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ABSTRACT

A METRIC MULTIDIMENSIONAL EXAMINATION
OF SOCIAL JUDGMENT PREDICTIONS
OF ASSIMILATION, CONTRAST, AND ATTITUDE CHANGE

By

John Thomas Marlier

Previous studies have supported the social judgment proposition that receiver perceptions of, and responses to, persuasive messages are functions of the discrepancy between the receiver's attitude and the attitude expressed by the message, the receiver's involvement with the topic, and message structure. Scaling procedures employed in these studies have, however, lacked precision.

These studies utilize a multidimensional, ratio level, response centered attitude scale to map the stimulus domains of individuals.

Results do not conform to social judgment predictions. Significant amounts of variance in perceptual displacement of messages are explained by a linear function of discrepancy with small positive slope and small negative intercept. Magnitudes of attitude change are found to be primarily a positive linear function of change advocated. Sixty-three percent of the variance in signed values of attitude change is explained by a polynomial function including discrepancy, message structure, exponential functions of these variables, and involvement as predictors.

A METRIC MULTIDIMENSIONAL EXAMINATION
OF SOCIAL JUDGMENT PREDICTIONS
OF ASSIMILATION, CONTRAST, AND ATTITUDE CHANGE

By

John Thomas Marlier

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Communication

1976

DEDICATION

To the memory of my friend, John M. Cruikshank.

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ACKNOWLEDGMENTS

Research is not a solitary activity. Many hundreds of people have contributed time and energy to this project over the past three years. I would like to thank them all individually, but since that is impossible I must content myself with singling out a few whose support and encouragement have gone beyond the call of duty, friendship, and, in some cases, devotion.

My thanks go first of all to my advisor, Dr. Joseph Woelfel, without whom this project could not have been attempted even if I had thought of it, which I would not have if he had not stimulated my thinking in so many ways.

Special thanks also go to the other members of my guidance committee: Dr. Erwin Bettinghaus, Dr. Donald Cushman, Dr. Gerald Miller, and Dr. James Phillips. Dr. Bettinghaus has not only provided perspicacious academic advice, but has also been particularly helpful with the writing and, as Department Chairman, with arranging the myriad logistical details and material support necessary to complete the project. Dr. Cushman and Dr. Miller have provided support and encouragement in more ways than I can name ever since the original draft proposal for Study I was presented as a paper for a course they co-taught three years ago. Dr. Phillips

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has astounded me with his diligence as a committee member from another academic department, and with his rigorous, insightful questions and advice.

Mike Cody has been a friend, colleague, and co-author who has stimulated my thinking in many ways. Many of the ideas presented here have been developed, honed and refined while Mike and I shared what someone once called "the salutory intellectual effects of wine and cheese." I thank Mike for those enjoyable and stimulating times, for help with data collection, and also for "discovering" Richard Holmes.

Without Richard Holmes, computer shaman, and the performance of his daily miracles, this project could easily have required three or four thousand years to complete. Mere mortal thanks are therefore inadequate to express my appreciation to him. So I will instead follow the example Mike Cody set in his M.A. Thesis, and note here that "Rick helped too."

Kathy Sherry is the kind of friend who, when time is tight and nerves are frayed, is prone to ask if she can help somehow, like maybe by typing Tables, Appendices, and things like that. A friend in need is a friend who cannot be adequately thanked, but I offer my affectionate, though inadequate, thanks here anyway.

My thanks go, too, to Ruth Langenbacher for typing the final copy, arranging binding, and taking care of all the administrative matters involved in writing a dissertation

which she does so well and I do so poorly.

Last, but at least ten thousand Galileos from least, my loving thanks are offered to my wife Ada. I could, I suppose, mention that she helped with data collection, spent months coding data from the first study, typed drafts far into many nights, bore "computer widowhood" with amazing patience, etc., etc. To do so, however, would fall far short of acknowledging my debt to her. She has challenged me to become who I am, has shared my yoke as well as my bed, and has stayed in harness with me when the Mandolin Wind reached hurricane strength. I love her, which is as close as I can come to expressing what she means to me in words.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

CONCEPTUAL DISCUSSION AND RATIONAL

INTRODUCTION

> The basic information for predicting a
> person's reaction to a communication is <u>where</u>
> he places its position and the communicator
> relative to himself. The way that a person
> appraises a communication and perceives its
> position relative to his own stand affects
> his reaction to it and what he will do as a
> result (Sherif and Sherif, 1967, p. 129).

