bowers noted, though, that "the most obvious explanation is that altering the strength of language is not the same variable as changing the extent of a request" (1963, p. 351). In a later study, Bowers (1964) attempted to identify correlates of language intensity. Using the mean ratings of 16 judges, he found a significant relationship between intensity and obscurity of terms ($r = .59$), presence of qualifiers ($r = .82$), and metaphorical quality ($r = .83$). For the latter variable, language intensity was perfectly correlated with sexual and death metaphors.

Other experiments have focused upon the utilization of opinionated versus non-opinionated statements in persuasive messages. Non-opinionated statements normally convey information relating solely to the communicator's attitude toward a particular idea, while opinionated statements express the source's attitude toward the idea and his attitude toward those people who agree or disagree with him. Miller and Lobe (1967) found that opinionated statements were significantly more persuasive than non-opinionated statements for openminded and closedminded receivers. Miller and Baseheart (1969) reported an interaction between the source's initial trustworthiness and the use of opinionated versus non-opinionated statements. For an initially trustworthy source, opinionated statements produced greater attitude change, whereas non-opinionated statements were more persuasive when the source was originally untrustworthy. Mehrley and McCroskey (1970) examined the impact of attitude intensity and
the use of opinionated statements upon attitude change and ratings of source credibility. They advanced the following hypotheses:

1. A message containing opinionated-rejection statements would produce more attitude change than a message containing non-opinionated statements when subjects are initially neutral toward the topic.

2. A discrepant message containing non-opinionated statements will produce more attitude change than a message with opinionated-rejection statements if subjects initially hold an intense attitude toward the topic.

3. A discrepant message containing non-opinionated statements will produce higher post-communication credibility ratings than a message containing opinionated-rejection statements if subjects initially hold an intense attitude toward the topic.

The neutral topic was U.S. policy toward Brazil and the intensely negative topic was the Ku Klux Klan. Attitudes toward the topics and ratings of source credibility were measured in a pretest-posttest design. All three hypotheses were supported, with Mehrley and McCroskey observing that "the findings of this study confirm the hypothesis that the persuasive effectiveness of a message containing opinionated statements depends partly upon the intensity of a receiver's initial attitude toward the topic of the message" (1970, p. 51).

As previously discussed, the experiments concerning message intensity and opinionated statements are only indirectly related to semantic ambiguity. Other research endeavors, though limited, have focused upon message ambiguity more directly. For instance, Moos and Koslin (1952) reported that vague versus unambiguous quotations, when contained within a persuasive message, were more likely to be influenced by attribution of the message to sources of varying degrees of ethos. Smith (1947), in the aftermath of World War II, attempted to determine whether labeling a controversial statement as "fact" or "rumor" was sufficient to
influence its acceptance. He presented thirteen favorable and thirteen unfavorable statements concerning the Soviet Union to subjects in three label conditions (i.e., no label, fact, and rumor). Smith assessed subjects' attitudes regarding the topic prior to the experimental manipulation and measured their belief strength concerning the statements. He reported a significant effect for labeling, such that "...the fact label swings the subject in the direction of greater belief and that the rumor label edges then toward lesser belief, as compared with no label at all" (1947, p. 84). A more detailed analysis revealed that the difference between "factual" statements and unlabeled items was extremely large, while the discrepancy between "rumor" statements and unlabeled items was relatively small.

Smith accounted for his results by reference to the message recipient's phenomenal field. He asserted that "the rumor label is similar to no label at all in that it constitutes an ambiguous stimulus which forces people to interpret, or structure, the situation for themselves" (1947, p. 86). For this highly ego-involving topic, subjects were quite cautious and utilized the rumor label and their own attitudes to interpret the statements. In fact, Smith observed that "under all labels, scores on the belief scale were correlated positively with scores on the attitude scale; i.e., the pro-Soviet people showed the highest degree of belief on the pro-Soviet items and the anti-Soviet people the lowest, etc" (1947, p. 89). Clearly, manipulating the language within a communicative message influences social judgment and attitude change processes. Unfortunately, the studies examined in this section do not pertain directly to realistic variations in the semantic ambiguity of communicative messages.
The preceding sections have considered main effects regarding ego-involvement, position discrepancy, source credibility, and message ambiguity. In communicative situations, however, these variables operate simultaneously within receivers' phenomenal fields. As such, it is necessary to explore the research pertaining to the interactions of these social influence variables.

**Interactions Concerning Ego-Involvement, Position Discrepancy, Source Credibility, and Message Ambiguity**

This section examines the interactive effects of these variables upon social judgment and attitude change processes. While no research addresses directly the ego-involvement-ambiguity, source credibility-ambiguity, or second and third order interactions which include message ambiguity, the remaining first and second order interactions are discussed.

**The Ego-Involvement and Position Discrepancy Interaction**

The interaction between ego-involvement and position discrepancy within persuasive settings has received moderate empirical attention. Mortensen and Sereno (1970), focusing on communicative and relational implications, hypothesized that as attitudinal discrepancy increases, there would be greater differences between highly and slightly ego-involved persons in perceptions of credibility, predisposition toward communication, and expectations of achieving consensus in regard to another individual. The experimenters reported significant interaction effects along all three output dimensions, such that under extreme position discrepancy, highly ego-involved subjects expressed more negative perceptions of character and authoritiveness, lower predisposition toward communication, and less expectation of consensus-achievement than slightly ego-involved individuals.
The research concerning interpersonal attraction presents a further illustration of the roles of position discrepancy and ego-involvement in social situations. For example, Byrne (1962) convincingly demonstrated that interpersonal attraction is a linear function of similar expressed attitudes. Byrne and Nelson (1964) sought to extend this framework by including topic importance in their experimental design. Newcomb (1956, 1961) had indicated that topic importance is a critical factor in positive/negative reinforcement, noting that "the discovery of agreement between oneself and a new acquaintance regarding some matter of only casual interest will probably be less rewarding than the discovery of agreement concerning one's own pet prejudices" (1956, p. 578). Byrne and Nelson, however, obtained the anticipated main effect for attitude similarity only. They suggested the absence of an effect for topic importance was partially attributable to the experimental design which required subjects to evaluate only one stranger. Thus, Byrne and Nelson (1965) hypothesized that in a multistranger design, attitude similarity-dissimilarity would interact with topic importance in influencing interpersonal attraction. They again reported only the main effect for attitude similarity and concluded that "within a relatively wide range, topic importance is a negligible factor in determining attraction" (1965, p. 450). Although a consistent pattern of results had emerged, Byrne was unable to integrate some other research results into this framework. For example, Smith (1958) had found that when given information about two individuals, the difference in similarity attributed to similar versus dissimilar strangers was greater for high rather than low valence topics. Additionally, Byrne observed that topic importance had not been varied in prior research within the strangers being evaluated. Hence, Byrne, London,
and Griffitt (1968) examined the impact of topic involvement within this methodological context. They reported that "topic importance and/or interest is found to influence the similarity-attraction relationship but only when topics of differential weight are associated with a single stranger" (1968, p. 304). Thus, within a specified range of situations, attitude similarity-dissimilarity (i.e., position discrepancy) and topic involvement (i.e., ego-involvement) are significant factors in determining interpersonal attraction.

The interaction of ego-involvement and position discrepancy has also been examined within persuasion situations. Freedman (1964) manipulated ego-involvement (high-low) and discrepancy (slight-moderate-extreme) in an attempt to ascertain their relationship to attitude change. Ego-involvement, defined as interest in and commitment to a particular issue, was a significant mediating variable of attitude change. A linear relationship between discrepancy and change was obtained for low ego-involvement, while a nonmonotonic relationship occurred under levels of high involvement. Freedman reasoned that maximum change would occur for high ego-involvement when the discrepancy was just below the point at which attitude modification was easier than rejection of the communication. Obviously, the finding that discrepancy and change are not always positively related indicates that modes of resolution besides attitude change, such as derogation of the source and rejection of the message, exist. These factors will be explored later in an attempt to conceptualize more thoroughly the social judgment process. Freedman, then, provided strong evidence for the existence of a significant ego-involvement-position discrepancy interaction as an important determinant of attitude change. Rhine and Severance (1970), using a more complete
design, also obtained this interaction effect for ego-involvement and position discrepancy. Sherif, Sherif, and Nebergall (1965) strongly affirmed this relationship, arguing that "when a communication is extremely discrepant, change toward that communication is never a possible alternative for a highly involved person" (p. x). Other experiments, however, have produced quite divergent results concerning this interaction. For instance, Rule and Renner (1968) failed to obtain an interaction effect for ego-involvement and position discrepancy. Further, Zimbardo (1960A) actually found an additive relationship, such that maximum attitude change was exhibited under the highest levels of these variables.

The Ego-Involvement and Source Credibility Interaction

Several studies (e.g., Bergin, 1962; Johnson and Steiner, 1968; and McGarry and Hendrick, 1974) failed to obtain a significant source credibility effect on attitude change. Although these experiments did not specifically address the ego-involvement-source credibility interaction, Sternthal, Phillips, and Dholakia (1978) asserted that this result was apparently attributable to the fact that subjects were highly involved with the attitude topics. Rhine and Severance (1970), focusing explicitly on the relationship of ego-involvement and source credibility, reported no systematic effect of the latter variable on attitude change and concluded that the impact of source credibility is mediated by various other communicative factors in the persuasion situation. Thus, further theoretical analysis is required to explicate the interactive effects of ego-involvement and source credibility.

Observing that most attitude change research is conducted under low ego-involvement conditions, Johnson and Scileppi (1969) contended that
as ego-involvement increases, individuals evaluate messages more critically and are less susceptible to change. Also, they proposed that source credibility, which "operates as an evaluative 'set' influencing the subject's acceptance or rejection of the content of the communication" (1969, p. 31), mediates the persuasion process. Hence, Johnson and Scileppi proposed that in creating conditions where all subjects evaluate a message critically (i.e., high ego-involvement), there should be no difference in attitude change for high versus low credible sources. Specifically, they hypothesized that "there should be no difference in attitude change to either source under high ego-involvement conditions and the low credibility source under low ego-involvement conditions" (1969, p. 31). In predicting that only the low ego-involvement-high source credibility condition would yield significantly more attitude change, Johnson and Scileppi anticipated a main effect for ego-involvement and an interaction of source credibility and ego-involvement. Their results strongly supported these contentions, as attitude change varied inversely with ego-involvement and were significantly greater for low ego-involvement-high source credibility than in the other conditions. An important aspect of this research is the absence of a main effect for source credibility. Instead, Johnson and Scileppi demonstrated that the impact of this variable is actually mediated by the message recipient's level of ego-involvement. Further, they suggested that most studies which report main effects for source credibility utilized low levels of ego-involvement. Hence, Johnson and Scileppi posited that their findings explain these studies and illustrate the more significant role of ego-involvement. Divesta (1959), who showed that the effects of source pressure (which was likened to source credibility) are considerably
reduced for high versus low ego-involvement conditions in a conformity experiment, provided support for this theoretical condition.

While these results are quite convincing, Sereno (1968) obtained somewhat conflicting evidence in examining the anchoring effects of source credibility in the social influence process. He noted that "most studies on credibility, organization of message, etc., have used fairly uninvolving topics and subjects and may have led to an overemphasis upon the importance of these variables in the persuasive process" (1968, p. 477). Utilizing the Social Judgment-Involvement framework, Sereno suggested that source credibility is a more important anchor under conditions of low versus high ego-involvement. Specifically, he hypothesized that

1. For high versus low ego-involvement, a highly credible source would produce less attitude change.

2. For high versus low ego-involvement, there would be lower evaluations of the message source.

Using a pretest-posttest design for twelve topics and twelve sources, Sereno discovered that high and low ego-involved subjects exhibited significant attitude change. Although less ego-involved subjects displayed more attitude change than highly involved persons, this difference was not statistically significant. Highly involved subjects did, however, significantly lower their evaluation of the message source as compared to less involved subjects. For highly ego-involved individuals, the exhibition of positive attitude change and less favorable source evaluation indicated that various modes of dissonance reduction are not mutually exclusive, but are intimately related to each other. Also, Sereno stated that "high source credibility does not operate independently or apart from characteristics of receivers; it does not uniformly influence subjects
who differ in level of involvement" (1968, p. 480). It should be realized, though, that his results do not wholly warrant this conclusion.

The Position Discrepancy and Source Credibility Interaction

In discussing the collective impact of position discrepancy and source credibility on attitude change, Sherif, Sherif and Nebergall (1965) posited a linear relationship between position discrepancy and persuasive effect when "the communicator is acceptable in terms of the subject's reference group ties, and especially if he is highly prestigious" (p. 189). Various experiments have been designed to systematically examine this complex interaction. Employing a cognitive dissonance paradigm, Aronson, Turner, and Carlsmith (1963) maintained that an individual can restore consistency by changing his opinion, altering the source's beliefs, seeking social support to bolster his viewpoint, or derogating the message source. Reasoning that the second and third possibilities were not experimentally viable, these researchers decided to explore the conditions under which opinion change and source derogation were exhibited by subjects. With highly and moderately credible sources evaluating alliteration in poetry, the subjects' own opinions were measured prior to the presentation and the speakers adopted a position which was minimally, moderately, or highly discrepant from the subjects' viewpoints. Aronson, Turner, and Carlsmith expected that the highly credible source would be hard to derogate, whereas a moderately credible source, depending upon degree of discrepancy from the initial position of the recipient, could either induce opinion change or be disparaged. They reported a positive relationship between discrepancy and change for a highly credible source (although the amount of change between moderate
and high discrepancy was insignificant), while a nonmonotonic relationship, such that opinion change increased through moderate discrepancy and quickly waned thereafter, was obtained for a moderately credible source. Also, despite some unexpected cell means, the mildly credible source was derogated twice as much as the highly credible source.

Bochner and Insko (1966) hypothesized that position discrepancy would be curvilinearly related to attitude change for low and high source credibility and the "hump of the influence curve would occur further out on the discrepancy dimension for the high than the low credibility source; that is, there would be an interaction between the curvilinear trends for the two communication sources" (p. 615). The message topic, as noted earlier, was the reduction of sleeping time, which involved a finite dimension and permitted the manipulation of extreme discrepancies. The experimenters found no main effect for source credibility, although the less credible source was disparaged significantly more than the highly credible source. Bochner and Insko reported a main effect for position discrepancy and an interaction effect for position discrepancy and source credibility, in that the highly credible source was more persuasive at the extreme discrepancies, and surprisingly, less persuasive for slight discrepancies than the less credible message sender. Hence, the results provided some support for the researchers' predictions, as a significant nonlinear relationship between attitude change and discrepancy existed under low credibility, but a significant linear relationship was obtained for high credibility conditions.

While these studies reveal a complex connection between position discrepancy, source credibility, and attitude change, other experiments provide different results. Rhine and Severance (1970), for example,
failed to obtain a significant position discrepancy-source credibility interaction. Eagly's (1974) research also did not indicate an interaction between these social influence variables. In reviewing these varied studies concerning the interactive effects of source credibility and position discrepancy, Sternthal, Phillips, and Dholakia (1978) concluded that highly credible sources generate greater attitude change only for extreme discrepancies. They suggested that

credibility is likely to have a systematic effect on persuasion only when an appeal is highly discrepant from message recipients' initial opinion. When the communication is less discrepant, high and low credibility sources are likely to induce about the same amount of influence (1978, p. 291).

The Position Discrepancy and Ambiguity Interaction

The only variable with which ambiguity has been interactively studied is position discrepancy. Insko, Murashima, and Saiyadain (1966) examined the relationship of position discrepancy and stimulus ambiguity to attitude change within a cognitive dissonance framework. They advanced the following predictions: a curvilinear relationship between position discrepancy and attitude change; a greater total amount of influence with greater ambiguity of the influence object; and a high point of the influence curve further out on the discrepancy dimension for moderate versus low ambiguity.

Insko, Murashima, and Saiyadain required subjects to make numerosity judgments on eight posters. In the low ambiguity conditions, the posters contained 30 figures, while the moderate ambiguity posters consisted of 50 figures. These posters were flashed briefly to pairs of subjects, with the discrepancy manipulation entailing the difference between stooges' judgments and mean control judgments. The experimenters found
a main effect for ambiguity, such that there was generally more influence as stimulus ambiguity increased. There was a significant quadratic relationship between discrepancy and change, although the peak of the influence curve was not significantly different between the two ambiguity conditions. In citing support for the first two hypotheses only, Insko, Murashima, and Saiyadain indicated that support for the third hypothesis might have been gained with a more extreme manipulation of the numerosity dimension.

The Ego-Involvement-Position Discrepancy-Source Credibility Interaction

In 1957, Hovland, Harvey, and Sherif advocated the performance of a factorial experiment incorporating position discrepancy, ego-involvement and source credibility as key mediating variables of attitude change. Rhine and Severance (1970) have conducted the only such study explicitly manipulating these factors, employing two levels of ego-involvement, three levels of position discrepancy, and two levels of source credibility. They selected "increased tuition at the University of California" as the highly involving topic and "allocation of park acreage in Allentown, Pennsylvania" as the minimally important issue for 227 undergraduate students at the University of California, Riverside. Rhine and Severance told subjects they were studying opinions on a variety of issues and wanted evaluations of the fairness of essays written by the experimenters which were purported to summarize different writers' opinions. Hence, all experimental subjects read an essay which was attributed to a source of high or low credibility and quantitatively argued for a certain amount of increased tuition or park acreage. Control subjects were not exposed to an essay, but completed the same response measures as experimental subjects. These measures involved ratio scaling and assessed subjects' attitudes, ego-involvement, perceptions of source credibility
and evaluations of the essays.