Social judgment theory attempts to make predictions
about receivers' placements of communication relative to
themselves on the basis of the receivers' attitudes toward
the topic of the message and the attitude toward that topic
actually expressed in the message. In general, social judg-
ment theory predicts that messages expressing attitudes at
distance x from the receiver's own attitude toward the topic
will be either assimilated toward the attitudes of the re-
ceiver, or contrasted to the attitude of the receiver, de-
pending upon the size of distance x. Messages normatively
perceived as expressing attitudes relatively near to a
receiver's attitude on the topic will be perceived by the
receiver as expressing attitudes even nearer to the receiver's
attitudes. Messages normatively perceived as expressing atti-
tudes far removed from receiver attitudes will be perceived

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by the receiver as expressing attitudes even further removed.
Distances between the receiver's attitude on an issue and
other possible attitudes on that issue are divided into three
latitudes: latitude of acceptance, latitude of noncommitment,
and latitude of rejection. Falling within the latitude of
acceptance are all attitudes toward an issue which the receiver
considers to be near enough to his own to be acceptable to
him. The latitude of rejection contains all those attitudes
so distant from his own that he would reject them as being
incompatible with his own position. Attitudes in the lati-
tude of noncommitment are not acceptable to the receiver, but
are also not so distant from his own attitudes as to require
outright rejection. The apogee of the assimilation-contrast
curve is assumed to lie somewhere near the boundary of the
latitudes of noncommitment and rejection.

Results of studies conducted to date generally lend
support to this curvilinear relationship between mispercep-
tions of attitudes expressed in messages and prior attitudes
of the receivers of those messages. (Sherif and Hovland,
1961; Hovland, Harvey and Sherif, 1957; Sherif, Sherif, and
Nebergal, 1965). Desirable precision, however, has been
lacking for two reasons.

The first of these reasons is the failure of many
studies to control for one or more of the variables which
have been shown to mediate the process of assimilation and
contrast. These potent mediating variables are ego-

involvement in the issue, degree of structure of the message, and the credibility of the source. Of these three, the first two are inherently present in any experiment attempting to specify the relationship between prior receiver attitudes and perceptual displacement of attitudes expressed in a message. Accordingly, ego-involvement and message structure, insofar as they affect the processes of assimilation and contrast, must be dealt with in this discussion. Source credibility, however, will be excluded from this discussion, since it is easily removed as a confounding variable in any experimental manipulation of assimilation and contrast effects, and is therefore to be considered external to the central relationship under consideration.

The second reason that empirical tests of the relationship between prior attitudes and message perception have yielded only imprecise results is that the measurement techniques employed in these studies have themselves been imprecise. An adequate discussion and reformulation of the theoretical relationship must therefore include suggestions for the development of methodology adequate to test that relationship.

In light of the above considerations, the rationale for the present study includes:

1. a discussion of the conceptions of attitude, ego-involvement, and message structure under a social judgment model,

2. a discussion of the operationalization of these
three variables in past research dealing with con-
trast and assimilation, and

3. suggestions for development of measuring instru-
ments and analysis procedures capable of subjecting
the posited relationship to rigorous empirical test.

SOCIAL JUDGMENT CONCEPTION OF ATTITUDE, INVOLVEMENT, AND MESSAGE STRUCTURE

In their explication of the social judgment conception
of attitude, Sherif and Sherif (1967) define attitude as:

> The 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 relate him to various subsets
> within the domain with varying degrees
> of positive or negative effect (p. 115).

Several characteristics of attitudes are discussed in this
article, which the authors argue are implicit in this def-
inition. First, attitude formation is dependent on learning,
rather than innate to the individual. This, in turn, im-
plies that attitudes always imply relationships between the
person and the object of his attitude, based upon his
learned perceptions of himself and the object relative to
other identifiable referents in a given stimulus domain.
These other referents, implicitly, are themselves not spatio-
temporally bound, and therefore are stable in their relation-
ship to each other. They are perhaps viewed most accurately
as abstract alternative possible attitudes. Third, attitudes

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are considered to be fairly resistant to abrupt change,
since they are formed relative to a more or less extensive
period of association with those referents. Fourth, atti-
tudes toward objects are the result of categorical differ-
entiation between objects in a stimulus domain, as well as
between the subject himself and the objects toward which he
holds those attitudes. And finally, the relationship be-
tween a person and an object is not considered to be neutral,
but rather to have motivational-affective properties.

The structure of an individual's attitude, relative to
other referents and his relationship to those referents, may
be inferred from consistently selective modes of behavior
relative to those concepts. Underlying these behavioral
patterns is assumed to be a judgment process involving com-
parison and evaluation of objects which the individual has
categorized as either objectionable or acceptable to him,
i.e., conceptually distant or near to him. Those objects or
referents relatively near to him fall within his latitude of
acceptance, those far from him into his latitude of rejec-
tion. Any referents between these latitudes lie in a lati-
tude of noncommitment. The individual's own attitudes are
considered to be an anchor, or base point, at or near the
center of his latitude of acceptance. The resistance to
change of that attitude, or strength of the anchoring effect,
is a function of the individual's involvement with the issue.

Involvement with an issue, or salience of the topic of a message to the individual, is conceptualized as the degree to which an individual's own position in the stimulus domain involving that issue is important to him. It is assumed that an individual who considers his own position to be highly important will be less inclined to consider relatively distant stimuli acceptable, and more inclined to consider relatively near stimuli objectionable. Involvement may, therefore, be inferred from the relative sizes of an individual's latitudes of acceptance and rejection. Highly involved subjects tend to have narrower latitudes of acceptance and broader latitudes of rejection than less involved subjects. Considering the earlier statement of the curvilinear relationship between subject attitude and message placement, with an apogee at the non-commitment-rejection boundary, we may then conclude that "the range of assimilation is inversely related to the degree of personal involvement" (Sherif and Sherif, 1967, p. 131).

The structure of communication is also related to the placement of communication. Conceptually, the degree to which a message is structured is defined in terms of the number of alternative placements which the message itself allows. Thus, an unstructured, or ambiguous, message is highly susceptible to assimilation and contrast, while a highly structured message is susceptible to a more limited range of displacements by receivers. As a general

formulation, "the range of assimilation increases as the structure of communication deceases" (Sherif and Sherif, 1967, p. 132).

OPERATIONAL APPROACHES TO ATTITUDE, INVOLVEMENT, AND MESSAGE STRUCTURE

As noted earlier, one of the major reasons for lack of precision in the testing of social judgment predictions about assimilation and contrast has been imprecise measurement. In the main, researchers have employed two types of measurements of attitude, both of which are ordinal in nature.

Several studies (see e.g. Hovland, Harvey and Sherif, 1957; Sherif, Sherif and Nebergall, 1965) have attempted to measure attitudes of subjects on an issue and their latitudes of acceptance and rejection through a method of ordered alternatives. This method involves:

1. content analysis of the total range of statements made publicly by people expressing attitudes toward that issue,

2. selection of nine of these statements representative of attitudes actually expressed and assumed to ordinally represent the entire range of attitudes which subjects might have toward that issue,

3. having subjects indicate the statements which they agree with most, those they find acceptable, and those they find unacceptable, or reject. This procedure defines the subject's own position, his latitude of

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acceptance, and his latitude of rejection. The
subject's latitude of noncommitment is then desig-
nated as encompassing any statements which the
subject neither accepts nor rejects.

4. the subject's perception of the message is then
obtained by having him locate the message on the
ordered list of alternative attitudes toward the
issue.

This method of ordered alternatives has several disadvant-
ages as a method of measurement of attitudes, as they are
conceived by the theory.

The first of these disadvantages is the imposition of a
category structure on the subjects. As noted earlier,
social judgment theory conceives of attitudes as reflecting
learned relationships between subject, object and other
identifiable referents in the stimulus domain. This implies,
however, that referents may differ for each individual. It
is true that selection of categories from public statements
about an issue makes it likely that those statements will
be meaningful as referents in the stimulus domain of any
individual. But such an argument only justifies such cate-
gory imposition as a crude approximation of subjects'
actual referents for the attitudes expressed. The subject's
individual attitude, or position relative to referents
(abstract alternative possible attitudes) which are common
to all individuals, may be affected by other referents

peculiar to his experience and conceptual structure. This observation leads to a second objection to the ordered alternative method.

The second related problem with the method of ordered alternatives is the untested assumption of unidimensionality, or ordinality, of the categories as selected. This assumption is, in effect, that the stimulus domain is identical for, and all referents are related uniformly to, each of the ordered alternatives and the subject. Distinctions between alternatives, and between each of the alternatives and the subject, may then be made along a single line in conceptual space. This is a rather large assumption, particularly when one considers the actual lists of ordered alternatives used in some studies. For example, Hovland, et al. (1957), in their study of prohibition in Oklahoma, employed a list of ordered alternative statements expressing attitudes toward the sale and use of alcohol. Some of these statements argue for prohibition on the basis that alcohol is a major cause of corruption in public life; others on the basis of the difficulty of self-disciplined moderation; and one mentions the medicinal value of alcohol for snake bites. On the other end of the scale, one statement argues for legalization of alcohol as a source of tax revenue to improve schools. The point here is that introduction of such disparate topical references in different attitudinal referents may crowd the stimulus domain of subjects with referents

related to snakes, schools, and corrupt public officials, thereby confusing the comparative and evaluative procedure of judgment. This may lead to two different types of error, depending upon whether or not the additional operative referents are common to all subjects, or unique to particular individuals. If the additional operative referents are common, then the normatively perceived position of the abstract referent alternative, as viewed by the aggregate subject population, may not be on a line with the other referents. The assumption of ordinal, intransitive, unidimensional relations among the ordered alternatives may therefore be unjustified. The second case, where alternative operative referent(s) are unique to the individual, might result in the position of that individual in the stimulus domain being somewhere other than on a line with the presented alternative. This problem, like the first, would be essentially the result of an invalid assumption of unidimensional transitivity of the scales employed.

Finally, there is the problem of the unknown relative distances between categories represented by the ordered alternatives. Sherif and Sherif (1967, p. 116) state that no assumptions are made about the size of these intervals when this procedure is employed, thereby admitting that the procedure suffers from the lack of precision inherent in ordinal scaling techniques. But it has been argued that the submission of frequency counts, and of size estimates of

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latitudes of acceptance and rejection based on categories, to subsequent parametric analysis implies an operative assumption of equal intervals between categories, despite the Sherifs' disclaimer (McLaughlin and Sharman, 1972). In either case, precise quantification of relations between referents in the stimulus domain is not possible when attitudes are inferred from subject responses to linearly ordered alternatives.