The findings of this study are rather disappointing and merit detailed consideration. The only main effect entailed ego-involvement, with more attitude change occurring for low versus high ego-involvement. Further, the only significant interaction regarding attitude change was between ego-involvement and position discrepancy, with these variables being linearly related under low ego-involvement and nonmonotonically linked for high ego-involvement. Other dependent variables, such as changes in ego-involvement, source credibility, message evaluation, and latitudes of acceptance and rejection, were included in the design but do not warrant attention for two reasons. First, these variables transcend the scope of the current research effort. Equally important, though, are the several theoretical and methodological problems which plague this experiment and require careful scrutiny.

One major shortcoming of Rhine and Severance's study concerns their operationalization of attitude. Although they claimed to follow social judgment techniques, they did not utilize the Own Categories Procedure devised by Sherif and Sherif (1967). Instead of requiring subjects to sort various attitudinal items, Rhine and Severance employed a single criterion measure involving thirteen equidistant scale positions. In imposing these quantitative continua (e.g., $0 to $600 by intervals of $50), the researchers neither included subjects' own categories (with corresponding parameters) nor identified a latitude of noncommitment. Further, the manner in which Rhine and Severance obtained and analyzed change scores is highly questionable. Specifically, they used control subjects' evaluations of source credibility, attitudes on the relevant issues, and own ego-involvement in extrapolating to experimental subjects'
responses. For example, they obtained attitude change scores by subtracting the mean attitude position of control subjects from each experimental subject's attitude score. In fact, noting that this group mean is a constant, they actually had the audacity to eliminate it from the arithmetic equation of attitude while retaining the notion of change. Clearly, this comparability of results is unwarranted and probably accounts for some of the unusual results of the study (e.g., the less credible source produced significantly more attitude "change" than the highly credible source under conditions of high ego-involvement). Also, this methodological approach, instead of treating position discrepancy and ego-involvement as subject variables, involved imposing group averages on individual experimental subjects.

If this experiment were sound, it would still require replication to extend the generality of the findings, in terms of refining levels of the independent variables and covering other topical issues. Given the methodological flaws of Rhine and Severance's study, the need for replication is even greater to truly ascertain the interrelationships of position discrepancy, ego-involvement, and source credibility, as they impinge upon attitude change. Additionally, it appears interesting and desirable to include message ambiguity within this conceptual and experimental framework. Thus, the next section specifies the nature of the research problem and provides a rationale for the theoretical predictions.

Statement of the Problem

The extensive literature review indicates several shortcomings regarding the current state of knowledge in the area of social influence processes. In fact, persuasion research is plagued by conflicting re-
results even in areas assumed to be fairly well understood, such as source credibility effects. These inconsistencies of experimental findings extend to main effects of key persuasion variables and their complex interactions. Further, these contradictory results are attributable to several factors, including differences in defining attitudes, methodological diversity, and failure to specify the operation and level of uncontrolled variables within persuasion studies. At a deeper level, the existent research appears to lack an integrative framework from which to interpret experimental findings. Thus, systematic study of important social influence variables is necessary to enhance theoretical understanding of the persuasion process.

Another problem involves the fact that few studies have explicitly and purposefully examined the complex interactions of ego-involvement, position discrepancy, and source credibility. While most studies entail these dimensions implicitly, the focus is typically upon a single variable, accompanied by speculation regarding the operation of other factors. For instance, Hovland and Pritzker (1957) studied only the discrepancy issue explicitly although they provided conjecture concerning the nature and role of ego-involvement for their twelve experimental topics. Few experiments have explored first-level interactions directly, and only Rhine and Severance's (1970) research completely focused upon all three variables. The methodological drawbacks of this study, combined with the paucity of other sufficiently detailed research, presents a void in the social influence literature and demands more complex experimentation.

Finally, despite the consensual acknowledgement of the importance of message factors (e.g., Rosenthal, 1971; McEwen and Greenberg, 1970), no research has been performed which examines the interactive effects of
ego-involvement, position discrepancy, and source credibility with message ambiguity on persuasive effectiveness. As a typical persuasion situation entails all of these variables, an inclusive research design is needed to obtain a comprehensive understanding of their single and interactive roles in attitude change processes. Also, given the preponderance of persuasive messages in the realms of advertising, political campaigns, social movements, and interpersonal exchange, an appreciation of the effects of the aforementioned variables might provide considerable insight regarding persuasive processes and suggest fruitful pragmatic applications for communicators. Hence, this research effort, using the Social Judgment-Involvement approach as an organizing framework, attempts to ascertain the extent to which variously credible sources, at differing attitudinal distances from variously ego-involved receivers, can successfully manipulate message ambiguity to produce substantive attitude change.

Theoretical Predictions

In accordance with the Social Judgment-Involvement framework and prior research concerning ego-involvement, position discrepancy, source credibility, and message ambiguity, certain predictions can be advanced. Social Judgment-Involvement theorists contend that ego-involvement, which reflects topical importance based upon past experience and facilitates alignment with reference groups within the person's social milieu, is the major mediator of attitude change. Several studies (e.g., Rhine and Severance, 1970; Hovland, Harvey, and Sherif, 1957; Sherif, Sherif, and Nebergall, 1965) support this relationship, although some research (e.g., Zimbardo, 1960A) has produced discrepant results. Generally, it appears that the relationship between ego-involvement and attitude
change is generalizable to diverse persuasive situations. As such, it is predicted that as ego-involvement increases, message receivers will exhibit less attitude change.

From the Social Judgment-Involvement perspective, position discrepancy research is more fruitfully interpreted in terms of the individual's latitudinal ranges than the absolute difference between the message sender's and the person's own attitudinal stance. In other words, knowledge concerning where the receiver places a persuasive communication, in terms of his latitudes, would allow more accurate predictions concerning attitudinal reactions than simply identifying the degree of position discrepancy. For slight and perhaps moderate attitudinal discrepancies, a receiver is likely to place a communication within his latitude of acceptance or noncommitment, and some attitude change would be expected. Further, as the likelihood of a message falling within a receiver's latitude of rejection increases as the difference between this individual's and the communicator's position becomes larger, a decrease in attitude change or a boomerang effect (i.e., change in the opposite direction) would be the anticipated result. These generalizations concerning the relationship between amount of position discrepancy and message placement within latitudinal ranges are not always appropriate. Thus, a social influence investigator would require a complete latitudinal profile for a message receiver to make predictions concerning the relationship between position discrepancy and attitude change. While several experiments (e.g., Hovland and Pritzker, 1957; Goldberg, 1954; Zimbardo, 1960A) have demonstrated a positive, linear relationship between these variables, other research efforts (e.g., Rhine and Severance, 1970; Whittaker, 1963; Freedman, 1964) have found a non-
linear connection. These studies entailed different levels of ego-involvement and different ranges of position discrepancy, depicting the fact that position discrepancy is not easily studied in isolation and rendering unequivocal statements concerning its role in the persuasion process tenuous. Provided sufficient range of attitudinal positions is encompassed by the present research endeavor, though, it seems reasonable to predict a curvilinear relationship between position discrepancy and attitude change, with persuasive impact increasing through an individual's latitude of acceptance and noncommitment and declining upon reaching his latitude of rejection.

Social Judgment-Involvement theorists indicate that a source's credibility often serves as an anchorage for judging persuasive messages. Specifically, a highly credible communicator can enlarge a receiver's assimilation range, thereby producing more attitude change than a less credible message sender. These theorists realize, though, that the impact of this anchorage is mediated by other situational factors such as levels of ego-involvement and position discrepancy. Although the supposition that source credibility and attitude change are positively related is almost a cultural truism and is supported by considerable research (e.g., Hovland and Weiss, 1951; Haiman, 1949; Kelman and Hovland, 1953), many studies (e.g., Rhine and Severance, 1970; Johnson and Scileppi, 1969; Bochner and Insko, 1966) have failed to demonstrate this positive relationship. It is interesting to note that most of these latter studies involved multivariable designs, while the former research endeavors tended to focus exclusively upon the effects of source credibility. As these more complex experiments represent more comprehensive approaches, and as source credibility research is
characterized by highly contradictory findings, no systematic relationship between source credibility and attitude change is anticipated in the present study.

According to the Social Judgment-Involvement framework, message ambiguity typically increases the assimilation range of message receivers. However, this relationship is moderated by the recipients' ego-involvement, the source's credibility and the extent of position discrepancy within the persuasive situation. The experimental research concerning this variable deals almost entirely with stimulus ambiguity (e.g., Sherif and Sherif, 1956; Asch, 1951; Nickols, 1964), artificial message ambiguity (e.g., Manis, 1961A), or tangentially related factors (e.g., Smith, 1947; Miller and Baseheart, 1969; McEwen and Greenberg, 1970). The lack of directly pertinent research and the mediating influence of other persuasion variables impedes the generation of a simple hypothesis concerning the connection between message ambiguity and attitude change. Instead, the examination of this relationship will be confined to exploratory study.

Sereno's (1969) analysis of ego-involvement provides considerable insight concerning its interactive effects with position discrepancy, source credibility, and message ambiguity in the persuasion process. He stated that the neglect of ego-involvement as a primary variable in persuasion has produced inconsistent results concerning the effects of external variables on attitude change. In fact, Sereno claimed that "there is a vital need for further experiments to determine the precise effects on attitude response of interactions between ego-involvement and source, message, and other relevant receiver-variables..." (1969, p. 75). For instance, some research (e.g., Freedman, 1964; Rhine and
Severance, 1970) indicates that ego-involvement mediates the relationship between position discrepancy and attitude change. Specifically, a linear connection between discrepancy and change was observed for low ego-involvement, while a curvilinear connection was reported for high ego-involvement. As Insko, Murashima, and Saiyadain (1966) suggested, it is possible that more extreme manipulations of position discrepancy would reveal a nonmonotonic link between this variable and attitude change under low ego-involvement conditions. In this case, a curvilinear link would occur under low and high ego-involvement, with the hump of the influence curve extending further for low versus high involvement. Although some conflicting research results exist (e.g., Rule and Renner, 1968; Zimbardo, 1960A), it is plausible to predict this interactive pattern regarding the influence of ego-involvement and position discrepancy upon attitude change. Some research attention has also been devoted to the interaction between ego-involvement and source credibility. Johnson and Scileppi (1969) and Divesta (1959) reported differential source credibility effects under low versus high ego-involvement. Specifically, the combination of low ego-involvement and high source credibility yielded more attitude change than the other three combinations of these variables. In other words, high source credibility enhances persuasive effectiveness under low ego-involvement but it exerts significantly less impact under high ego-involvement. Sereno (1968) and Rhine and Severance (1970), however, failed to obtain an interactive effect concerning these variables. Despite this conflicting research evidence, the importance of ego-involvement within the Social Judgment-Involvement framework and some experimental results support a source credibility-ego-involvement interaction. Therefore, this interaction is
anticipated such that significantly more attitude change will occur for high source credibility-low ego-involvement conditions than for other combinations of these variables. The interaction of ego-involvement and message ambiguity has received no empirical attention. While prior research indicates an inverse relationship between ego-involvement and attitude change, the mediating impact of message ambiguity is virtually unknown. Thus, examination of this interaction will be exploratory, with no specific hypotheses advanced.

The interactive effects of position discrepancy and source credibility upon attitude change have been fairly well documented. Various studies (e.g., Aronson, Turner, and Carlsmith, 1963; Bochner and Insko, 1966) have demonstrated that while position discrepancy is either linearly or nonmonotonically related to attitude change under high source credibility, it is curvilinearly linked to change for low source credibility. The major difference is that the peak of the influence curve occurs further out along the discrepancy dimension for high versus low credibility. It must be acknowledged, though, that other research (e.g., Rhine and Severance, 1970; Eagly, 1974) did not produce this pattern of results. Thus, further empirical investigation is needed to clarify the relationship between position discrepancy, source credibility, and attitude change. Sternthal, Phillips and Dholakia's (1978) contention that highly credible sources yield significantly more attitude change than less credible sources only for extreme discrepancies seems plausible and consistent with the Social Judgment-Involvement framework. Hence, this interaction between source credibility and position discrepancy is hypothesized. Insko, Murishima, and Saiyadain (1966) performed the only experiment regarding the interactive impact of position discrepancy and
message ambiguity on attitude change. While they found that message ambiguity was directly linked and position discrepancy was curvilinearly related to social influence, the interaction between these variables was not statistically significant. The researchers suggested, though, that their expectation of the high point of the influence curve further out for moderate versus low ambiguity might have been fulfilled had a more extreme manipulation of their numerosity dimension been employed. Thus, this interaction of position discrepancy and message ambiguity is predicted, such that significantly more attitude change will occur for ambiguous versus non-ambiguous messages under moderate and high discrepancy, with no difference expected for low discrepancy conditions. Finally, the interaction between source credibility and message ambiguity has received no explicit experimental attention. Intuitively, the employment of ambiguity would not seem to benefit a highly credible source as much as it might enhance the persuasive effectiveness of a less credible message sender. As the slopes of the influence curves would thus be different for ambiguous versus non-ambiguous messages, this interaction is expected, on an exploratory basis, within the present research effort.

The second order interactions among these social influence variables are quite complex, yet their analysis should reveal considerable information and provide a more thorough picture of persuasion situations. The only second order interaction which has been systematically examined involves ego-involvement, position discrepancy, and source credibility. Specifically, Rhine and Severance (1970) reported that this interaction was not significant. Given the general lack of prior research and the complex nature of these interactions, their analysis will be exploratory rather than predictive within this study. Similarly, the third order
interaction incorporating all four persuasion variables will be limited to only exploratory examination.

In the next chapter, the methodology for the experiment will be described. Special consideration will be given to the relationship between the theoretical predictions and measurement procedures. Then, the appropriate statistical tests will be performed and the results will be presented. Discussion of these results will follow and conclusions concerning the experimental hypotheses will be drawn.
CHAPTER II

PROCEDURES
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This section focuses upon the basic procedures and measurement operations employed during data collection and analysis. A 2 X 2 X 2 X 3 factorial design with unequal cell sizes was utilized in manipulating four between-group variables: source credibility (high/low), message ambiguity (high/low), ego-involvement (high/low), and position discrepancy (high/moderate/low). Ego-involvement and position discrepancy were treated as subject variables, while source credibility and message ambiguity were experimentally manipulated, with subjects randomly assigned to one of the twenty-four cells.

In analyzing the relationship of these variables to attitude change processes, a one-way communication situation was used. Specifically, each subject, whose attitude on the topic of abortion was measured earlier, was exposed to a persuasive message concerning abortion. The communication espoused a particular position on this topic, entailed high or low semantic ambiguity, and was attributed to a highly or minimally credible message source. Additionally, the distance between the receiver's own position regarding abortion and the viewpoint expressed in the persuasive message was experimentally varied. The first independent variable, source credibility, referred to a receiver's image of the communicator, and based upon pilot testing of candidate message sources, was operationalized through two levels. The highly credible source was a medical doctor, whereas the less credible source was a city clerk. Ego-involvement, the second independent variable, entailed the significance attached to a topic by an individual and was treated as a subject
variable. The subjects were administered a pretest assessing their attitude and degree of ego-involvement on various topics. The pretest results were subjected to a median split, thereby placing all individuals below the median in the low ego-involvement conditions and all persons above the median in the high ego-involvement conditions. The next independent variable, position discrepancy, involved the difference between the person's pretest score and the position advocated in the persuasive message which he received. High, moderate, and low position discrepancy were operationalized on comparable nine-point scales as a distance of 7-8, 4-5 and 1-2 units, respectively. The final independent variable, message ambiguity, referred to the capacity of symbols to assume a multiplicity of meanings in the individual's phenomenal field and was experimentally manipulated by drawing upon the theoretical and empirical literature pertinent to this factor. Specifically, the highly ambiguous message contained the following features: words with multiple meanings, vague frequency terms, sentences with indeterminate meaning, less intense terms, less certain words, and symbols occurring in an unclear context. Conversely, the less ambiguous messages were characterized by a relative absence of these semantic attributes. The efficacy of the ambiguity manipulation was determined by pilot testing of messages dealing with the topic of abortion.

Experimental Hypotheses

This section identifies the experimental hypotheses which the research examined. As the predictions focus upon attitude change processes, which were measured using the Own Categories Procedure, main effects and interactions are stated based on the appropriate comparisons of cell means concerning respondents' most acceptable positions and
latitudes. For this latter factor, the size of each latitude (i.e., acceptance, non-commitment, and rejection), in terms of the number of categories within each latitude and the number of items placed in each category, will serve as the dependent measure.

The first chapter has explored prior research concerning the four independent variables and generated theoretical predictions based upon these past findings. As such, the following main effects are anticipated for ego-involvement and position discrepancy:

1. As ego-involvement increases, individuals' attitudes, as reflected by latitude size and most acceptable position, will exhibit less change.
   a. Under high ego-involvement, there will be less difference between individuals' pretest and posttest scores for their most acceptable position than under low ego-involvement.
   b. Under low ego-involvement, individuals' latitudes of acceptance will be larger and their latitudes of rejection will be smaller than under high ego-involvement, in terms of the number of items and the number of categories within these latitudinal ranges.

2. As position discrepancy increases from low to moderate, individuals' attitudes will exhibit greater change in response to a persuasive message; with increases from moderate to high discrepancy, individuals' attitudes will exhibit less change than from low to moderate position discrepancy.
   a. Under moderate versus low position discrepancy, there will be a greater difference between individuals' pretest and posttest scores for their most acceptable position; comparatively, under high versus moderate position discrepancy, there will be a smaller difference between individuals' pretest and posttest scores for their most acceptable position.
   b. Under moderate versus low position discrepancy, individuals' latitudes of acceptance will be larger and their latitudes of rejection will be smaller; under high versus moderate position discrepancy, there will be less increase in individuals' latitudes of acceptance and less decrease in their latitudes of rejection.