A second method which has been employed to determine latitudes of acceptance, rejection, and subjects' own attitudes is the "own categories procedure." Essentially, this procedure is a derivative of Thurstone's Q-sort technique, with the difference that it allows the individual to use as many or as few categories as seem natural to him. This procedure has the advantage of not imposing a category system on the subject. With that exception, however, it shares all of the disadvantages discussed above as related to the method of ordered alternatives. In addition, it has the disadvantage of non-comparability of data, due to unequal numbers of categories across subjects.

A third method of assessing attitudes is the semantic differential technique employed by Diab (1965). In this procedure, subjects are asked to evaluate a topic (e.g. "Arab Unity") on seven point semantic differential scales intended to tap the evaluation, potency, and activity dimensions recommended by Osgood, Suci, and Tannenbaum (1957).

Alternative attitudes are therefore not imposed on subjects. It is questionable, however, that the stimulus is unambiguously perceived across Ss, and entirely possible that the Ss are in fact responding to stimuli which are perceived to differ along dimensions other than those utilized to measure their meaning. In avoiding the assumption of unidimensionality, Diab instead imposes a three-dimensional predefined stimulus domain on his subjects. Further, the imposition of the model requires adoption of such assumptions of factor analysis as intervality, standard attribute (dimension) length, a meaningful centroid, and exhaustiveness of the set of attributes from which the presented scales have been selected. Theoretical arguments and empirical evidence have been presented elsewhere (Cody, Marlier and Woelfel, 1975) questioning these assumptions.

In sum, it has been argued here that procedures which have been employed to assess attitudes in social judgment research have lacked precision and/or have failed to meet the requirements of the theoretic conception of attitude for several reasons:

1. failure to allow for individual differences in stimulus domains,

2. the most common procedure, the ordered alternatives method, superimposes judgmental categories on subjects,

3. all methods discussed make assumptions

of dimensionality and/or transitivity which they do
not test, and

4. the intervals between categories are either un-
known or assumed in all methods.

Methods of operationalizing involvement in an issue
have largely depended upon the operationalization of atti-
tude and determination of sizes of latitudes of acceptance
and rejection. Involvement has been inferred from the rela-
tive size of (or numbers of items included in) latitudes of
rejection, noncommitment, and acceptance when either the own
categories or ordered alternative procedures have been
utilized. (See e.g. Sherif et al., 1965; Sereno, 1968;
Sereno and Mortensen, 1969; Mortensen and Sereno, 1970;
Sereno and Bodaken, 1972). Results support the conclusion
that highly involved subjects are less prone to assimilate
communication toward their own views than are less involved
subjects. Such results cannot be conclusive, however, as
long as they depend ultimately on measurement of attitude and
assessment of latitudes of acceptance and rejection as impre-
cise as those which have been used. Furthermore, Diab's
(1965a) finding of variations in the relative sizes of lati-
tudes of acceptance and rejection depending on the affective
direction of Ss' involvement suggests the possibility of
systematic artifacts resulting from interactions between the
content of particular messages and the attitude of the re-
ceiver confounding this operationalization.

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Diab (1965a) operationalized involvement through a variation of the ordered alternatives procedure. Having given Ss a series of statements assumed to represent continua of alternative referents along evaluation and "possibility" dimensions, he asked them to indicate both the one they agreed with most and the strength of their feelings of agreement (very strong, strong, or mild). While this procedure circumvents the possible interactions between attitudinal valence and latitude size, it does so at the cost of possible response bias and without increasing precision of scaling above the ordinal level.

In a later article, Diab (1967) suggests a procedure for operationalizing involvement by having Ss mark most acceptable, acceptable, and unacceptable spaces on this sematic differential scales utilized to measure the meanings of topics, and then using the sizes of the latitudes determined in the way to estimate involvement levels. Sereno (1969) sees great advantage in this technique, particularly in terms of ease of administration and standardization of pre and post tests which is impossible with the own categories procedure. Even if acceptance or rejection of semantic differential spaces can be considered equivalent to acceptance or rejection of attitudinal statements in the ordered alternatives or own categories procedures, however, the troublesome valence-latitude size interaction (Diab, 1965a) reappears when involvement is operationalized in this way. Further, evidence

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is available that acceptance or rejection of semantic dif-
ferential spaces is not equivalent to acceptance or rejec-
tion of attitudinal statements. Wilmot (1971a, b) has found
low correlations between involvement scores obtained using
these various procedures, and concluded that the "different
operational definitions measure diverse variables" (1971b).
It is important to note, too, that this conclusion stimulates
additional doubt about the efficacy of semantic differential
measures of attitude.

Finally, the operationalization of degree of message
structure has been achieved through adjustments of messages
to either draw conclusions implicitly or explicitly (e.g.
Hovland and Mandell, 1952). While this method has indicated
the potential importance of degree of structure as a mediat-
ing variable, supporting the theoretic proposition that
highly structured messages are less susceptible to assimila-
tion and contrast than less structured messages, it has not
allowed researchers to predict the effects of uncontrolled
structural properties in given messages. In short, revision
of social judgment methodology should either provide a way
to control all salient aspects of message structure (an un-
realistic goal), or provide some measure of the degree to
which subjects perceive a message as being structured (which
is feasible).

This section of the paper has dealt with operations
employed in social judgment research and the problems

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associated with those operations. The next section proposes alternative methodology applicable to this research, capable of circumventing the problems discussed above.