No main effect is anticipated for source credibility, while the examination of message ambiguity will be solely for exploratory purposes.
is expected, though, that ambiguity will usually serve to increase attitude change.

As the Social Judgment-Involvement approach emphasizes the importance of ego-involvement, its interactions with other social influence variables are important within this research endeavor. Experimental hypotheses concerning the interactive effects of ego-involvement with position discrepancy and source credibility are stated in the following manner:

3. Under low ego-involvement, increases in position discrepancy will produce greater attitude change until the latitude of rejection is reached; under high ego-involvement, a similar curvilinear relationship is predicted. As the latitude of rejection should be reached more quickly under high ego-involvement, though, the downward trend should be displayed significantly faster under high versus low ego-involvement.

a. Under moderate position discrepancy, there will be a greater difference between individuals' pretest and posttest scores for their most acceptable position for low versus high ego-involvement.

b. Under high position discrepancy, there will be a greater difference between individuals' pretest and posttest scores for their most acceptable position for low versus high ego-involvement.

c. Under high position discrepancy, the difference in means of the most acceptable point between low and high ego-involvement conditions will be greater than the difference between these means under moderate position discrepancy.

d. Under high ego-involvement and moderate position discrepancy, the size of the latitude of acceptance will be smaller and the size of the latitude of rejection will be greater than under low ego-involvement and moderate position discrepancy conditions.

e. Under high ego-involvement and high position discrepancy, the size of the latitude of acceptance will be smaller and the size of the latitude of rejection will be greater than under low ego-involvement and high position discrepancy conditions.

f. Under high position discrepancy, the difference in means of the size of the latitude of acceptance between low and high ego-involvement conditions will be greater than the difference between these means under moderate position discrepancy. Also, under high position discrepancy, the difference in means of the size of the latitude of rejection between low and high ego-involvement conditions will be greater than the difference between these means under moderate position discrepancy.
In relation to hypotheses 3d, 3e, and 3f, latitude size will be assessed in terms of the number of items and categories within each range.

4. Under low ego-involvement, increases in source credibility will yield greater attitude change; under high ego-involvement, increases in source credibility will not produce greater attitude change.
   a. Under low versus high ego-involvement, there will be a greater difference between individuals' pretest and posttest scores for their most acceptable position for the high source credibility situation. Here, the amount of attitude change will be greatest in the low ego-involvement and high source credibility conditions.
   b. Under low ego-involvement, the difference in means of the size of the latitudes of acceptance and rejection between high and low source credibility will be greater than the difference between these means under high ego-involvement conditions.

Again, in regard to hypothesis 4b, latitude size will be operationalized in terms of the number of items and categories within each range.

Further, the interaction of ego-involvement and message ambiguity will be confined to exploratory analysis, although message ambiguity is expected to generate somewhat greater attitude change under low versus high ego-involvement.

The interactions of position discrepancy with source credibility and message ambiguity will also be studied and these predictions are given below.

5. Under high source credibility, position discrepancy will be linearly related to attitude change; under low source credibility, a curvilinear relationship between position discrepancy and attitude change is expected. Thus, the high source credibility and high position discrepancy condition will yield significantly more attitude change than any other combination of levels of these variables.
   a. Under high position discrepancy only, there will be a greater difference between individuals' pretest and posttest scores for their most acceptable position for the high versus low source credibility conditions.
   b. Under high position discrepancy, the difference in means of the size of the latitudes of acceptance and rejection between high and low source credibility will be greater than the difference between these means under low or moderate position discrepancy.
6. Under low position discrepancy, no relationship is anticipated between message ambiguity and attitude change; under moderate and high position discrepancy, more attitude change is expected for the ambiguous versus non-ambiguous message conditions.
   a. Under moderate and high position discrepancy only, there will be a greater difference between individuals' pretest and posttest scores for their most acceptable position for the ambiguous versus non-ambiguous message conditions.
   b. Under high and moderate position discrepancy, the difference in means of the size of the latitude of acceptance and rejection between high and low ambiguity will be greater than the difference between these means under low position discrepancy.

For hypotheses 5b and 6b, latitude size will be assessed in terms of the number of items and categories within each range. Further, the interaction of source credibility and message ambiguity will be merely exploratory. Also, the second order and third order interactions will be examined to provide a more complete picture of the social influence process, although no experimental hypotheses are advanced. In all cases, a probability level of .05 (one-tailed) was utilized in drawing conclusions involving support for or opposition to the experimental hypotheses.

**Experimental Sample—Pilot Test**

There were two experimental samples within this three-part research endeavor. A sample consisting of 84 undergraduate students enrolled at George Mason University during the Fall, 1981 semester was utilized to develop various experimental messages. Specifically, the attitudinal positions advocated (i.e., extreme-pro, neutral, and extreme-anti), the ambiguity manipulation (i.e., presence or absence of semantic ambiguity), and the credibility of topic-relevant sources (i.e., high or low) were tested for their efficacy on the following topics: the legalization of abortion, reinstatement of the military draft, social security benefit cutbacks, and the legalization of marijuana. Eventually, one topic would be chosen as the experimental topic. Each student assessed one
message for each topic, with six of the twelve combinations of message ambiguity, source credibility, and position discrepancy being employed in a limited design, such that source credibility and message ambiguity were always set at the same level (i.e., high-high or low-low). This design was necessitated by limited access to students for pilot testing purposes. Thus, 84 people assessed each message, with 14 individuals being randomly assigned to each of the six variable combinations.

Method—The George Mason University Pilot Test Sample

The George Mason University sample was composed of three introductory level speech communication courses. As a result, the pilot test was administered to these three intact groups. At the beginning of each session, subjects were provided with the following information:

As communication students, you are learning about the nature of the messages which people create. The booklet in front of you contains some communicative messages which have recently appeared in the local newspapers. I would like you to read each message and then respond to the questions on the following page. Please complete this process for all four messages and feel free to ask any questions along the way.

The test booklet (see sample in Appendix A) was composed of two features: the candidate experimental messages; and the message ambiguity, judged attitudinal position, and source credibility scales. The source credibility measures were adopted from the research of Whitehead (1968) and Bowers and Phillips (1967). These items, as well as the ambiguity measures, were seven-point semantic differential scales. In both instances, the scales were designed such that the positive and negative poles were alternated to avoid response bias. The source credibility scales were scored from one to seven (the positive pole). The overall source credibility score entailed the sum of the individual items and
ranged from 12-84 (low to high source credibility). The same procedure was employed for the message ambiguity measures, except that four irrelevant scales (i.e., not interesting-interesting, long-short, inaccurate-accurate, and true-false) were embedded to divert subjects' attention from the main theme of these scales. These seven ambiguity scales were derived from relevant theoretical and experimental literature. Thus, message ambiguity scores ranged from 7-49 (low to high ambiguity).

Finally, a nine-point scale was used to assess subjects' perceptions of the author's position concerning each topic. The nine-point scale was utilized to permit comparability regarding these perceptions and the nine-category pretest measure of experimental subjects' attitudes on each issue for the position discrepancy manipulation. The results of the pilot test influenced the selection of the legalization of abortion as the experimental topic.

For these pilot test ratings, messages were constructed that were intended to represent positions 1 (i.e., extremely unfavorable), 5 (i.e., objectively neutral), and 9 (i.e., extremely favorable) on a nine-point scale regarding the various attitude topics. The 84 pilot test subjects, as previously noted, were asked to evaluate each message's position on a nine-point scale. For the selected topic, abortion, the obtained mean positions were 1.29, 5.39, and 8.54, respectively. These means differed significantly from each other (as determined by one-tailed t-tests) and were extremely close to the intended attitudinal positions. Therefore, minor modifications were made to enhance the obtained-intended position relationships and these new messages were treated as representing points 1, 5, and 9 during the experimental administration.

A t-test was performed for the message sources based upon the
twelve seven-point scales gleaned from the experimental literature. These scores could range from 12 to 84, and the mean scores for the highly credible source (i.e., Dr. Richard Abrams) and the minimally credible source (i.e., Jim Carlton) were 57.5 and 48.2, respectively. The obtained t value of 4.03 exceeded the t-critical value of 1.66 (p<.05), thus indicating a significant difference between the message sources on the pilot test and supporting the use of these sources for the abortion topic in the actual experiment. Similarly, the ambiguity manipulation was subjected to empirical analysis, based upon seven seven-point scales yielding scores ranging from 7 to 49. The high and low message ambiguity means were 27.7 and 21.6, respectively. The t value of 3.35 exceeded the t-critical value of 1.66 (p<.05). Thus, these means were significantly different, supporting their use with the abortion topic.

Each S received either the ambiguous or the unambiguous version of the appropriate message, and the message itself was attributed either to the high or low credible source. The Ss placement within these conditions was, insofar as possible, random. The number of Ss initially assigned to each experimental condition ranged from 14 to 17. Since these assignments were made prior to the Ss return to participate in the second experimental session, S attrition reduced the eventual cell sizes to a range of 8-14.

**Experimental Sample-Pretest-Posttest Design**

The other sample, consisting of 274 students enrolled at the University of Kansas during the Fall, 1981 semester, was subjected to a pretest-posttest experimental design. In the pretest, 368 students completed an attitude questionnaire concerning the following five
topics: the legalization of abortion, reinstatement of the military draft, social security benefit cutbacks, the legalization of marijuana, and the utility of the United States space program. Seven students were subsequently disqualified for yielding grossly inconsistent attitude profiles. In addition to measuring respondents' attitudes, their level of ego-involvement regarding each topic was assessed. Based upon the obtained information and the selection of the legalization of abortion as the experimental topic, the research design was enacted. With position discrepancy and ego-involvement treated as subject variables, random assignment procedures were subsequently employed with the single provision that a nearly equal number of students was chosen for the six combinations which resulted from orthogonally crossing the two levels of ego-involvement with the three levels of position discrepancy. Within this experimental framework, then, subjects were randomly assigned to one of the twenty-four conditions which incorporated the two subject variables, source credibility, and message ambiguity. As 87 subjects did not participate in the latter phase of the study, the final sample size was reduced to 274 individuals. Although cell sizes varied from 8 to 14 subjects, random assignment procedures and the apparent absence of any dropout rate bias supported the contention that the unequal cell sizes were not attributable to any source of systematic bias. Finally, subjects were run in groups comprised of 1 to 15 people, with most groups consisting of 4-9 individuals.

Method-The University of Kansas Experimental Pretest-Posttest Sample

The experiment to test the research hypotheses entailed a pretest-posttest design. 368 students enrolled in introductory speech communication courses voluntarily participated in the pretest, which was run during the first month of the Fall, 1981 semester. Upon entering the
laboratory, all subjects were provided with the following information:

We are studying people's attitudes to determine how they feel about various topics and to see if attitudes have changed much in the last five years. We would very much appreciate your help in completing this survey. Also, we want to assure you that your responses will be kept confidential. We do ask that you place your student number on the line at the top of each page; this request is made to avoid possible problems if the pages later become detached. Thank you very much for your cooperation.

After receiving this background information, subjects were administered the "Kansas Attitude Survey" (see Appendix B). Here, their attitudes and degrees of ego-involvement regarding the five candidate message topics were assessed. The subjects were provided with the following instruction set:

You should find five pages attached to this booklet. Each page deals with one topic and has two sets of items. For the first set, you will notice that there are nine statements about the topic. On the line next to each statement, please place an "A" if the statement is acceptable to you, an "R" if you would reject the statement, and an "N" for any statements which are neither. (Note: You are free to choose how many "A"s, "R"s, and "N"s you assign for each nine-item set). Then, please circle the one statement with which you most agree. The instructions for the second set are given on each page. After doing this, please go on to the next page. Also, please complete all five pages and be sure to place your student number at the top of each page.

Thus, the attitude measurement procedure entailed the use of nine ordered alternatives, with the statements ranging from extremely favorable to extremely unfavorable concerning each issue. This technique involves a modified version of the Own Categories Procedure, with information regarding each individual's latitudes and most acceptable point for a given topic being provided. The ego-involvement scales, adopted from Wheeless' (1974) research, entailed seven-point semantic differential scales. The sum of the individual scale responses yielded an ego-involvement score ranging from 7-49 (low to high ego-involvement). At
the conclusion of the session, subjects were thanked for their participation and reminded that the second research phase, which was unspecified in content, would be conducted in about one month.

Subjects were assigned to experimental conditions according to the following procedure. From the pretest, ego-involvement scores on the abortion topic ranged from 10 to 49, with an arithmetic mean of 37.1 and a median of 37.5. As 179 subjects scored below the median and 182 subjects scored above the median (a fairly close division, given ties) and as the mean and median were quite close, a median split was deemed acceptable. Thus, individuals below the median were included in the low ego-involvement group and people above the median were placed in the high ego-involvement group.

The assignment procedure regarding position discrepancy involved two tasks. First, the most acceptable attitude position expressed by experimental subjects during the pretest was determined. Second, that position was related to one of the messages used in the experiment. As part of the pretest, each S was instructed to circle his most acceptable position on the nine-point attitude scale. Unfortunately, 133 of the 361 Ss (36.8%) failed to follow the instructions and simply noted which of the nine statements concerning abortion were acceptable (A), objectionable (R), or neither acceptable nor objectionable (N). In these cases, an estimating procedure was employed to approximate the most acceptable positions. The following set of rules was used (with the numbers in parentheses representing the frequency of occurrence of each category):

1. When only one A was circled, this statement was treated as the most acceptable (MA) position. (11)

2. When an odd number of A's was used, the middle A was designated as the MA.
a. For three A's, the middle was either the mean of consecutive statements (28), the mean of non-consecutive statements (3), or not the mean and not consecutive statements (20).
b. For five A's, the middle was either the mean of consecutive statements (5) or not the mean and not consecutive statements (4).

3. When an even number of A's was used, the general procedure entailed assigning the MA somewhere in the middle of the acceptable statements.

a. For 2 A's:
i. The A closest to either pole was used. (33)
b. For 4 A's:
i. If consecutive, the middle number closer to either pole was used. (24)
ii. If not consecutive (all cases involved a one point separation between an end and a middle number), the middle number closer to either pole was employed. (5)

As these guidelines suggest, there were three general patterns, with specific variations occurring within each pattern. The numbers in parentheses indicate the frequency of each pattern. Although this estimation procedure was imperfect, it represented a reasonable solution to an unanticipated problem for three reasons. First, the rules were internally consistent and were congruent with the experimental logic. Second, the estimation procedure which treated middle positions as the most acceptable points was supported by research involving the Own Categories Procedure (e.g., Sherif and Hovland, 1953). Finally, the manipulation of position discrepancy, which entailed subjects' most acceptable positions and ratings of the experimental messages, allowed for possible slight errors in this estimation process. Specifically, low, moderate, and high position discrepancy were operationalized as distances of 1-2, 4-5, and 7-8 units on the nine-point scales. Thus, the gaps between these three conditions were created to allow for marginal errors in estimating subjects' most acceptable positions.

Once the Ss' most acceptable positions were identified, they were
assigned to message discrepancy conditions. An attempt was made to obtain relatively equal frequencies for low, moderate, and high position discrepancy conditions. Unfortunately, little control existed concerning this subject variable and the number of subjects with most acceptable positions at points one through nine was not evenly distributed. As a result, some message position-subjects' most acceptable point combinations were not utilized. For example, all subjects with most acceptable positions of 1 or 2 received message position nine, and all but six subjects with most acceptable positions of 8 or 9 were exposed to message position one. These assignments concentrated Ss with extreme initial positions in the high position discrepancy condition. All subjects with most acceptable points of 4 and 6 received message positions 9 and 1, respectively; approximately half of the subjects at position 5 received message 1, with the remainder being exposed to message 9; and the other six subjects at position nine received message 5. These matches reflected the moderate position discrepancy conditions. Finally, subjects with most acceptable positions of 3 or 7 received message 5. This assignment process represented the low position discrepancy conditions. Overall, then, 128, 116, and 117 individuals were assigned to the low, moderate, and high position discrepancy conditions respectively.

At this point, the subject variables were accounted for, with all individuals located in one of the six cells representing the orthogonal crossing of position discrepancy and ego-involvement.

Approximately one month following the pretest, Ss participated in the final phase of the study. This phase entailed the experimental manipulations and administration of the dependent measures. Upon entering the laboratory, subjects were provided with the following information
and instructions:

As you may recall, we are studying people's attitudes to determine how they feel about various topics. Additionally, we are looking at whether the news media, which can exert strong influence on people's attitudes, reports on these topics in an objective manner. Thus, we are here today to seek your help. Specifically, we are going to ask you to examine some statements about the topic of abortion which have appeared in the news media. We will ask you to make some judgments about these statements in a little while. First, though, we want to share a few of the results of the attitude survey. As you might expect, people differed greatly in their opinions. Also, people's attitudes differed significantly based upon which sector of society they belong to. To give you an idea of how other people felt and to better familiarize you with the abortion topic, we have included one person's comments regarding abortion.

At this point, the message source was identified and a brief biographical description of the person was provided (see Appendix C). After reading the appropriate biographical sketch, subjects were exposed to the appropriate experimental message (Appendix D). Upon completion of this task, subjects were provided with the following written instructions:

Having read the comments on abortion, we can proceed to the main focus of this study. As previously indicated, we are interested in whether the media shapes people's attitudes to the degree some people claim. We have gathered a set of statements from the media on abortion. We would like you to read these statements and consider the extent to which they are favorable toward abortion. Then, we would like you to go back through the statements, sorting them into any number of piles you like. Here, each pile should represent what you believe is a distinctly different stand on the abortion issue, with one end category being comprised of the statements which you feel are most favorably disposed toward legalizing abortion. Again, feel free to use whatever number of categories you wish to complete this task and to place whatever number of statements you wish into each category.