ALTERNATIVE OPERATIONAL APPROACH TO SOCIAL JUDGMENT VARIABLES

The methodology proposed here for test of social judgment predictions about message placement (and, ultimately, attitude change) begins with the content analytic selection of ordered alternatives representing as wide a range as possible of abstract yet identifiable positions in the stimulus domain of any individual relative to the given issue. Traditionally, social judgment researchers have selected nine such alternative position statements. Under the procedure proposed here, precision would be increased as the number of such statements increased, up to a point at which subject fatigue would begin to contribute to unreliability. Anywhere from nine to fifteen would be acceptable.

Step two is the presentation of these ordered alternatives in all possible pairs for comparison with each other. As discussed by Sherif and Hovland (1961), this technique shows great potential for increasing reliability of ordered alternative measures. Sherif and Sherif (1967, p. 128) mention an unpublished study by Koslin in which repreated reliability ratings $\geq$ .95 were obtained by the paired comparison presentation of categorical ordered alternatives on a highly involving issue.

In our procedure a more complex judgment (i.e., a quantified estimate of distances between pairs, relative to a standard distance represented by the distance between the first pair presented) will be required of subjects. This additional judgmental complexity can be expected to reduce measurement reliability. The reduction due to increased judgmental complexity, however, should be counterbalanced by an increase in reliability due to analytic procedures which allow deviations from unidimensionality to be attributed to something other than error variance. Furthermore, the increase in judgmental complexity should not be great, since subjects are conceived of as residents of a stimulus domain containing referents which they view in terms of their interrelationships, i.e., relative distances from each other. This procedure merely asks for estimates of the relative sizes of these distances within a stimulus domain, in terms of each other. No outside standards of distance are imposed. It may be argued, of course, that analyses of conceptual spatial relationships in which individuals are the units of analysis are highly unstable. This argument does not hold against this procedure, however, because the conceptual stimulus domains of all individuals involved contain, in common, abstract alternative referents. The theoretic conception of a stimulus domain considers these referents to have fixed positions, relative to each other, which are stable over time since the referents are not spatio-temporally bound,

i.e. are not associated with particular individuals or times.
They are, rather, alternative possible positions which might
be held by any individual at any point in time. Individual
differences in perceptions of the relationships between these
referents must therefore be viewed as resulting from differ-
ing perspectives of individuals located at different points
in space relative to those referents. More will be said
about this in the section on data analysis. For now, suffice
it to note that the stabilizing effect of abstract referents
whose relationship to each other is fixed in the stimulus
domains of all subjects, should resolve the potential problem
of instability of individual units of analysis. The feasibil-
ity of such judgments is therefore entirely consistent with
the social judgment conception of attitude discussed earlier.

The paired comparison method also holds a conceptual ad-
vantage over traditional ordered alternative presentations in
two other ways: (1) by not bounding the subject within pre-
sumed outer limits of attitudinal referents, paired compari-
sons allow accurate representation of the relative position
of subjects whose own positions may be more extreme than the
end point of the ordered alternative scale, and (2) paired
comparison allows a check on the transitivity of the presumed
ordinal scale.

Message presentation under this procedure is identical
to message presentation in prior social judgment research.
It is suggested, at least initially, until the viability

of these procedures has been established, that parsimonious
investigation requires rigorous control of the confounding
variable of source credibility.

Post-test procedures repeat the pre-test procedures,
with the exception that post-test questionnaires must include
the attitude expressed in the message as one of the referents
in the paired comparison procedure.

The primary distinction between procedures proposed here
and traditional social judgment procedures lies in the analy-
sis of the data. For reasons cited earlier, which follow the
line of reasoning laid out by McLaughlin and Sharman (1972),
a joint subject-concept space will be mathematically generated
from the data, which corresponds to the social judgment con-
ception of a stimulus domain. The immediate and most obvious
advantage this system provides is a check on the dimensional-
ity of the stimulus domain, i.e., on the assumption of un-
dimensionality implicit in the ordinal scaling techniques
employed previously. Mathematical generation of such a space
allows the stimulus domain to assume any number of dimensions,
rather than forcing its referents into the closest approxima-
tion of a one dimensional fit. It is important to note, how-
ever, that the mathematical procedure involved in generating
such a space does not force dimensionality on the interrela-
tionships of a set of constructs. If the implicit scaling
assumptions of ordinality hold, the space generated will be
unidimensional. If not, the researcher not only knows the

dimensionality of the space (stimulus domain) involved, but can analyze his data regardless of it. In McLaughlin and Sharman's (1972) study these assumptions were faulty enough to result in the generation of a two dimensional space, but analysis was not stymied by that fact. This is an important advantage of multi-dimensional procedures such as the one proposed here.

An important distinction between McLaughlin's method and the one proposed lies in the distinction between metric and non-metric scaling techniques. McLaughlin's non-metric multi-dimensional procedure controls some of the problems of unidimensionality and transitivity, but does not allow for determination of interval size. The quantification of paired comparisons under our procedure does allow for this determination, and thus for increased precision in defining the conceptual stimulus domain.

Several other characteristics of such a space should be noted here.