At this point, the attitude statements concerning abortion were distributed to the subjects. Sixty-four items (see Appendix E) which spanned the entire attitudinal spectrum and included some ambiguous statements were used. These statements were generated by examining the relevant literature and embodying aspects of message ambiguity in them. Also,
media reports concerning abortion were reviewed to ensure that the statements covered all salient aspects of the abortion topic. Ironically, these neutral and ambiguous items are often rejected in constructing conventional attitude tests. Further, Sherif and Hovland (1965) advocated using Thurstone scales because they provide a margin for judgmental error. As indicated earlier, an objective criterion for judgment was specified and the category at one extreme was given in the experimental instructions. Next, subjects were instructed to sort the statements into whatever number of categories they desired to obtain their overall attitudinal structure. After the sorting task was completed, subjects received the following additional instructions:

Having sorted the abortion statements into piles, please examine them in the following manner: decide which categories are acceptable to you and which categories you would reject based upon the position toward abortion they represent. Then, turn the top card of each pile over, placing a large "A" on this card for all piles you find acceptable, an "R" on this card for all piles you reject, and an "N" on all piles which are left over. Finally, please circle the "A" on the pile which represents the set of statements most acceptable to you.

Thus, subjects provided information concerning the number of categories they utilized, the location of their most acceptable position, and the size of their latitudes of acceptance, rejection, and non-commitment, in terms of the number of categories and the number of items within each of these three attitudinal ranges. At this point, subjects were requested to complete a two page questionnaire containing additional attitude information and manipulation checks (see Appendix F). These items are discussed in subsequent sections of this chapter.

Dependent Measures

Six dependent measures were utilized to assess the degree of attitude change attributable to the persuasive message. The first dependent
measure entailed comparing the location of the S's most acceptable position on the pretest versus the posttest. As the number of categories employed by subjects typically differed from the pretest to the posttest, the Ss most acceptable position was expressed relative to the number of categories used. The following equation was generated and constituted the first dependent measure, with the most favorable position scored as a nine:

\[ \text{Attitude Change}_1 = \frac{\text{Posttest Most Acceptable Position} - \text{Pretest Most Acceptable Position}}{\text{Number of Posttest Categories} - \text{Number of Pretest Categories}} \]

As a result, this measure yielded a score which represents the proportion of attitude change, in terms of the S's most preferred position along the attitude continuum. Also, it should be noted that as the number of pretest categories was established as nine positions, the denominator for the second term in the equation was this constant.

The second dependent measure compared the amount of attitude change received with the amount sought. Operationally, this latter factor is a function of the difference between the S's pretest score and the location of the persuasive message on the attitude continuum. Again, these factors were expressed relative to the number of categories employed by the person. Thus, the second dependent measure was expressed as the following ratio:

\[ \text{Attitude Change}_2 = \frac{\text{Posttest Most Acceptable Position} - \text{Pretest Most Acceptable Position}}{\text{Number of Categories} - \text{Number of Pretest Categories}} - \frac{\text{Pretest Most Acceptable Position} - \text{Message Position}}{\text{Number of Categories} - \text{Number of Categories}} \]

For each component, except the posttest most acceptable position, the
denominator terms (i.e., number of categories) equaled nine. Also, the absolute value of the denominator term was used so that attempted attitude change would always be expressed as a positive number.

The third dependent measure focused upon the number of categories constituting the respondent's latitude of acceptance. Specifically, this measure involved the difference in size of the latitude of acceptance between the pretest and posttest. Again, this difference was expressed relative to the overall number of categories used on the pretest and posttest. The formula for this dependent measure was stated in the following way:

\[
\text{Attitude Change}_3 = \frac{\text{Number of LA Categories-Posttest}}{\text{Number of Posttest Categories Overall}} - \frac{\text{Number of LA Categories-Pretest}}{\text{Number of Pretest Categories Overall}}
\]

Here, the number of overall pretest categories was always nine. Thus, this measure reflected changes in the size of the latitude of acceptance between pretest and posttest relative to the number of attitudinal categories employed by subjects.

The fourth dependent measure was similar to the third measure, focusing instead upon the latitude of rejection. The equation was expressed as:

\[
\text{Attitude Change}_4 = \frac{\text{Number of LR Categories-Pretest}}{\text{Number of Pretest Categories Overall}} - \frac{\text{Number of LR Categories-Posttest}}{\text{Number of Posttest Categories Overall}}
\]

It can be noted that the numerator terms here are reversed as compared with the third equation. This pattern is attributable to the nature of the experimental hypotheses. Specifically, it was predicted that the size of the latitude of acceptance would increase, whereas the size of
the latitude of rejection, as indicated by the number of attitudinal categories, would decrease based upon exposure to the persuasive message.

The fifth and sixth dependent measures were functionally similar to the two previous measures, differentiated only by the fact that these last two measures entailed the number of items, rather than categories, in the subjects' latitudinal ranges. The fifth dependent measure was expressed in the following fashion:

\[
\text{Attitude Change}_5 = \frac{\text{Number of LA Items-Posttest}}{\text{Number of Posttest Items Overall}} - \frac{\text{Number of LA Items-Pretest}}{\text{Number of Pretest Items Overall}}
\]

In this case, the number of overall posttest items was fixed at 64 (i.e., the number of attitudinal statements sorted using the Own Categories Procedure), while the number of overall pretest items was established as nine statements.

The sixth dependent measure involved the number of items in the latitude of rejection and was stated as:

\[
\text{Attitude Change}_6 = \frac{\text{Number of LR Items-Pretest}}{\text{Number of Pretest Items Overall}} - \frac{\text{Number of LR Items-Posttest}}{\text{Number of Posttest Items Overall}}
\]

Again, the denominators were set at 64 and 9, respectively. Also, the terms are reversed, in comparison with equation five, reflecting the directional nature of the experimental hypotheses.

In summary, it should be mentioned that the six dependent measures all yielded proportions. As a relationship between cell means and cell standard deviations sometimes occurs when working with proportions, and as this correlation can confound the experimental results, the cell
mean-cell standard deviation correlations were computed to determine whether a data transformation was required to yield data amenable to statistical analysis. These tests are reported and discussed in the results section.

**Manipulation Checks**

As noted earlier, the questionnaire at the conclusion of the experimental session contained several manipulation checks. For the semantic ambiguity variable, three seven-point scales (i.e., ambiguous-unambiguous; clear-unclear; and vague-not vague) were employed to examine the efficacy of this manipulation. The scores were summed, producing a possible range of 3 (low ambiguity) to 21 (high ambiguity). Next, subjects were asked to identify the author of the passage they had read concerning abortion. Also, four source credibility scales which were utilized in the pilot test (i.e., unknowledgeable-knowledgeable; objective-subjective; untrustworthy-trustworthy; and expert-ignorant) were administered to check this independent variable. The four scales were summed, producing a possible range of 4 (low credibility) to 28 (high credibility). Subjects were then queried regarding their perception of the author’s own position concerning the abortion topic. A nine-point scale, analogous to the pilot test measure, was used to determine the efficacy of the message position manipulation. Also, subjects were asked to state how they thought the message source felt about the legalization of abortion. A nine-point scale was utilized to measure subjects' levels of ego-involvement; as this variable is generally considered to be quite stable, little difference was expected between pretest scores and this posttest measure. Finally, subjects were asked to describe the basis upon which they sorted the 64 attitude statements and to indicate the difficulty level of the sorting
task. They were then thoroughly debriefed and thanked for their participation in the study.

**Data Analysis**

Statistical tests involved performing an analysis of variance with unequal cell sizes. Differences were assessed between groups on the independent variables (source credibility, ego-involvement, position discrepancy, and semantic ambiguity) via the SPSS academic computer program.
CHAPTER III

RESULTS
CHAPTER III
RESULTS

The results of the study are presented in this chapter. An analysis of variance with unequal cell sizes was performed and differences between groups are reported in a manner consistent with the experimental hypotheses. The dependent measures of primary concern are the six attitude change scores. Additionally, the correlations between some sets of dependent variable scores are reported. Finally, general trends from the manipulation checks are identified. Before presenting these results, though, the following section examines the suitability of traditional analysis of variance procedures for providing useful information from the proportions which constituted the dependent measure scores.

Proportions as Dependent Measures

An important theoretical underpinning of this research endeavor is that attitude change is cast most fruitfully in terms of pretest-posttest differences which take into account the nature of the respondent's complete attitudinal profile for a given topic. As a result, the ensuing scores necessarily involve proportions. One potential problem when dealing with proportions is the possibility that significant cell mean-cell standard deviation relationships could produce confounding of the experimental results. As such, a determination of this relationship was deemed necessary as a preliminary step prior to the actual data analysis. The Pearson Product-Moment Correlation was thus computed in regard to the cell means and standard deviations for each of the six dependent measures. Table I provides the results of the correlative
analysis for these measures.

Table I
PEARSON PRODUCT-MOMENT CORRELATIONS
OF CELL MEANS AND STANDARD DEVIATIONS

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Most Acceptable Position (MAP)</td>
<td>-.21</td>
</tr>
<tr>
<td>2. MAP/Possible Change</td>
<td>-.16</td>
</tr>
<tr>
<td>3. Latitude of Acceptance-Categories</td>
<td>.80*</td>
</tr>
<tr>
<td>4. Latitude of Rejection-Categories</td>
<td>.00</td>
</tr>
<tr>
<td>5. Latitude of Acceptance-Items</td>
<td>.36</td>
</tr>
<tr>
<td>6. Latitude of Rejection-Items</td>
<td>.32</td>
</tr>
</tbody>
</table>

*significant at p < .05

As this table indicates, only one of the six correlation coefficients was significant at p < .05 with 22 degrees of freedom (with a critical value of .42). Given these results, it was determined that the cell means and standard deviations were generally unrelated and exerted minimal influence on the distributions of dependent variable scores. As such, the 2 X 2 X 2 X 3 analysis was performed and the results are presented in the next section.

Manipulation Checks

Various items were employed to determine the efficacy of the experimental procedures. These items included a set of conventional attitude assessment scales; perceptions of message ambiguity, source credibility, and the message sender's attitudinal position; an ego-involvement scale; and a determination by subjects of the difficulty level of the sorting task. This section examines these results to assist in the interpretation of the experimental findings.

The first manipulation check involved assessing subjects' attitudes regarding abortion using three conventional nine-point bipolar adjec-
tive scales (i.e., bad-good; necessary-unnecessary; and should be legal—should be illegal). This check was included to determine whether the Own Categories Procedure yielded results similar to or different from conventional attitude scales. Here, the individual's score, which could range from 1 to 27, was correlated with his attitude change scores on the first two experimental dependent measures. Neither correlation coefficient ($r = .004, -.059$) was significant, but the correlation between the experimental measures themselves was statistically significant ($r = .916$).

The next set of manipulation checks focused on subjects' perceptions of the experimental variables. First, their perceptions of the degree of message ambiguity were tapped using the following three seven-point scales: ambiguous-unambiguous; clear-unclear; and vague—not vague. The analysis of variance for these scores, which could range from 1 to 21, revealed no main effect for message ambiguity. In other words, this manipulation did not work in the manner intended. Further, the analysis of variance yielded a main effect for position discrepancy, such that as position discrepancy increased, judgments of the extent of ambiguity were also greater ($p < .01$). Thus, perceptions of message ambiguity were confounded by the individual's attitude regarding the abortion topic.

Four seven-point scales (i.e., unknowledgeable-knowledgeable; objective-subjective; untrustworthy-trustworthy; and expert-ignorant) were employed to determine respondents' perceptions regarding the manipulation of source credibility. This aggregate score spanned from 1 to 28, and the analysis of variance revealed a main effect for source credibility. The highly credible message source was perceived to be more credible than was the minimally credible source across all experimental
conditions. Thus, the manipulation of source credibility was effective.

The third manipulation check involved the extent to which subjects accurately interpreted the message sender's own attitudinal position. A single nine-point scale (i.e., wants it to be legal—does not want it to be legal) was used in conjunction with a written statement to tap into subjects' perceptions in this regard. The results indicated that the vast majority of subjects (255 out of 274) correctly perceived the source's position in terms of making judgments within one scale position of the source's actual position.

Another manipulation check involved subjects' self-reporting of their ego-involvement level on the topic of abortion. A single nine-point scale (i.e., important—unimportant) was utilized. An analysis of variance revealed a main effect for ego-involvement, such that subjects in the high ego-involvement conditions attached significantly greater importance to the abortion topic than individuals in the low ego-involvement conditions. As ego-involvement was treated as a subject variable, with a cutoff at the 50th percentile differentiating low and high ego-involvement, this finding provides support for the ego-involvement manipulation. It should be noted, however, that the cell means, which ranged from 6.09 to 8.33 on the nine-point scale, were quite high for all experimental conditions.

The final manipulation check concerned the degree to which subjects thought that the sorting task of the Own Categories Procedure was difficult. A seven-point scale (i.e., very easy—very difficult) was employed. Cell means ranged from 3.92 to 5.17 with a grand mean of 4.82. These results indicated that subjects experienced moderate difficulty in sorting the 64 attitude statements. Further, when asked to describe
the basis upon which they sorted the items, many subjects provided reasons (e.g., one category for each latitudinal range) which were inconsistent with the experimental instructions.

Main Effects

The following sections examine main effects concerning the four independent variables. The results of the statistical analyses are reported for each variable. Also, the data are interpreted in terms of the experimental hypotheses advanced in the second chapter.

Ego-Involvement

It was hypothesized that significantly greater attitude change would occur under low versus high ego-involvement. This hypothesis was tested by examining the amount of change exhibited from the pretest to the posttest in terms of the individual's most acceptable position, latitude of acceptance size, and latitude of rejection size. For the latter two dimensions, changes in number of categories and items constituted the dependent measures. No main effect was found for ego-involvement along any of the six dependent measures. Hence, the hypothesis of an inverse relationship between ego-involvement and attitude change was not supported. The statistical analyses for this variable, as well as for the other independent variables, are presented in Appendix G.

Position Discrepancy

A complex main effect for position discrepancy was predicted in this study. Specifically, it was hypothesized that a positive relationship would exist between position discrepancy and attitude change, with the greatest amount of change displayed between low and moderate discrepancy conditions. From moderate to high position discrepancy, the attitude change increment was expected to be considerably smaller.
A main effect for position discrepancy was obtained for four of the six dependent measures. These four measures were changes in most acceptable position, most acceptable position relative to possible change, number of categories in the latitude of acceptance, and number of categories in the latitude of rejection. Table II depicts the result of the analysis of variance for the first measure, change in the respondent's most acceptable position. As the cell means indicate, the least attitude change occurred in the moderate discrepancy condition, with the high position discrepancy condition yielding significantly more attitude change than the other two conditions. Of course, it should be noted that, on an absolute level, little attitude change was exhibited on this measure for any of the three position discrepancy conditions.

The second dependent measure, change in the most acceptable position relative to the amount of attitude change sought, also evidenced a main effect for position discrepancy. Table III shows the results of the analysis of variance for this dependent measure. In this case, a positive monotonic relationship between position discrepancy and attitude change was obtained. Again, though, the actual amount of change is quite small. In fact, negative attitude change occurred in the low and moderate discrepancy conditions, with only the high position discrepancy situation displaying significant positive attitude change.

The third dependent measure, change in the number of categories comprising the individual's latitude of acceptance, produced a main effect for position discrepancy. As Table IV indicates, positive attitude change was exhibited under all three discrepancy conditions. The greatest change in the size of the latitude of acceptance occurred
TABLE II
ANALYSIS OF VARIANCE

MOST ACCEPTABLE POSITION CHANGE

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>MS within</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position Discrepancy</td>
<td>.913</td>
<td>2</td>
<td>.456</td>
<td>.071</td>
<td>6.471</td>
<td>.002</td>
</tr>
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</table>

CELL MEANS AND STANDARD DEVIATIONS

MOST ACCEPTABLE POSITION

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>LOW</th>
<th>MODERATE</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>POSITION</td>
<td>.011</td>
<td>-.027</td>
<td>.121</td>
</tr>
<tr>
<td>DISCREPANCY</td>
<td>.235</td>
<td>.121</td>
<td>.247</td>
</tr>
<tr>
<td>N</td>
<td>97</td>
<td>86</td>
<td>91</td>
</tr>
</tbody>
</table>
TABLE III
ANALYSIS OF VARIANCE

MOST ACCEPTABLE POSITION CHANGE RELATIVE
TO AMOUNT OF ATTITUDE CHANGE SOUGHT

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>MS within</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position Discrepancy</td>
<td>4.072</td>
<td>2</td>
<td>2.036</td>
<td>.349</td>
<td>5.831</td>
<td>.003</td>
</tr>
</tbody>
</table>

CELL MEANS AND STANDARD DEVIATIONS

MOST ACCEPTABLE POSITION CHANGE RELATIVE
TO AMOUNT OF ATTITUDE CHANGE SOUGHT

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>LOW</th>
<th>MODERATE</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \bar{X} )</td>
<td>-.151</td>
<td>-.042</td>
<td>.146</td>
</tr>
<tr>
<td>S</td>
<td>.711</td>
<td>.606</td>
<td>.305</td>
</tr>
<tr>
<td>( N )</td>
<td>97</td>
<td>86</td>
<td>91</td>
</tr>
</tbody>
</table>
### TABLE IV

**ANALYSIS OF VARIANCE**

**CHANGE IN LATITUDE OF ACCEPTANCE CATEGORIES**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>MS within</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discrepancy</td>
<td>.297</td>
<td>2</td>
<td>.148</td>
<td>.031</td>
<td>4.776</td>
<td>.009</td>
</tr>
</tbody>
</table>

**CELL MEANS AND STANDARD DEVIATIONS**

**CHANGE IN LATITUDE OF ACCEPTANCE CATEGORIES**

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>LOW</th>
<th>MODERATE</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.032</td>
<td>.098</td>
<td>.045</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POSITION DISCREPANCY</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.180</td>
<td>.224</td>
<td>.159</td>
</tr>
</tbody>
</table>

| N= | 97 | 86 | 91  |
### TABLE V

**ANALYSIS OF VARIANCE**

**CHANGE IN LATITUDE OF REJECTION CATEGORIES**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>MS within</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position Discrepancy</td>
<td>.392</td>
<td>2</td>
<td>.196</td>
<td>.034</td>
<td>5.746</td>
<td>.004</td>
</tr>
</tbody>
</table>

### CELL MEANS AND STANDARD DEVIATIONS

**CHANGE IN LATITUDE OF REJECTION CATEGORIES**

<table>
<thead>
<tr>
<th>POSITION DISCREPANCY</th>
<th>LOW</th>
<th>MODERATE</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>.020</td>
<td>.114</td>
<td>.055</td>
</tr>
<tr>
<td>S</td>
<td>.181</td>
<td>.230</td>
<td>.147</td>
</tr>
<tr>
<td>N</td>
<td>97</td>
<td>86</td>
<td>91</td>
</tr>
</tbody>
</table>
FIGURE I

MAIN EFFECTS FOR POSITION DISCREPANCY

AMOUNT OF ATTITUDE CHANGE

LOW MODERATE HIGH

MEASURE 1

MEASURE 2

MEASURE 4

MEASURE 3

.15
.12
.09
.06
.03
0
-.03
-.06
-.09
-.12
-.15

0
-.06
-.09
-.12
-.15
in the moderate discrepancy condition, with the other two conditions not differing significantly from each other. Thus, a non-monotonic relationship between attitude change and position discrepancy was obtained for this dependent measure, such that more change occurred in moving from low to moderate discrepancy, with the curve turning downward in moving to high position discrepancy.