First, if subjects are selected randomly, and distributed randomly with regard to their own positions in the space, extremely accurate positioning of the "real," or aggregate mean, location of the referents is possible. This point is perhaps best illustrated by means of a diagram (Fig. 1) which, for illustrative clarity, represents the case of a two dimensional space.

Where: A, B, C, D, are referents; 1, 2, 3, 4, 5 are subjects; i, j, k, 1 are perpendiculars representing perceived interpoint distances
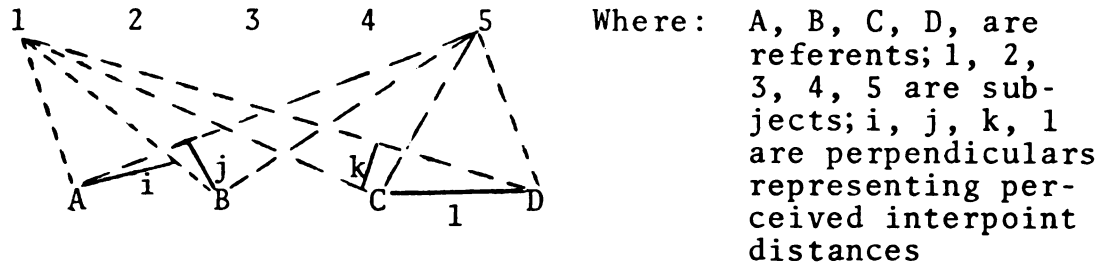
FIGURE 1

Theoretically, since referents A, B, C, and D, are alternative possible positions in the stimulus domain which are abstract in nature, their positions related to each other are fixed, and not subject to change over time as the positions of individuals (attitudes) are. Consequently, it is consistent with the social judgment conception of attitude to view differences in individuals' judgments of these distances as resulting from differences in the positions of those individuals, i.e., their perspectives in viewing the referents. For example, in Fig. 1, subject 1 will perceive the distance between referents C and D as being the length of perpendicular k. Similarly, subject 5 will perceive distance AB as the length of perpendicular j, and distance CD as the length of 1. The distances which individuals perceive between messages, then, are a function of the individuals position in the space relative to those referents. In this example, subject 1 will perceive distance AB as larger than will subject 5. Conversely, subject 5

will perceive distance CD to be larger than will subject 1, since the angle C5D is larger than the angle C1D. Thus no individual subject will accurately perceive the "real" fixed interpoint distances between all abstract referents. The mean of all estimates of these distances made by a large number of subjects whose positions are randomly distributed in space, however, will be an accurate figure, since variations due to all perspectives are approximated by this procedure. Thus, this procedure circumvents the lack of precision which has resulted from arbitrary _a priori_ placement of referent alternatives at assumed equal intervals along a single dimension in a stimulus domain.

This procedure also allows for the effects of different referents being present in an individual's stimulus domain (i.e., snake bites, corrupt public officials, or attitudes toward public education) without altering his final position relative to the "real" position of the presented referents. In other words, it allows for individual differences in the referent content of subjects' stimulus domains. Furthermore, it circumvents the problem of forcing subjects into categories which have been specified by the experimenter, without the necessity of presenting every referent which might also reside in an individual's stimulus domain. For example, in Figure 2, consider A, B, C to be presented referents, with distance AB equal to distance BC, as determined by the aggregate. Subject 1 reports that his position in his own

R2

2

i   M   j

3

A_____B1_____C

k   1

R2, A, B, C = Referents
1, 2, 3 = Subjects
j = i
k = 1
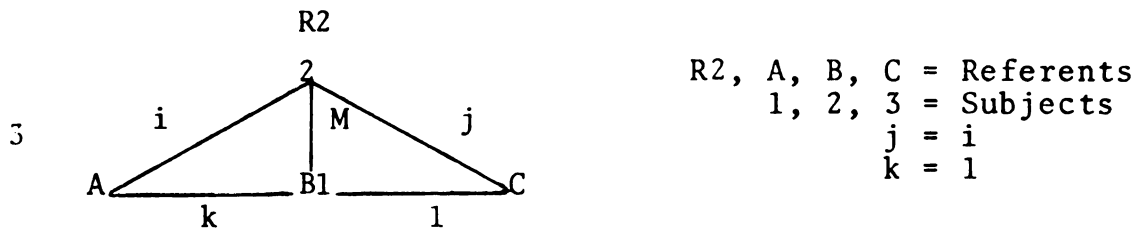
FIGURE 2

stimulus domain is equidistant from A and C, and the same

as B. Subject 2 also perceives his own position in his stim-

ulus domain as being equidistant from A and C. His stimulus

domain, however, also contains referent R2. The experimenter

did not present R2 as a possible alternative position. In-

deed, R2 may (or may not) be identifiable only to the par-

ticular subject involved. Nevertheless, subject 2 may report

his position as being equidistant from A and C, and also some

distance (M) from B (closer to R2 than to B) under this pro-

cedure. Thus, the effects of differences in referents pre-

sent in individual stimulus domains can be accounted for in

this system without experimental presentation of every refer-

ent any individual could identify in his stimulus domain.

The presented referents (A, B, C) must be assumed to be

public knowledge, i.e., present and identifiable as a pos-

sible position in the stimulus domain of every individual.