The final dependent measure which produced a main effect for position discrepancy involved change in the number of latitude of rejection categories. The pattern of results, depicted in Table V, was quite similar to the pattern obtained for the measure of change of latitude of acceptance categories. Specifically, a non-linear relationship existed between position discrepancy and attitude change, such that the number of categories in the latitude of rejection decreased from low to moderate discrepancy, but increased in moving from moderate to high position discrepancy. Again, the most attitude change was exhibited under moderate position discrepancy, with the low and high discrepancy positions not differing significantly from each other.

It is clear that while significant main effects were obtained for position discrepancy along four of the six dependent measures, the specific nature of the main effects varies widely across measures. Figure I provides a graphic representation of the pattern of the four main effects. As this figure demonstrates, attitude change generally increased in moving from low to moderate position discrepancy for these dimensions. In fact, the amount of attitude change in the moderate versus low discrepancy conditions is significantly greater for three of the four dependent measures. Also, while no effect was obtained regarding the number of items in the latitudes of acceptance and rejection,
this same pattern is observed. In moving from moderate to high position discrepancy, however, the results along these four dimensions seriously conflict. For measures one and two, attitude change is a linear, increasing function of position discrepancy; for measures three and four, on the other hand, attitude change is a decreasing, non-monotonic function of position discrepancy. In terms of the experimental hypotheses, it appears that moderate support has been garnered regarding the relationship between position discrepancy and attitude change. Certainly, the differences between low and moderate discrepancy are congruent with the experimental predictions along most of the dependent measures. While the differences between moderate and high position discrepancy are characterized by considerable variation, the obtained patterns of results actually provide some support for the experimental hypotheses. Here, the amount of attitude change for high versus low discrepancy conditions is just slightly (and non-significantly) greater for the two dependent measures in which no main effect was obtained. For measures three and four, attitude change tapered off in moving to high position discrepancy, such that the most change occurred around moderate discrepancy. Only measures one and two revealed increased attitude change in moving from moderate to high position discrepancy. Again, all these results have been interpreted in a comparative context; an absolute assessment of the experimental results suggests that, generally, little positive attitude change was exhibited. The implications of this absolute analysis will be explored in chapter four.

**Source Credibility and Message Ambiguity**

No main effects were predicted for either source credibility or message ambiguity. The analysis of variance for the six dependent
### TABLE VI

**ANALYSIS OF VARIANCE**

**CHANGE IN LATITUDE OF ACCEPTANCE CATEGORIES**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>MS within</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position Discrepancy</td>
<td>.185</td>
<td>2</td>
<td>.092</td>
<td>.031</td>
<td>2.972</td>
<td>.050</td>
</tr>
<tr>
<td>Source Credibility</td>
<td>.164</td>
<td>2</td>
<td>.074</td>
<td>.010</td>
<td>.151</td>
<td>.028</td>
</tr>
</tbody>
</table>

### CELL MEANS AND STANDARD DEVIATIONS

**CHANGE IN LATITUDE OF ACCEPTANCE CATEGORIES**

<table>
<thead>
<tr>
<th>SOURCE CREDIBILITY</th>
<th>LOW</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>POSITION DISCREPANCY</strong></td>
<td>s</td>
<td>s</td>
</tr>
<tr>
<td>LOW</td>
<td>.074</td>
<td>-.023</td>
</tr>
<tr>
<td>MODERATE</td>
<td>.040</td>
<td>.010</td>
</tr>
<tr>
<td>HIGH</td>
<td>.075</td>
<td>.028</td>
</tr>
<tr>
<td></td>
<td>s</td>
<td>s</td>
</tr>
<tr>
<td></td>
<td>.164</td>
<td>.177</td>
</tr>
<tr>
<td></td>
<td>.204</td>
<td>.151</td>
</tr>
<tr>
<td></td>
<td>.186</td>
<td>.157</td>
</tr>
</tbody>
</table>
measures reveals no significant effects for either of these variables. Hence, it does not appear that source credibility or message ambiguity contributed to attitude change exhibited by subjects in response to the experimental messages. The absence of a main effect for source credibility is noteworthy, as it conflicts with some prior research findings. The importance of this result, in the context of this study's main features, is discussed in the next chapter.

Interaction Effects

The following sections examine interaction effects in regard to the four independent variables. The results of the statistical analyses are reported for all combinations of the variables. Also, the data are interpreted in terms of the experimental hypotheses.

Position Discrepancy and Source Credibility

The interaction between position discrepancy and source credibility was predicted to be significantly related to attitude change, as measured by the individual's most acceptable position and latitude size. While the interaction was not significant for the two dependent measures involving the most acceptable position, one of the four measures regarding latitude size yielded significant results. Specifically, Table VI displays the statistical analysis of this interaction for the number of categories in the person's latitude of acceptance. Unfortunately, the pattern of results for this interaction does not correspond with the predicted nature of this effect. Here, it was hypothesized that while minimal differences in attitude change, as indicated by modifications in the individual's latitudinal ranges, would occur between high and low source credibility for low and moderate position discrepancy conditions, significant differences between low and high source credibility would be
FIGURE II
INTERACTION EFFECT OF POSITION DISCREPANCY
AND SOURCE CREDIBILITY FOR CHANGES IN THE
INDIVIDUAL'S LATITUDE OF ACCEPTANCE CATEGORIES

AMOUNT
OF
ATTITUDE
CHANGE

.10
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
-.03

LOW CREDIBILITY

HIGH CREDIBILITY

LOW MODERATE HIGH

POSITION DISCREPANCY
exhibited under high position discrepancy, such that the greatest amount of attitude change would occur under the high credibility-high discrepancy condition. As Figure II depicts, a totally different pattern of results was obtained. The smallest difference between low and high source credibility existed under high position discrepancy, with more attitude change actually being displayed under low source credibility. Further, considerably more attitude change occurred for low versus high source credibility in the low position discrepancy condition. The moderate discrepancy situation involved the sole occurrence of greater attitude change for high versus low source credibility. As Figure II indicates, the attitude change curves stand in an inverse relationship to each other, with a flatter curve existing for low source credibility across the three position discrepancy conditions.

Other First Order Interactions

In addition to the position discrepancy-source credibility interaction, other first order interactions were hypothesized. Specifically, interactions concerning ego-involvement and position discrepancy, ego-involvement and source credibility, and position discrepancy and message ambiguity were predicted. The results of the analyses of variance, though, indicated that no statistical support was garnered for the experimental hypotheses concerning these interactions.

Second and Third Order Interactions

Although no experimental predictions were made regarding second and third order interactions, the results of the statistical tests were analyzed to provide a more complete picture of the social influence process. The only significant result entailed the interaction of message ambiguity, ego-involvement, and source credibility for change in the
latitude of rejection categories. Table VII displays the results of the analysis of variance for this second order interaction. This complex interaction is delineated further in Figure III. As this figure suggests, the greatest amount of attitude change occurred under low message ambiguity, low ego-involvement, and low source credibility. Further, more attitude change was exhibited under low versus high message ambiguity for high ego-involvement and high source credibility conditions. The only situation in which high message ambiguity yielded more attitude change than low ambiguity was for low ego-involvement and high source credibility conditions. Overall, it should be noted again that the absolute level of attitude change was not particularly large in any of the experimental conditions. Having examined the experimental results, the next section addresses manipulation checks which were performed after the study.

Summary

Although the viability of using proportions as dependent measures was demonstrated, the experimental results failed to provide much support for the hypotheses. The hypotheses regarding ego-involvement were not supported, while the predictions concerning position discrepancy received only moderate empirical support. Further, no main effects were obtained for source credibility or message ambiguity. Also, while slight support was garnered for the position discrepancy and source credibility interaction, the other predicted interaction effects were not supported. The manipulation checks provided some indication as to possible reasons why the study findings did not conform with the experimental predictions. The next chapter will analyze the experimental results in considerable detail, devoting particular attention to the results of the manipulation
TABLE VII
ANALYSIS OF VARIANCE
CHANGE IN LATITUDE OF REJECTION CATEGORIES

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>MSwithin</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Ambiguity X Ego-Involvement X Source Credibility</td>
<td>.157</td>
<td>1</td>
<td>.157</td>
<td>.034</td>
<td>4.607</td>
<td>.033</td>
</tr>
</tbody>
</table>

CELL MEANS AND STANDARD DEVIATIONS
CHANGE IN LATITUDE OF REJECTION CATEGORIES

<table>
<thead>
<tr>
<th>Ego-Involvement</th>
<th>Source Credibility</th>
<th>LOW</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOW</td>
<td>x</td>
<td>.122</td>
<td>.024</td>
</tr>
<tr>
<td></td>
<td>s</td>
<td>.178</td>
<td>.157</td>
</tr>
<tr>
<td>HIGH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOW</td>
<td>x</td>
<td>.069</td>
<td>.082</td>
</tr>
<tr>
<td></td>
<td>s</td>
<td>.181</td>
<td>.172</td>
</tr>
<tr>
<td>HIGH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOW</td>
<td>x</td>
<td>.036</td>
<td>.083</td>
</tr>
<tr>
<td></td>
<td>s</td>
<td>.216</td>
<td>.161</td>
</tr>
<tr>
<td>HIGH</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>LOW</td>
<td>x</td>
<td>.036</td>
<td>.083</td>
</tr>
<tr>
<td></td>
<td>s</td>
<td>.214</td>
<td>.171</td>
</tr>
</tbody>
</table>
FIGURE III

INTERACTION EFFECT OF MESSAGE AMBIGUITY, EGO-INvolVEMENT, AND SOURCe CREDIBILITY FOR CHANGES IN THE INDIVIDUAL'S LATITUDE OF REJECTION CATEGORIES
checks and other aspects of the experimental procedures which might account for the lack of significance of many of the study's findings.
CHAPTER IV

DISCUSSION
CHAPTER IV
DISCUSSION

In this chapter, we shall discuss the experimental findings, focusing on the results concerning ego-involvement, source credibility, position discrepancy, and message ambiguity. Also, we shall examine the interaction effects regarding these variables. As the experimental hypotheses were generally not confirmed, methodological factors which may have mediated against obtaining support for these predictions will be explored. In this regard, the results of the manipulation check items should illuminate some of these experimental problems. Also, other methodological difficulties, such as problems in transmitting and interpreting the instructions in the experimental setting, will be considered. In identifying methodological drawbacks inherent in the present study, an attempt will be made to suggest improvements which would facilitate a better test of the experimental hypotheses while retaining the use of the Own Categories Procedure. Finally, we shall suggest directions for future research.

Main Effects

As chapter three indicates, the data analysis identified very few significant results. While a main effect was hypothesized for ego-involvement, no difference was observed regarding attitude change under high versus low ego-involvement conditions. Although methodological difficulties which may have impacted upon the experimental results will be discussed in considerably greater detail in subsequent sections, it should be noted here that the operationalization of ego-involvement could have mediated against obtaining support for the predicted important role of this variable in the persuasion process. Here, a median split
procedure was employed, such that approximately half of the subjects who scored below the median were placed in the low ego-involvement condition and the remainder, who scored above the median on the seven scales, were placed in the high ego-involvement condition. As this median was 37.5 (with scale parameters of 7 to 49), and as the arithmetic mean was 37.1, it is apparent that most subjects scored fairly high, in terms of ego-involvement, on the emotionally charged abortion topic. In other words, the difference between the low and high ego-involvement groups may have been rather slight, with subjects in the low ego-involvement group actually being fairly ego-involved on the abortion topic. Although the posttest manipulation check item regarding ego-involvement indicated a significant difference between these two groups on this variable, the group means (i.e., 6.09 and 8.33 on a nine-point scale) were both toward the high end of the scale. Thus, it appears that the assignment procedures did not really permit a fair test of the differential effects of low and high ego-involvement in regard to amount of attitude change. Instead, the study involved a test between different degrees of high ego-involvement. As such, it is not so surprising that a main effect for this variable was not obtained.

Like ego-involvement, a main effect was predicted for position discrepancy. While a significant effect was obtained for this variable on four of the six dependent measures, these findings do not provide unequivocal support for the experimental hypotheses for two reasons. First, this pattern of results provides only partial support for the experimental predictions, since the dependent measures involving change in the number of items in the individual’s latitudes of acceptance and rejection yielded no differences across the three levels of position
discrepancy. A second, and more important reason, is that the four significant effects (i.e., changes in most acceptable (MA) position, MA relative to amount of change sought, categories in the latitude of acceptance, and categories in the latitude of rejection) are not entirely consistent with each other. It was predicted that the amount of attitude change would be significantly greater between low and moderate, as opposed to between moderate and high, position discrepancy, such that attitude change would increase from low to moderate discrepancy and would then begin to level off in moving toward high position discrepancy. This situation, in which low to moderate discrepancy produced greater positive attitude change than moderate to high discrepancy, held for only two (i.e., number of categories in the individual's latitudes of acceptance and rejection) of the four dependent measures involving a main effect for position discrepancy. A third dependent measure (i.e., change in most acceptable position relative to amount of attitude change sought) displayed significant positive attitude change in moving from low to moderate position discrepancy, with the greatest amount of change occurring, though, under conditions of high position discrepancy. Also, the greatest amount of attitude change was found under high position discrepancy for the dependent measure regarding the individual's most acceptable position. Given these findings, in conjunction with the fact that a limited amount of absolute attitude change was exhibited, it can be concluded that very limited support was garnered for the complex main effect hypothesized for position discrepancy.

The analysis of variance, as reported in chapter 3, revealed no main effects for the other two independent variables, message ambiguity and source credibility. While no main effect was predicted for either
variable, the absence of such effects must be interpreted in light of the methodological difficulties encountered in the study. Whereas message ambiguity was examined solely for exploratory purposes, the results concerning source credibility run counter to the predictions typically advanced concerning the role of this variable in the persuasion process. Thus, the absence of a source credibility effect cannot be taken easily as evidence for the relatively unimportant role attributed to this variable; instead, the lack of significant results may signify methodological problems. These problems will be thoroughly examined in the context of these experimental hypotheses later.

Interaction Effects

The only predicted interaction effect which yielded significant results involved position discrepancy and source credibility in terms of change in the number of latitude of acceptance categories, and the pattern of results contradicted the initial hypothesis. Whereas it was hypothesized that only under high position discrepancy would more attitude change occur for high versus low source credibility, the interaction effect indicated the existence of differences between levels of source credibility for all three levels of position discrepancy, with the minimally credible source actually producing more attitude change than the highly credible source in the high position discrepancy conditions. Consequently, absolutely no support was provided by these findings for the hypotheses concerning the interaction of position discrepancy and source credibility.

Three other first order interactions were postulated in this study. They were between ego-involvement and position discrepancy, ego-involvement and source credibility, and position discrepancy and message
ambiguity. The statistical analyses revealed, however, that no significant relationship existed for these variable pairs along any of the dependent measures. Hence, these hypotheses received no support in this experiment. Finally, while no hypotheses were advanced regarding second and third order interactions, an interaction occurred involving ego-involvement, source credibility, and message ambiguity for change in the number of latitude of rejection categories. Generally, the greatest change occurred under the lower levels of all three variables, with the low ego-involvement, low message ambiguity, and low source credibility condition yielding the largest amount of attitude change for this dependent measure. Still, this single result provides little support for a relationship among the three variables and really is uninterpretable within the context of the experimental hypotheses. Overall, then, none of the hypothesized interaction effects received support from the experimental results. The next section explores various methodological factors which may have contributed to the paucity of significant experimental findings. In this manner, it may be possible to explain the pattern of results obtained in this study.

Interpreting the Experimental Results—Methodological Problems and Considerations

A major source of information regarding the efficacy of the experimental procedures involves the set of manipulation checks. As reported in chapter three, the correlation between conventional attitude scales and the first two dependent measures approached zero. While it must be acknowledged that the dependent measures are attitude change scores, and the conventional scales are posttest attitude measures, it is still reasonable to expect that these measures should be related. The absence
of such a relationship suggests that the dependent measures were plagued by certain problems. These problems will be discussed in considerable detail in a later section of this chapter.

An examination of the manipulation check data regarding the independent variables reveals some problems with their operationalization. As reported in chapter three, the analysis of variance for the message ambiguity manipulation displayed no difference between low and high ambiguity. Further, the existence of a main effect for position discrepancy on this item suggested that perceptions of semantic ambiguity were confounded by the difference between the respondent's own position and the position advocated by the experimental message source on the abortion topic. As a result, it does not appear that the message ambiguity manipulation was successful. In this context, it cannot be easily determined whether the absence of main effect for message ambiguity (or interactions in which this variable participated) is attributable to the relative unimportance of this factor in the persuasion process or the manner in which it was operationally defined in this study.

The manipulation checks for source credibility and position discrepancy were successful, as indicated by the analysis of variance for these factors. The highly credible message source was indeed perceived as significantly more credible than the minimally credible source. As a result, the absence of a main effect for source credibility in this study cannot be attributed to the operationalization of this variable. While the experimental paradigm explicitly posited no systematic relationship between source credibility and attitude change, the merit of this contention rests upon an examination of the experimental methodology. This examination is provided later in this chapter. In terms of the
position discrepancy manipulation, subjects were asked to judge the message sender's attitudinal position on the abortion topic using a nine-point scale similar to the one utilized to derive their pretest most acceptable positions. As almost every subject accurately perceived the message source's position, it was concluded that the position discrepancy manipulation worked. Therefore, the experimental hypotheses regarding this variable received a fair test in this study.

The final independent variable, ego-involvement, was examined for efficacy of manipulation using a single nine-point scale. The analysis of variance revealed a main effect for this variable, such that highly ego-involved subjects, as determined by the pretest, attached significantly greater importance to the abortion topic than less involved subjects, as indicated by this manipulation check item. This finding provides some justification for operationalizing the two levels of ego-involvement by employing a median split procedure. As previously noted, however, the significant difference occurred between two levels of high ego-involvement, rather than between high and low ego-involvement conditions. As such, the absence of an experimental effect for ego-involvement may be related to the absolute level of ego-involvement scores in this study.

The other manipulation check items concerned the nature of the sorting task, which was an integral component for obtaining dependent variable scores. The results indicated that subjects experienced moderate difficulty in sorting the 64 attitude statements, regardless of the experimental condition to which they were assigned. Also, respondents were asked to state, in writing, the basis upon which they sorted these statements. An examination of these responses uncovered
the following common and erroneous reasons for sorting the 64 statements:

1. On the basis of one's own attitude
2. On the basis of topical areas reflected in the statements
3. On the basis of three categories, with one category for each latitudinal range
4. On the basis of five categories, similar to a Likert scale

These reasons were given by approximately fifty percent of the experimental sample, with the remaining subjects offering rationales consistent with the experimental instructions (i.e., utilization of an objective criterion). As these reasons suggest, this failure to follow instructions, in terms of the sorting task, casts some doubt on the validity of the experimental findings. For example, several subjects sorted the statements on the basis of their own attitude toward abortion. While the Own Categories Procedure is designed to provide this information, it is supposed to serve as an unobtrusive measure which permits perceptual displacement of the statements, rather than as a direct attitude assessment technique. To the extent that respondents viewed the sorting task as an evaluative exercise requiring their own set of attitudes, beliefs, or feelings as an anchor, as opposed to using the objective criterion provided in the instructions, the experimental findings cannot be interpreted from the Social Judgment-Involvement framework.

Additionally, some subjects simply categorized the attitude statements on the basis of topical commonalities. These topical areas included legal ramifications, health issues, moral and ethical considerations, and personal factors (e.g., freedom of choice). While these topical areas were intentionally represented in generating the statements, they were not meant to serve as the basis for sorting the statements. As a result, experimental data from subjects offering this
rationale must be viewed as highly questionable in terms of validity of results.

The final two reasons are closely related to each other and represent self-imposed constraints by subjects regarding the number of categories employed to sort the statements. Many respondents, for example, reported using three categories, with one category corresponding to each latitudinal range. Although the latitudes were not specified at this point in the study, subjects apparently used single categories for accepting and rejecting statements and generated a single residual category for the remaining items. In fact, one person even had a leftover category after using the supposedly residual category. Similarly, some respondents identified five attitudinal categories in a manner bearing remarkable resemblance to a Likert scale. In both instances, this self-imposed constraint violates the methodological guidelines for using the Own Categories Procedure and casts doubt on the validity of the experimental findings.

In addition to the manipulation check data, other evidence regarding methodological difficulties in this study exists. A major problem involved creating an understanding by subjects of the experimental instructions. In particular, subjects appeared to experience difficulty with the sorting task. As mentioned earlier, some respondents seemingly substituted their own attitudes for the objective criterion specified in the instruction set. Further, the existence of many inconsistent attitude profiles reflected a misunderstanding concerning the Own Categories Procedure. These inconsistent profiles impacted directly upon the six dependent measures, in terms of the number of categories used within each latitudinal range and the location of the individual's most acceptable
position. Certainly, the validity of the experimental data is limited by the existence of these inconsistent attitude profiles.

Other study problems are related to the experimental procedures and measures. For example, the brevity of the experimental message may have mediated against significant attitude shifts. Although the messages were between 400 and 500 words, it is reasonable to question whether they were sufficiently lengthy or detailed to produce much attitude change on the abortion topic. In this regard, it has already been noted that most subjects were highly ego-involved on the experimental topic. For this reason, it is not surprising that little overall attitude change was exhibited in response to the experimental messages. Even though some significant differences were obtained in this study, the absolute magnitude of attitude change was quite small.

In addition to these procedural difficulties, certain methodological problems should be considered. For example, it must be acknowledged that the pretest and posttest measures of respondents' attitudes were not identical. Whereas the pretest measure involved nine ordered attitude statements, the posttest measures entailed 64 unordered statements. Although both measurement techniques provided information regarding the individual's most acceptable position and size of his latitudinal ranges, in terms of the number of items and categories employed, the possible lack of comparability of these methods requires consideration. Scales which were not identical were utilized to handle the time constraint and the need for the experimental topic to satisfy the following conditions. It was necessary to identify a topic which possessed current significance, entailed a wide range of attitudinal positions, and involved a diversity of ego-involvement levels on the part of the respondents. Also, the
experimental message for the chosen topic had to contain successful manipulations of the message ambiguity and source credibility variables. The accomplishment of these objectives required fairly extensive pretesting and pilot testing. In the pretest, five candidate topics were used, with data collected regarding subjects' attitude profiles and levels of ego-involvement. In this situation, it was not feasible to utilize the extended version of the Own Categories Procedure; had this technique been implemented, the length of the pretest would have been extended from about thirty minutes to over four hours. In the pilot test, the statistical analysis revealed that the source credibility and message ambiguity manipulations were successful for the abortion topic, whereas they were less effective overall for the other potential message topics. As a result, the abortion topic was chosen as the one which maximized the efficacy of the independent variable manipulations. It is realized, though, that the possible lack of comparability between the pretest and posttest formats may have influenced the experimental results.

A related methodological problem involves the utilization of the pretest measure of the individual's most acceptable position and the pilot test judgments of potential messages' positions to establish the position discrepancy levels in the experimental setting. A nine-point scale was used to permit comparability of these scores, with the statistical analysis revealing that the candidate messages were perceived in the intended manner. However, as indicated in chapter two, the most acceptable position had to be estimated for many subjects on the pretest. Although the position discrepancy levels were created with one-unit gaps to allow for slight classification errors, it is possible that the estimation procedure introduced error variance into the experimental system.
Further, the treatment of position discrepancy as a subject variable did not allow for an equal number of every message position-subjects' position combination to be instituted in the experimental design. With a cell size of fifteen, this procedure would have required one thousand and eighty subjects just for the position discrepancy manipulation. Instead, an attempt was made to place an approximately equal number of subjects in each of the three position discrepancy categories. As a result, certain message position-subjects' position combinations were required. For example, almost all individuals with a most acceptable position of one or two (i.e., extremely anti-abortion) received message position nine (i.e., extremely pro-abortion), thereby constituting the high position discrepancy manipulation. Although the actual impact of using a subset of all possible combinations is unknown, this methodological limitation may have influenced the experimental results.

A final methodological consideration involves the treatment of the experimental data. Typically, the Own Categories Procedure is used to depict attitude profiles, rather than to measure attitude change. In this regard, it should be acknowledged that this study has treated information resulting from the Own Categories Procedure as interval rather than ordinal level data. In representing attitude profiles, the assumption of ordinality is sufficient. However, the description of attitude change, as performed in this study, requires the assumption of interval level data for the performance of the statistical tests for significance. As the existence of equal appearing intervals has not been explicitly demonstrated in this study, it is reasonable to question the validity of this statistical assumption. Here, it should be realized that the present categories were designed in a manner similar to Likert scaling, which is frequently used to generate information that is treated as
interval level data. Also, despite the lack of demonstration that posttest data is interval in nature, there is no reason to assume that it is not. In fact, it could be argued that respondents, in generating their own attitudinal categories, actually strive for a logical, ordered system by creating their own set of equal appearing intervals. Still, it is recognized that this measurement assumption has been made in performing the statistical analyses in this study.

This section has described methodological difficulties which may account for the nature of the experimental results. While these problems may have detracted from the tests of the experimental hypotheses, it can still be maintained that utilizing the Own Categories Procedure to assess attitude change possesses many theoretical and methodological advantages in comparison with more conventional attitude measurement techniques. As such, the next section examines these benefits and identifies ways in which some of the present study's methodological drawbacks could be overcome in subsequent research endeavors. Also, fruitful areas for future research are discussed.

Future Research in the Social Judgment-Involvement Framework

Although use of the Social Judgment-Involvement approach and the Own Categories Procedure did not yield many significant results in this study, this method does possess certain benefits relative to conventional attitude theories and techniques. For example, the Own Categories Procedure generates a complete attitude profile, whereas conventional attitude measurement techniques produce a single score, normally by summing a set of individual scales. The Own Categories Procedure yields information regarding the person's most acceptable position and the size of his three latitudinal ranges. In this manner, it is possible to make attitude
change predictions not merely predicated upon position discrepancy, but on the basis of the persuasive message's location relative to the individual's latitudes. Also, attitude change is construed as a multidimensional process, with modifications in attitude structure which would go undetected by traditional techniques being clearly identified by the Own Categories Procedure. For instance, it is possible that a persuasive message could produce change in the size of an individual's latitude of acceptance without modifying his most acceptable position. In this regard, the Own Categories Procedure is beneficial in that it produces multiple measures of attitude change. As previously noted, this technique identifies changes in the size of the person's latitudes in terms of the number of items and categories comprising these attitudinal ranges. Although not directly linked to the Own Categories Procedure, another promising measure of attitude change employed in this study entails indexing change in the most acceptable position relative to the amount of attitude change sought. The inclusion of this dependent measure, within the context of the Own Categories Procedure, possesses relevance for the manner in which successful attitude change is defined. Specifically, this measure reflects an appreciation that attitude change is not a dichotomous variable and depicts the degree of attitude change as a function of the distance between the individual's own position and the location of a persuasive message. For instance, this measure can demonstrate that a small attitude shift represents persuasive success under conditions of low position discrepancy. Further, it encompasses the realization that the same absolute amount of attitude change in two situations may not reflect equal persuasive success, if position discrepancy levels vary in these situations. In a related manner, Social
Judgment-Involvement theorists contend that it is not reasonable to expect much attitude change in an experimental setting. Whereas traditional attitude change experiments often report large amounts of attitude change, these studies typically employ minimally involving topics and assess belief (i.e., cognitive), rather than attitude (i.e., cognitive and affective) change. The Social Judgment-Involvement approach recognizes the important roles of ego-involvement and the individual's latitudinal ranges and captures the significance of small shifts in the person's most acceptable position and latitude size. While little absolute attitude change occurred in this study, the inclusion of multiple measures represents an advance over conventional attitude scaling techniques.

The Own Categories Procedure possesses other advantages which merit consideration. As indicated earlier, this procedure permits unobtrusive attitude measurement, thereby averting possible reactive effects. Also, this approach permits more veridical attitude measurement. For example, recognizing that individuals vary in the number of categories they invoke for a given topic, the Own Categories Procedure allows respondents to utilize whatever number of attitudinal categories they desire. Further, this framework recognizes that individuals typically possess some level of ego-involvement on a topic prior to the experimental session. Whereas conventional attitude experiments usually treat ego-involvement as either a random variable which can be manipulated during the study (normally for minimally involving topics) or can be operationalized on the basis of group membership (thereby engaging in stereotyping by overlooking individual differences and failing to even measure the level of this variable), the Social Judgment-Involvement approach more appro-
appropriately casts ego-involvement as a subject variable. For this reason, a pretest measure of ego-involvement is required prior to presentation of the experimental stimuli. Similarly, the treatment of position discrepancy as a subject versus random variable is preferable, from the Social Judgment-Involvement standpoint. An individual possesses an anchor point for most topics which are familiar or important to him, just as he is ego-involved to some degree on any such topic. Whereas many attitude change studies will create an attitudinal position for the individual on an unimportant topic, the Social Judgment-Involvement approach acknowledges the importance of determining the individual's own position on the topic prior to exposure to the experimental materials. The treatment of ego-involvement and position discrepancy as subject variables, then, entails a more veridical approach to the study of attitude change than many conventional experimental paradigms.

Although the Social Judgment-Involvement approach and the Own Categories Procedure appear preferable to other attitude measurement methods, their utilization in the present study was plagued by certain problems. In considering directions for future research, it is important to identify means for overcoming these drawbacks so that the value of the Own Categories Procedure can more clearly emerge in the attitude measurement process. For example, the absence of an ego-involvement effect was perhaps partially attributable to the rather high level of ego-involvement in this study. As the median split procedure can be maintained in future endeavors, it appears worthwhile to select an experimental topic for which subjects display greatly varying degrees of ego-involvement. In this respect, it would be useful to employ multiple topics, thereby permitting an analysis of the differential effects of
ego-involvement for topics with different population profiles of ego-involvement. A similar solution could be implemented to deal with the fact that not all message position-own position combinations were used for the manipulation of position discrepancy. Here, a series of studies could be performed to determine whether attitude change is a function of distance alone or if it interacts with the actual location of the individual's own position and the message position. For example, it could be demonstrated whether attitude change between positions 1 and 3 on a nine-point scale is similar to that between positions 5 and 7. In this fashion, it might also be possible to ascertain whether the assumption of interval scaling is appropriate for analyzing data obtained from the Own Categories Procedure.

Another recommended improvement concerns the design of the experimental message. In this study, a fairly brief written message was used to generate attitude change on a very involving topic. Subsequent research could present more substantive messages in a more realistic manner. For instance, a live speaker could adopt various attitudinal positions in a public speaking situation. This approach might increase the salience of the independent variables. Although the source credibility manipulation worked in this study, this approach might provide a better test of this factor's role in the persuasion process. Also, as message ambiguity was manipulated in a fairly subtle manner, this approach might magnify the difference between the low and high ambiguity conditions, thereby yielding a more reasonable test of this variable's impact upon attitude change processes.

The experimental instructions, particularly involving the sorting task, also created methodological problems during the course of this
experiment. For example, many subjects seemingly ignored the instructions regarding the objective criterion for sorting the 64 attitude statements. Instead, they sorted the items on the basis of their own feelings, topical themes, or a pre-determined, self-imposed number of categories. Further, the apparent lack of understanding of the experimental instructions yielded several inconsistent attitude profiles. As a result, it would be beneficial in future research to make the instructions clearer, pilot test them, and devote greater attention to them in the experimental setting.

A final recommendation for improving the experimental procedures entails the comparability of the pretest and posttest measures of respondents' attitudes. As explained earlier, the pretest was composed of nine ordered attitude statements, whereas the posttest involved sorting 64 items into whatever number of categories the subject preferred. This difference was necessitated by the limited time available for completing the pretest on a variety of topics. The reason several topics were tested was to identify the one which best accommodated the manipulation of the subject variables (i.e., ego-involvement and position discrepancy). The pilot test was employed to determine the efficacy of the random variables (i.e., source credibility and message ambiguity), with the selected topic representing the most effective overall manipulation of these four variables. While no topic yielded optimal manipulations, the abortion topic best satisfied these criteria. Thus, future research might benefit by ensuring the comparability of the pretest and posttest measures. Here, two sets of attitude statements could be generated and pilot tested to determine whether they reliably measure the individual's attitude on a given topic. Assuming this objective is accomplished, the
experimental sample could be divided into two equal groups, with each group receiving one version of the attitude measure on the pretest. After these measures are scored, subjects are assigned to the experimental conditions, and the experimental stimuli are presented. Then subjects would be administered the posttest. They would be given the version which they did not receive on the pretest. In this manner, the time constraints and test comparability problems could be resolved.

In addition to improving the present experimental framework, other directions for future research can be discerned. From a methodological standpoint, empirical effort could be devoted to determining whether the Own Categories Procedure truly yields interval level data. Also, it would be interesting to identify dependent measures for which the Own Categories Procedure and conventional attitude assessment techniques yield similar and divergent data. Here, it would be helpful to explain the reasons why these techniques generate different results. From this perspective, research could be conducted to obtain subjects' reports of what they attend to in persuasion experiments and what they believe is most likely to influence their attitudes. Ultimately, it would be very informative to develop a hierarchy of social influence variables, in terms of their impact upon attitude change processes. In this respect, situational factors would have to be studied to determine the generalizability of the effects of these variables and to provide a more thorough picture of the persuasion process.