But this method does not assume that the presented referents

represent every possible position in every individual's stim-

ulus domain. Implicitly, the more traditional ordered al-

ternative methods have made this assumption. In particular,

criticisms have been leveled at these more traditional
methods because they bound subject positions within the
extremes of the presented referents. No forced structur-
ing of individual stimulus domains is made with the method
proposed here, however, including binding of extreme posi-
tions. It is entirely possible for a subject to report dis-
tances of himself from referents which locate him beyond
the most extreme referent, as subject 3 has done in Figure 2.

Location of the message presented, i.e., its "real"
position, is also more precise under this system, for reasons
similar to those accounting for precision in locating refer-
ent alternatives. In prior studies (e.g., Hovland, et al.,
1957) a priori judges' ratings of attitudes actually ex-
pressed by a message have been utilized. This procedure
allows for precise location of the attitude expressed by a
message as the grand mean of all positions estimated by a
sample distributed randomly in the space. In so doing, it
also allows the message to lie somewhere in space other than
on the single dimension presumed to contain all of the order-
ed alternatives under the older method. For example, in
Figure 3, M is the aggregate mean estimate of the position
of the message relative to presented referents and subjects.
In other words, the position of M in the space represents
the attitude which the subject population as a whole per-
ceived message M to be expressing on the issue. M_1, M_2...M_n

A, B, C = Referents
1, 2. 3, 4 = Subjects
M_1, M_2, M_3, M_4 = Subject's estimate
 of message placement
R = Radius of proximity sphere of
 estimates of message placement,
 indicating variance in subject
 estimates of message location
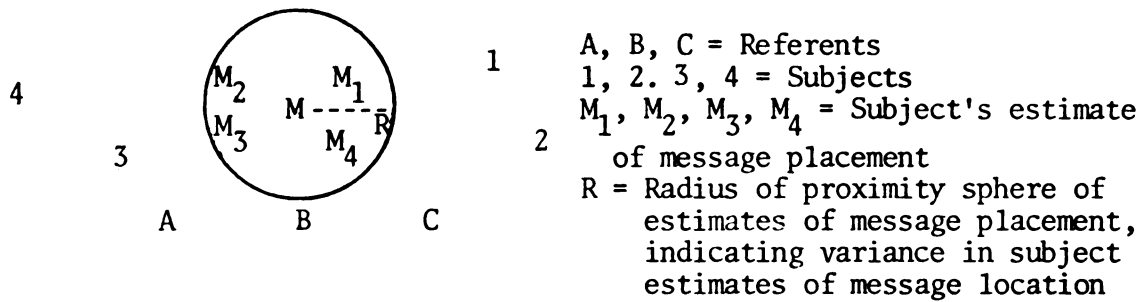
FIGURE 3

represent the positions (attitudes) of M which individual

subjects, 1, 2... N perceived message M to be expressing,

determined by individuals' estimates of M's distance from

themselves and from each of the referents. R represents the

radius of a circle (in two dimensional space) about M which

encompasses M_1, M_2...M_n. As R increases (i.e., as the var-

iance in individual subjects' perceptions of message location

increases), more space is encompassed by the circle. As more

space is encompassed by the circle, more positions in the

space may be considered as plausible positions which any one

of an infinitely large number of subjects might perceive the

message to occupy. In other words, as R increases the number

of alternative placements any one subject might perceive a

message to have in his stimulus domain increases. Since we

have already noted that social judgment theory defines the

degree of structure of a message as the inverse of the number

of alternative positions a message may be perceived as occupy-

ing in a stimulus domain, we may therefore conclude that the

quantified determination of R in distance units gives a

direct measure of the degree to which any message is struc-
tured. Heretofore, this variable has been viewed by social
judgment researchers as a highly uncontrollable, though
potent, variable. Thus, the two message variables under
consideration, attitude expressed by a message and degree of
structure of a message, should both be accurately measurable
with the procedure proposed here.

Involvement, under this system, may be estimated on the
basis of the size of latitudes (viewed as regions in the
space) of acceptance and rejection. As discussed earlier,
the determination of the size of these latitudes is less
precise than other operations proposed here, although more
precise than procedures previously used. For example in
Figure 4, the subject could be asked to state which of the
presented alternatives he found acceptable, and which he
rejected. Under this categorical estimation procedure, the
distance between the subject and the farthest acceptable
referent from him (R_1) would be considered the radius of
his latitude of acceptance. His involvement with the issue,
or commitment to his own position (degree to which he is
anchored) could then be estimated as a function of this
radius. The problem with this procedure is that the actual
boundary of his latitude of acceptance might fall between
referents. The alternative, then, is to ask the subject to
estimate the distance from his own position to the farthest
position which would be acceptable to him (R_2). But this
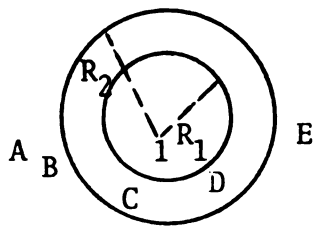
A, B, C, D = Referents
1 = Subject
R_1 = Categorical estimate of radius of latitude of acceptance
R_2 = Quantitative estimate of radius of latitude of acceptance.