Summary

The experimental hypotheses received little empirical support in this study. In fact, only position discrepancy exhibited a fairly consistent relationship with attitude change. No main effects occurred for
ego-involvement, source credibility, or message ambiguity. Further, the only significant first order interaction involved source credibility and position discrepancy, for one of the six dependent measures, but the pattern of this interaction was quite different from the predicted relationship. Also, while the second order interaction of ego-involvement, source credibility, and message ambiguity was significant for one dependent measure, this relationship was not predicted and was uninterpretable in terms of the theoretical framework. Several methodological difficulties, gleaned from manipulation check data and other information, were identified to account for the nature of the experimental results. In this regard, suggestions were made for overcoming these difficulties and directions for future research were identified. Although this study failed to provide support for the experimental hypotheses, several advantages of utilizing the Social Judgment-Involvement approach and the Own Categories Procedure relative to more traditional attitude assessment theories and techniques have been identified in the course of completing this social influence study.
REFERENCES


Arnett, C.C., Davidson, Helen H., and Lewis, H. Prestige as a factor in attitude change. Sociology and Social Research, 1931, 16, 49-55.


Campbell, Donald T., Lewis, Nan R., and Hunt, William A. *Context effects with judgmental language that is absolute, extensive, and extra-experimentally anchored.* *Journal of Experimental Psychology,* 1958, 55, 220-228.


Clark, Ruth Anne and Stewart, Roy. *Altitude of rejection as a measure of ego involvement.* *Speech Monographs,* 1971, 38, 228-234.


Based upon your reading of this message, please place an "X" on the line which you believe best describes the message for each of the following scales:

<table>
<thead>
<tr>
<th>Vague</th>
<th>Not Vague</th>
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<tbody>
<tr>
<td>Not Interesting</td>
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<td>Direct</td>
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<tr>
<td>Not Comprehensible</td>
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<td>True</td>
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</table>

In your judgment, what is the author's position regarding abortion?

Overall, how do you think the author feels about abortion?

Wants it to be legal

Do not want it to be legal

The author of this passage is Dr. Richard Abrams, an American Medical Association trustee. Please place an "X" on the line which you believe best describes this author for each of the following scales:

<table>
<thead>
<tr>
<th>Experienced</th>
<th>Inexperienced</th>
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<tr>
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Please write any reactions you have to the materials:
Based upon your reading of this message, please place an "X" on the line which you believe best describes the message for each of the following scales:

Vague Not Vague
Not Interesting Interesting
Direct Indirect
Not Comprehensible Comprehensible
Long Short
Not Decisive Decisive
Ambiguous Not Ambiguous
Inaccurate Accurate
Clear Unclear
Not Straightforward Straightforward
True False

In your judgment, what is the author's position regarding abortion?

________________________________________________________________________

Overall, how do you think the author feels about abortion?

Wants it to be legal Does not want it to be legal

________________________________________________________________________

The author of this passage is Jim Carlton, a city clerk. Please place an "X" on the line which you believe best describes this author for each of the following scales:

Experienced Inexperienced
Closedminded Openminded
Knowledgeable Unknowledgeable
Meek Aggressive
Trustworthy Untrustworthy
Ignorant Expert
Active Passive
Incompetent Competent
Honest Dishonest
Bad Good
Objective Subjective
Lacks Foresight Has Foresight

Please write any reactions you have to the materials:

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Based upon your reading of this message, please place an "X" on the line which you believe best describes the message for each of the following scales:

| Scale         | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Vague         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Not Interesting |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
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| Long          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Not Decisive  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Ambiguous     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Inaccurate    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Clear         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
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| True          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
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| Interesting   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
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| Short         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
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| Not Ambiguous |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Accurate      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Unclear       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Straightforward|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| False         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

In your judgment, what is the author's position regarding a military draft?

[Answer]

Overall, how do you think the author feels about a military draft?

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The author of this passage is Michael Glass, former aide to Henry Kissinger. Please place an "X" on the line which you believe best describes this author for each of the following scales:

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Please write any reactions you have to the materials:
Based upon your reading of this message, please place an "X" on the line which you believe best describes the message for each of the following scales:

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<thead>
<tr>
<th>Vague</th>
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<tbody>
<tr>
<td>Not Interesting</td>
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<td>Direct</td>
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<td>True</td>
<td>False</td>
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</tbody>
</table>

In your judgment, what is the author's position regarding a military draft?

Overall, how do you think the author feels about a military draft?

Wants to institute it — — — — — — — — — — — — Does not want to institute it

The author of this passage is Warren Shaw, an undergraduate political science major. Please place an "X" on the line which you believe best describes this author for each of the following scales:

<table>
<thead>
<tr>
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<td>Honest</td>
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<tr>
<td>Bad</td>
<td>Good</td>
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<tr>
<td>Objective</td>
<td>Subjective</td>
</tr>
<tr>
<td>Lacks Foresight</td>
<td>Has Foresight</td>
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Please write any reactions you have to the materials:
Based upon your reading of this message, please place an "X" on the line which you believe best describes the message for each of the following scales:

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<td>Inaccurate</td>
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<tr>
<td>Clear</td>
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<td>Straightforward</td>
</tr>
<tr>
<td>True</td>
<td>False</td>
</tr>
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</table>

In your judgment, what is the author's position regarding social security benefits?

__________________________

Overall, how do you think the author feels about social security benefits?

Wants to reduce them __ __ __ __ __ __ __ __ Does not want to reduce them

The author of this passage is Dr. Ronald Kohlberg, Chairman of the Economics Department at Yale University. Please place an "X" on the line which you believe best describes this author for each of the following scales:

<table>
<thead>
<tr>
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<tr>
<td>Meek</td>
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<tr>
<td>Trustworthy</td>
<td>Untrustworthy</td>
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<tr>
<td>Ignorant</td>
<td>Expert</td>
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<td>Active</td>
<td>Passive</td>
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<td>Dishonest</td>
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<tr>
<td>Bad</td>
<td>Good</td>
</tr>
<tr>
<td>Objective</td>
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</tr>
<tr>
<td>Lacks Foresight</td>
<td>Has Foresight</td>
</tr>
</tbody>
</table>

Please write any reactions you have to the materials:

__________________________

__________________________
Based upon your reading of this message, please place an "X" on the line which you believe best describes the message for each of the following scales:

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<td>Long</td>
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<tr>
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</tr>
<tr>
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</tr>
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<td>Inaccurate</td>
<td>Accurate</td>
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<tr>
<td>Clear</td>
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</tr>
<tr>
<td>Not Straightforward</td>
<td>Straightforward</td>
</tr>
<tr>
<td>True</td>
<td>False</td>
</tr>
</tbody>
</table>

In your judgment, what is the author's position regarding social security benefits?

[Blank]

Overall, how do you think the author feels about social security benefits?

Wants to Reduce them

Does not to reduce them

The author of this passage is Stephen Peters, a carpenter and part-time student at Kansas State University. Please place an "X" on the line which you believe best describes this author for each of the following scales:

<table>
<thead>
<tr>
<th>Experienced</th>
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</tr>
</thead>
<tbody>
<tr>
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<td>Openminded</td>
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<tr>
<td>Knowledgeable</td>
<td>Unknowledgeable</td>
</tr>
<tr>
<td>Meek</td>
<td>Aggressive</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>Untrustworthy</td>
</tr>
<tr>
<td>Ignorant</td>
<td>Expert</td>
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<td>Active</td>
<td>Passive</td>
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<td>Competent</td>
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<tr>
<td>Honest</td>
<td>Dishonest</td>
</tr>
<tr>
<td>Bad</td>
<td>Good</td>
</tr>
<tr>
<td>Objective</td>
<td>Subjective</td>
</tr>
<tr>
<td>Lacks Foresight</td>
<td>Has Foresight</td>
</tr>
</tbody>
</table>

Please write any reactions you have to the materials:

[Blank]
Based upon your reading of this message, please place an "X" on the line which you believe best describes the message for each of the following scales:

<table>
<thead>
<tr>
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<th>Comprehensible</th>
<th>Long</th>
<th>Short</th>
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<th>Decisive</th>
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<th>Straightforward</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
</table>

In your judgment, what is the author's position regarding marijuana usage?

[Blank line]

Overall, how do you think the author feels about marijuana?

Very Favorable _ _ _ _ _ _ _ _ _ _ _ _ Very Unfavorable

The author of this passage is Dr. Jeannette Miller of the American Pharmacological Association. Please place an "X" on the line which you believe best describes this author for each of the following scales:

<table>
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<th>Closedminded</th>
<th>Openminded</th>
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<th>Meek</th>
<th>Aggressive</th>
<th>Trustworthy</th>
<th>Untrustworthy</th>
<th>Ignorant</th>
<th>Expert</th>
<th>Active</th>
<th>Passive</th>
<th>Incompetent</th>
<th>Competent</th>
<th>Honest</th>
<th>Dishonest</th>
<th>Bad</th>
<th>Good</th>
<th>Objective</th>
<th>Subjective</th>
<th>Lacks Foresight</th>
<th>Has Foresight</th>
</tr>
</thead>
</table>

Please write any reactions you have to the materials:

[Blank line]
Based upon your reading of this message, please place an "X" on the line which you believe best describes the message for each of the following scales:

| Scale                  | Vague          | Not Vague | Not Interesting | Interesting | Direct          | Indirect | Not Comprehensible | Comprehensible | Long           | Short           | Not Decisive | Decisive | Ambiguous | Not Ambiguous | Inaccurate | Accurate | Unclear | Not Straightforward | Straightforward | True        | False       |
|------------------------|----------------|-----------|-----------------|-------------|----------------|----------|-------------------|---------------|----------------|----------------|-------------|----------|-----------|----------------|------------|---------|---------|---------------------|----------------|------------|

In your judgment, what is the author's position regarding marijuana usage?

__________________________

Overall, how do you think the author feels about marijuana?

Very Favorable ____________________________ Very Unfavorable

The author of this passage is Mrs. Irene Sanders, a local housewife.
Please place an "X" on the line which you believe best describes this author for each of the following scales:

<table>
<thead>
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<th>Scale</th>
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<th>Honest</th>
<th>Dishonest</th>
<th>Good</th>
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<th>Dishonest</th>
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</thead>
</table>

Please write any reactions you have to the materials:

__________________________

__________________________
APPENDIX B

KANSAS ATTITUDE SURVEY
The Kansas Attitude Survey

We are studying people's attitudes to determine how they feel about various topics and to see if attitudes have changed much in the last five years. We would very much appreciate your help in completing this survey. Also, we want to assure you that your responses will be kept confidential. We do ask that you place your student number on the line at the top of each page; this request is made to avoid possible problems if the pages later become detached.

Thank you very much for your cooperation.

Dr. Thomas Beisecker
Larry Nadler

Speech Communications and Human Relations

Instructions:

You should find five pages attached to this booklet. Each page deals with one topic and has two sets of items. For the first set, you will notice that there are nine statements about the topic. On the line next to each statement, please place an "A" if the statement is acceptable to you, an "R" if you would reject the statement, and an "N" for any statements which are neither. (Note: You are free to choose how many "A's", "R's", and "N's" you assign for each 9-item set.) Then, please circle the one statement with which you most agree. The instructions for the second set are given on each page. After doing this, please go on to the next page. Also, please complete all five pages and be sure to place your student number at the top of each page.
ABORTION

There are absolutely no circumstances under which an abortion should be permitted in our society.

With the one exception of when the birth of the child is likely to involve risk to the prospective mother's life, abortion should not be legally permitted.

Under most circumstances, abortion should not be legally permitted in our society.

There are slightly more circumstances under which abortion should not be legally permitted than there are circumstances where it should be.

It is very difficult to determine whether abortion should or should not be legally permitted in our society.

There are slightly more circumstances under which abortion should not be legally permitted than there are circumstances where it should be.

Under most circumstances, abortion should be legally permitted in our society.

With the one exception of when the operation is likely to involve risk to the prospective mother's life, abortion should be legally permitted in our society.

Under all circumstances, abortion should be legally permitted in our society.

In relation to the topic of abortion, please respond to the following scales. For each of these scales, place an "X" on the line which most accurately reflects the way you perceive this topic.

To me the topic of abortion is:

<table>
<thead>
<tr>
<th>Significant</th>
<th>Minor</th>
<th>Important</th>
<th>Unimportant</th>
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<tr>
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<td>A Reflection of Myself</td>
<td>Relevant</td>
<td>Not a Reflection of myself</td>
<td>Central</td>
</tr>
</tbody>
</table>

The amount of knowledge which you possess about this topic is:

<table>
<thead>
<tr>
<th>Very Much</th>
<th>Very Little</th>
</tr>
</thead>
</table>
A MILITARY DRAFT

Regardless of the international situation at any point in time, there should always be a military draft in this country.

Because currently every argument for instituting the draft is valid, it should be implemented in this country.

Because currently there are considerably more valid arguments for instituting vs. not instituting the draft, it should be implemented in this country.

Because currently there are slightly more valid arguments for instituting vs. not instituting the draft, it should probably be implemented in this country.

Because there are currently about an equal number of valid arguments for instituting vs. not instituting the draft, it is difficult to determine whether a military draft should be implemented in this country.

Because currently there are slightly more valid arguments for not instituting vs. instituting the draft, it should probably not be implemented in this country.

Because currently there are considerably more valid arguments for not instituting vs. instituting the draft, it should not be implemented in this country.

Because currently every argument against instituting the draft is valid, it should not be implemented in this country.

Regardless of the international situation at any point in time, there should never be a military draft in this country.

In relation to the topic of a military draft, please respond to the following scales. For each of these scales, place an "X" on the line which most accurately reflects the way you perceive this topic.

To me the topic of a military draft is:

<table>
<thead>
<tr>
<th>Significant</th>
<th>Minor</th>
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<th>A Reflection of Myself</th>
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<th>Involving</th>
<th>Not Significant</th>
<th>Major</th>
<th>Unimportant</th>
<th>Relevant</th>
<th>Not a Reflection of Myself</th>
<th>Central</th>
<th>Uninvolving</th>
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</tr>
</tbody>
</table>

The amount of knowledge which you possess about this topic is:

Very Much ___ ___ ___ ___ ___ ___ Very Little
SOCIAL SECURITY BENEFITS

It is absolutely clear that social security benefits should not be reduced for any U. S. citizens.

With very few exceptions, social security benefits should not be reduced for U. S. citizens.

For the most part, social security benefits should not be reduced for U. S. citizens.

There are slightly more instances where social security should not be reduced than where they should be reduced for U. S. citizens.

It is difficult to decide whether social security benefits should or should not be reduced for U. S. citizens.

There are slightly more instances where social security benefits should be reduced than where they should not be reduced for U. S. citizens.

For the most part, social security benefits should be reduced for U. S. citizens.

With very few exceptions, social security benefits should be reduced for U. S. citizens.

It is absolutely clear that social security benefits should be reduced for all U. S. citizens.

In relation to the topic of social security benefits, please respond to the following scales. For each of these scales, place an "X" on the line which most accurately reflects the way you perceive this topic.

To me the topic of social security benefits is:

<table>
<thead>
<tr>
<th>Significant</th>
<th>Minor</th>
<th>Important</th>
<th>Irrelevant</th>
<th>A Reflection of Myself</th>
<th>Peripheral</th>
<th>Involving</th>
<th>Not Significant</th>
<th>Major</th>
<th>Unimportant</th>
<th>Relevant</th>
<th>Not a Reflection of Myself</th>
<th>Central</th>
<th>Uninvolving</th>
</tr>
</thead>
</table>

The amount of knowledge which you possess about this topic is:

Very Much __ __ __ __ __ __ Very Little
MARIJUANA USE

As the use of marijuana is the most harmful activity in existence, it should not be legalized.

As the use of marijuana is one of the most harmful activities in existence, it should not be legalized.

As the use of marijuana has considerably more harmful than beneficial effects, it should not be legalized.

As the use of marijuana has slightly more harmful than beneficial effects, it should probably not be legalized.

As the use of marijuana is harmful and beneficial with about equal frequency, it is hard to decide whether or not it should be legalized.

As the use of marijuana has slightly more beneficial than harmful effects, it should probably be legalized.

As the use of marijuana has considerably more beneficial than harmful effects, it should be legalized.

As the use of marijuana is one of the most beneficial activities in existence, it should be legalized.

As the use of marijuana is the most beneficial activity in existence, it should be legalized.

In relation to the topic of marijuana use, please respond to the following scales. For each of these scales, place an "X" on the line which most accurately reflects the way you perceive this topic.

To me the topic of marijuana use is:

<table>
<thead>
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</tr>
</tbody>
</table>

The amount of knowledge which you possess about this topic is:

Very Much | | | | | | | Very little
THE U. S. SPACE PROGRAM

____ Is the most valuable endeavor ever undertaken by this country.

____ Is one of the most valuable endeavors ever undertaken by this country.

____ Has had considerably more valuable than detrimental effects.

____ Has had slightly more valuable than detrimental effects.

____ Has had about an equal degree of valuable and detrimental effects.

____ Has had slightly more detrimental than valuable effects.

____ Has had considerably more detrimental than valuable effects.

____ Is one of the most detrimental endeavors ever undertaken by this country.

____ Is the most detrimental endeavor ever undertaken by this country.

In relation to the topic of the U. S. Space Program, please respond to the following scales. For each of these scales, place an "X" on the line which most accurately reflects the way you perceive this topic.

To me the topic of the U. S. Space Program is:

- Significant
- Minor
- Important
- Irrelevant
- A Reflection of Myself
- Peripheral
- Involving

- Not Significant
- Major
- Unimportant
- Relevant
- Not a Reflection of Myself
- Central
- Uninvolving

The amount of knowledge which you possess about this topic is:

- Very Much
- Very Little
APPENDIX C

BIOGRAPHICAL SKETCHES

OF

DR. RICHARD ABRAMS AND JIM CARLTON
DR. RICHARD ABRAMS

Dr. Abrams was randomly chosen from the portion of our sample which included medical professionals. He has practiced family medicine and general surgery for many years. Also, Dr. Abrams was named last year as a trustee of the board of the American Medical Association. He has published fourteen articles in various professional health journals and is particularly interested in medical ethics.
Mr. Carlton was randomly chosen from the portion of our sample which included semi-skilled employees. He has served as a city clerk for the last few years, since graduating from a vocational business school. Mr. Carlton is responsible for recording and filing documents related to health-oriented statistics, such as births, deaths, and infant mortality rates.
In 1980, there were 1.2 million abortions in the United States. As the situation is so serious and touches on many people’s lives, a close analysis of the major issues concerning this topic is needed to make reasonable decisions about whether abortion should be legally permitted. One such issue involves the question of what constitutes life. Although various definitions have been advanced, Dr. Harry Caldwell, an authority on medical ethics, provided an interesting explanation of this issue. He argued that since the fetus does not possess many biological functions independent from the mother and is only minimally capable of cortical (brain-related) activity, then the unborn infant must not be considered a fully living organism.

Other arguments concerning abortion focus on religious considerations. According to Dr. Margaret Shelby, a theology professor at the University of Washington, the Bible indicates that abortion does not violate moral and ethical codes of behavior. A related issue involves the extent to which abortion is a personal and/or a social matter. Certainly, a woman should have the personal freedom to make decisions which affect her body. Also, she has an obligation to society to have children only if she can provide proper care for them. While having the government defray the costs for abortions for women who cannot afford the expense is perhaps not attractive in the short run, long term benefits could accrue for society. For example, aborting the fetus can avoid welfare payments, food stamps, and subsidized medical care which the government would have to provide after birth occurred. Hence, abortion is a viable alternative to having the child. Related to these economic aspects are characteristics of abortion patients. According to Purdue University sociologist Len Friedrich, in his study of women who have
undergone abortions, these individuals are not significantly younger, poorer, less intelligent, or less mature than a comparison sample of females who had not had an abortion.

A final issue concerning abortion entails the dangers associated with the operation’s procedures. According to John Hurst of the Missouri Health Services Agency, every year 25,000 women suffer physical damage as a result of having an abortion. While this is a significant figure, it really represents only a small percentage of the total number of women who annually have abortions. Also, most of these dangerous incidents have involved illegally performed operations, with legitimate abortions producing few negative results.

Despite the complexity and controversial nature of this topic, it is clear that it should be legal for abortions to be performed in this country.
In 1980, there were 1.2 million abortions in the United States. As the situation is so serious and touches on many people's lives, a close analysis of the major issues concerning this topic is needed to make reasonable decisions about whether abortion should be legally permitted. One such issue involves the question of what constitutes life. Although various definitions have been advanced, Dr. Harry Caldwell, an authority on medical ethics, provided an interesting explanation of this issue. He argued that since the fetus does not possess many biological functions independent from the mother, yet is capable of cortical (brain-related) activity, then whether the unborn infant should be considered a fully living organism is still open for discussion.

Other arguments concerning abortion focus on religious considerations. According to Dr. Margaret Shelby, a theology professor at the University of Washington, the Bible lacks reference as to whether abortion violates moral and ethical codes of behavior. A related issue involves the extent to which abortion is a personal and/or a social matter. Certainly, a woman should have the personal freedom to make decisions which affect her body. At the same time, however, as the society is affected by the woman's decision concerning abortion, she must be socially responsible. Having the government defray the costs for abortions for women who cannot afford the expense is not attractive in the short run, but long term benefits could accrue for society. Specifically, while tax revenues are spent on abortions, other tax expenditures are saved, in terms of welfare payments, food stamps, and subsidized medical care which the government might have to provide after birth occurred. Hence, it is debatable whether abortion is or is not a viable alternative to having the child. Related to these economic aspects are characteristics of abortion
patients. According to Purdue University sociologist Len Friedrich, in his study of women who have undergone abortions, these individuals are somewhat younger and poorer, but not less intelligent or mature, than a comparison sample of females who had not had an abortion.

A final issue concerning abortion entails the dangers associated with the operation's procedures. According to John Hurst of the Missouri Health Services Agency, every year 25,000 women suffer some physical damage as a result of having an abortion. This is a significant figure representing a large proportion of the total number of women who annually have abortions. Most of these cases have involved illegally performed operations, but some instances have occurred when legal abortions were performed.

Given the complexity and controversial nature of this topic, it is not clear whether it should be legal or illegal for abortions to be performed in this country.
In 1980, there were 1.2 million abortions in the United States. As the problem is so serious and touches on many people's lives, a close analysis of the major issues concerning this topic is needed to make reasonable decisions about whether abortion should be legally permitted. One such issue involves the question of what constitutes life. Although various definitions have been advanced, Dr. Harry Caldwell, an authority on medical ethics, provided an interesting explanation of this issue. He argued that since the fetus does possess many biological functions independent from the mother and is very much capable of cortical (brain-related) activity, then the unborn infant must be considered a fully living organism.

Other arguments concerning abortion focus on religious considerations. According to Dr. Margaret Shelby, a theology professor at the University of Washington, the Bible indicates that abortion violates moral and ethical codes of behavior. A related issue involves the extent to which abortion is a personal and/or a social matter. Although a woman should certainly be entitled to make decisions which affect her body, some issues transcend personal freedom. As the society is affected by the woman's decision concerning abortion, she must be socially responsible. While some benefits might accrue for society in the long run, having the government defray the costs for abortions for women who cannot afford them is not an attractive option. Specifically, the needless expenditure of tax revenues and the implications of governmental endorsement of abortion are negative outcomes. Hence, abortion is not a viable alternative to having the child. Related to these economic aspects are characteristics of abortion patients. According to Purdue University sociologist Len Friedrich, in his study of women who have
undergone abortions, these individuals are significantly younger and poorer, less intelligent, and less mature than a comparison sample of females who had not had an abortion.

A final issue concerning abortion entails the dangers associated with the operation's procedures. According to John Hurst of the Missouri Health Services Agency, every year 25,000 women suffer serious physical damage and even death as a result of having an abortion. This is a significant figure, representing a large proportion of the total number of women who annually have abortions. Also, these statistics reflect the dangers of legally and illegally performed operations.

Despite the complexity and controversial nature of this topic, it is clear that it should be illegal for abortions to be performed in this country.
In 1980, there were many abortions in the United States. As the situation is so serious and touches on many people's lives, a close analysis of the major issues concerning this topic is needed to make reasonable decisions about whether abortion should be legally permitted. One such issue involves the question of what constitutes life. Although various definitions have been advanced, an authority on medical ethics provided an interesting explanation of this issue. He suggested that since the fetus does not possess many biological functions independent from the mother and is only minimally capable of cortical activity, then the unborn infant must not be considered a fully living organism.

Other arguments concerning abortion focus on religious considerations. According to a theology professor at the University of Washington, anyone who has read the Bible carefully ought to know quite well the position which should be taken toward abortion. A related issue involves the extent to which abortion is a personal and/or a social matter. Certainly, a woman should have the personal freedom to make decisions which affect her body. Also, she has an obligation to society to have children only if she can provide proper care for them. While having the government defray the costs for abortions for women who cannot afford the expense is perhaps not attractive in the short run, long term benefits could accrue for society. Hence, abortion is a viable alternative to having the child. Related to these economic aspects are characteristics of abortion patients. According to one sociologist, in his study of females who have undergone abortions, these individuals are similar on some, but different on other personality and demographic dimensions compared to a sample of females who had not had an abortion.

A final issue concerning abortion entails the dangers associated with the operation's procedures. According to a Health Services official,
every year many women suffer physical damage as a result of having an abortion. While this is a significant figure, it is really only a small percentage of the total number of women who annually have abortions. Also, most of these dangerous incidents have involved illegally performed abortions, with legitimate abortions producing few negative results.

Despite the complexity and controversial nature of this topic, it is clear that it should be legal for abortions to be performed in this country.
In 1980, there were many abortions in the United States. As the situation is so serious and touches on many people's lives, a close analysis of the major issues concerning this topic is needed to make reasonable decisions about whether abortion should be legally permitted. One such issue involves the question of what constitutes life. Although various definitions have been advanced, an authority on medical ethics provided an interesting explanation of this issue. He suggested that since the fetus does not possess many biological functions independent from the mother, yet is capable of cortical activity, then whether the unborn infant should be considered a fully living organism is still open for discussion.

Other arguments concerning abortion focus on religious considerations. According to a theology professor at the University of Washington, anyone who has read the Bible carefully ought to know quite well the position which should be taken toward abortion. A related issue involves the extent to which abortion is a personal and/or a social matter. Certainly, a woman should have the personal freedom to make decisions which affect her body. At the same time, however, as the society is affected by the woman's decision concerning abortion, she must be socially responsible. Having the government defray the costs for abortions for women who cannot afford the expense is perhaps not attractive in the short run, but long term benefits could accrue for society. Hence, it is debatable whether abortion is or is not a viable alternative to having the child. Related to these economic aspects are characteristics of abortion patients. According to one sociologist, in his study of females who have undergone abortions, these individuals are similar on some, but different on other personality and demographic dimensions compared to a sample of females.
who had not had an abortion.

A final issue concerning abortion entails the dangers associated with the operation's procedures. According to a Health Services official, every year many women suffer some physical damage as a result of having an abortion. This is a significant figure, representing a large proportion of the total number of women who annually have abortions. Most of these cases have involved illegally performed operations, but some instances have occurred when legal abortions were performed.

Given the complexity and controversial nature of this topic, it is not clear whether it should be legal or illegal for abortions to be performed in this country.
In 1980, there were many abortions in the United States. As the problem is so serious and touches on many people's lives, a close analysis of the major issues concerning this topic is needed to make reasonable decisions about whether abortion should be legally permitted. One such issue involves the question of what constitutes life. Although various definitions have been advanced, an authority on medical ethics provided an interesting explanation of this issue. He suggested that since the fetus does possess many biological functions independent from the mother and is very much capable of cortical activity, then the unborn infant must be considered a fully living organism.

Other arguments concerning abortion focus on religious considerations. According to a theology professor at the University of Washington, anyone who has read the Bible carefully ought to know quite well the position which should be taken toward abortion. A related issue involves the extent to which abortion is a personal and/or a social matter. Although a woman should certainly be entitled to make decisions which affect her body, some issues transcend personal freedom. As the society is affected by the woman's decision concerning abortion, she must be socially responsible. While some benefits might accrue for society in the long run, having the government defray the costs for abortions for women who cannot afford them is not an attractive option. Hence, abortion is not a viable alternative to having the child. Related to these economic aspects are characteristics of abortion patients. According to one sociologist, in his study of females who have undergone abortions, these individuals are similar on some, but different on other personality and demographic dimensions compared to a sample of females who had not had an abortion.
A final issue concerning abortion entails the dangers associated with the operation's procedures. According to a Health Services official, every year many women suffer serious physical damage and even death as a result of having an abortion. This is a significant figure, representing a large proportion of the total number of women who annually have abortions. Also, these statistics reflect the dangers of legally and illegally performed abortions.

Despite the complexity and controversial nature of this topic, it is clear that it should be illegal for abortions to be performed in this country.
APPENDIX E

THE SIXTH FOUR ATTITUDE STATEMENTS

OF THE OWN CATEGORIES PROCEDURE
Abortion is useful because it sometimes offers a way out of a desperate situation.

Abortion should only be permitted up to the first three months of pregnancy.

Contrary to pro-abortionists' contentions, even a legal abortion performed by a qualified physician is a major operation which cannot always be carried out with a high level of safety.

Although abortion is sometimes justified, it should never be done lightly or without very good reason.

Medical experts have demonstrated that the fetus is completely separate from the mother's body. Therefore, the woman should not have the right to choose abortion as though it is similar to having her appendix removed.

A woman whose womb is too small to carry a child should be allowed to terminate her pregnancy.

Abortion represents interference with nature's process of reproduction.

As legalized abortion is sometimes used as a backup resource for contraceptive failures, it promotes premarital and extramarital intercourse.

Legalized abortion is a viable approach to dealing with the problem of overpopulation.

Turning the decision concerning abortion over to the woman and her doctor indicates that society has yielded its responsibility concerning this issue.

The rights of the fetus and the rights of the mother should be given equal weight.

In the case of incest, it is desirable to terminate the pregnancy via abortion.

Most women who have abortions have given little thought to the consequences of their actions.
A married woman who already has completed her family as planned and unexpectedly finds herself pregnant again should be allowed the option of having an abortion.

As the topic is complex and we possess insufficient knowledge concerning abortion, it is necessary to adopt a middle-of-the-road position at the current time.

As the Oath of Hippocrates prohibits a physician from performing abortion, any doctor who does so should lose his or her license to practice medicine.

Fewer deaths have occurred by illegal abortions than pro-abortionists contend.

Women with unwanted pregnancies who choose abortion are making a wise decision.

Pregnant women who choose abortion are more sexually promiscuous in general than pregnant women who elect to give birth.

Abortion is equivalent to murder.

Federal and state governments should provide financial assistance for poor women who want an abortion.

Under all circumstances, abortion should be legally permitted in our society.

A woman is entitled to do whatever she wishes with her body.

There are no circumstances under which an abortion should be permitted in our society.

Whether the woman's own health is seriously endangered by the pregnancy is an important factor in determining the acceptability of abortion as an option.

In the case of rape only, a woman should be allowed to choose abortion if she wishes.
If a pregnant woman is emotionally unprepared for motherhood, then putting the baby up for adoption is still preferable to terminating the pregnancy.

If a married woman becomes pregnant and her family cannot afford any more children, then terminating the pregnancy is the best solution to the problem.

It is clear that the fetus constitutes a living being.

Pro-abortion supporters are simply liberals who lack an appreciation of human life.

Nobody is harmed by the process of abortion.

There are some instances in which abortion should be permitted legally and there are other times when it should not be legal.

If you have ever known a person who had an abortion, you understand the proper position to take regarding its legalization.

Legalized abortion does not reduce the number of dangerous illegal abortions which are performed in this country.

The Bible's position on abortion must be strongly considered in deciding whether it should be legally permitted.

A pregnant woman should be allowed to obtain a legal abortion when there is a strong chance of serious defect in the baby.

A woman must accept the responsibility of motherhood if conception occurs.

To make abortion illegal is to deny the individual's freedom.

Abortion is not just a personal matter; it is a social matter.

There are advantages and disadvantages to permitting abortion in our society.

A person's moral principles must be the basis for his or her feelings toward legalizing abortion.
If an unwanted child is doomed to a miserable life away, then there is some justification for abortion.

Knowing a woman has had an abortion reveals something about her personality.

Although pregnant women are often faced with difficult circumstances, there are almost no times when abortion is the best solution.

The state of scientific knowledge concerning abortion should guide a person's feelings toward it.

One negative effect of legalizing abortion is that euthanasia (mercy killing) will also be allowed.

Anyone who has studied the abortion issue knows the proper position which must be taken toward its legalization.

There are slightly more circumstances under which abortion should be legally permitted than there are circumstances where it should not be.

There are slightly more circumstances under which abortion should not be legally permitted than there are circumstances where it should be.

It is clear that the fetus does not constitute a living being.

If the majority of American voters favors abortion, then it should be legally permitted.

If the doctor states that the child is likely to be handicapped or deformed, abortion is a helpful alternative to giving birth.

Governmental prohibition of abortion is not necessarily a restriction of an individual's freedom of choice.

Anti-abortion laws represent an invasion of a doctor's liberty to practice medicine in accordance with the best teachings and standards of his or her profession.
There are many convincing arguments on both sides of the abortion controversy.

People should mind their own business and not be concerned with how others deal with abortion.
APPENDIX F

THE POSTTEST QUESTIONNAIRE
1. Please place an "X" on the line which best represents your position concerning abortion:

Should be Legal __ __ __ __ __ __ __ __ __ Should be Illegal
Bad __ __ __ __ __ __ __ __ __ Good
Necessary __ __ __ __ __ __ __ __ __ Unnecessary

2. In a few sentences, please elaborate on your views concerning the legalization of abortion.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

3. Please place an "X" on the line which best describes the message you read for each of the following scales:

Ambiguous __ __ __ __ __ __ __ __ __ Unambiguous

Clear __ __ __ __ __ __ __ __ __ Unclear

Vague __ __ __ __ __ __ __ __ __ Not Vague

4. Who was the author of the passage? ________________________________

5. Please place an "X" on the line which best describes the author for each of the following scales:

Unknowledgeable __ __ __ __ __ __ __ __ __ Knowledgeable

Objective __ __ __ __ __ __ __ __ __ Subjective

Untrustworthy __ __ __ __ __ __ __ __ __ Trustworthy

Expert __ __ __ __ __ __ __ __ __ Ignorant
6. Overall, how do you think the author of the written message feels about abortion?

Wants it to be legal __ __ __ __ __ __ __ __ to be legal

7. In your judgment, how does the author really feel about abortion?

__________________________________________________________

__________________________________________________________

8. How important is the topic of abortion to you?

Important __ __ __ __ __ __ __ __ __ __ Unimportant

9. How difficult do you think it was to sort the set of statements?

Very Easy __ __ __ __ __ __ __ Very Difficult

10. Please describe briefly the basis upon which you sorted the statements.

__________________________________________________________

__________________________________________________________

__________________________________________________________
APPENDIX G

ANALYSES OF VARIANCE
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**RESIDUAL**

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274 cases were processed. 0 cases (0.0 PCT) were missing.
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274 CASES WERE PROCESSED.
0 CASES (0.0 PCT) WERE MISSING.
# Latitude of Rejection Items

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274 cases were processed.

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