FIGURE 4

judgment might be unreliable if the individual had no refer-
ent near that distance from his own position in his stimulus
domain against which to gauge his estimate. It is an em-
pirical question which of these procedures would yield more
useful data. Either of these procedures would yield more
precise results than methods previously used, but neither is
entirely satisfactory. Therefore, alternative operationali-
zations for the involvement variable should be sought. One
such alternative will be discussed later, as it is dependent
upon the placement of individual subjects in the multidimen-
sional space, and therefore is most easily understood as
part of the consideration of that variable.

Before discussing placement of the individual in the
space, however, it is necessary to recognize two assumptions
upon which these proposed procedures depend. Both are con-
sistent with the social judgment conception of attitude, as
discussed earlier; but neither is directly supported by prior
empirical evidence. The first is that interpoint distances
in a stimulus domain between abstract alternative referents

are stable over time for a given population, even though individual perceptions of those distances may change if the individual's position relative to them changes. The second is that individual subjects, as residents of stimulus domains, can reliably and accurately report relative distances between referents in those stimulus domains, as "seen" from their position.

The viability of the first assumption depends on the abstractness of referent alternative positions. Content analysis of public statements on issues has been performed in previous studies to select statements expressing attitudes to which all individuals have been exposed. These statements are then presented to subjects without reference to specific times or sources. They do not necessarily represent the position of anyone at any time, then, but rather represent possible positions which might be held by anyone at any time and are identifiable by everyone any time. As such, they are considered to provide constant stabilizing referent points, or landmarks, relative to which the individual may gauge his own position, at any time. The fact that prior studies which have tacitly made this assumption have reported results which support social judgment predictions lends some support to this assumption. Nevertheless, it should be checked in a manner consistent with these procedures in the course of any study employing them. Since referent positions are estimated by an aggregate mean procedure, a way of

performing this check is suggested. Aggregate spaces con-
taining the referents which have been generated at different
points in time, or by different samples drawn from the same
population, or both, are rotated to the closest fit mathe-
matically. Correlations of the coordinates of referents on
the coordinate axes of the space then yield an estimate of
the stability of the space.

High reliability (stability) is necessary at this aggre-
gate level of analysis for the methods proposed here to ad-
equately test social judgment predictions about individual
perceptions of messages. The spatial (stimulus domain) di-
mensions reported by any individual at different points in
time (i.e., before and after hearing a message on the topic)
will vary if the individual's position (attitude) in the
stimulus domain changes. If the distances which the indi-
vidual perceives as having changed are between referents
which have themselves remained stable relative to each other,
however, we may safely conclude that it is the individual's
position (perspective) which has changed, rather than the
position of the referents. Thus, demonstrable aggregate
stability of presented referents across time allows the re-
searcher to utilize their positions as landmarks in com-
paring the stimulus domains of a given individual at differ-
ing points in time. For example, in Figure 5, Subject 1
would estimate the distance BC to be much smaller than the
distance AB. (The normatively perceived, or "real,"

1_{T1} 1_{T2} A, B, C = Referents
1_{T1} = Subject at time 1
1_{T2} = Subject at time 2
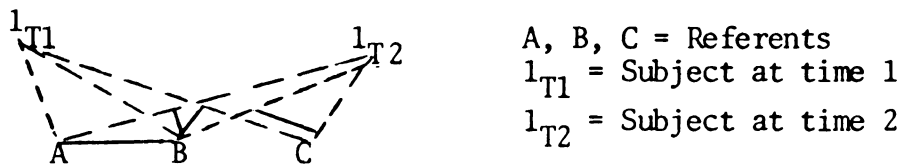
FIGURE 5

distances, as determined by the aggregate mean, are known.)
At Time 2, however, because his change in position (attitude)
has altered his perspective, Subject 1 would provide a much
larger (and more "realistic") estimate of the interpoint
distance BC, while his estimate of the interpoint distance
AB would be smaller. If we did not know the "real" distances
AB and BC, or if those distances were known but had changed
across time, it would be difficult to determine the relative
positions of Subject 1 at Time 1 and Time 2. If, however,
the "real" positions of these referents have remained stable
relative to each other, then we safely conclude that Subject
1 has changed position. We can locate both the new and the
old positions in the same space, using the stable referent
points common to his stimulus domains at both points in time.

Given the stability of the referent positions over time,
then, it should be possible to locate an individual within
his stimulus domain, relative to those stable referents which
he recognizes in common with other members of his population,
at different points in time. His estimates of his own dis-
tances from any combination of three referents will locate a

point at which he may lie in the space. Taking all possible
combinations of referents and his estimated distances from
them, then, will result in the definition of a proximity
sphere within which the individual must lie. The location
of the individual which is most likely, then, will be the
center of the sphere, or the grand mean of all of the tri-
angulated positions. Such a proximity sphere is represented
in Figure 6 as a circle in two dimensional space, of radius
R.

A, B, C. D = Referents
1 = Subject mean location
1_{ABC} = Subject location tri-
angulated from distance
estimates from A, B, C
1_{BCD} = ... from B, C, and D
Etc.
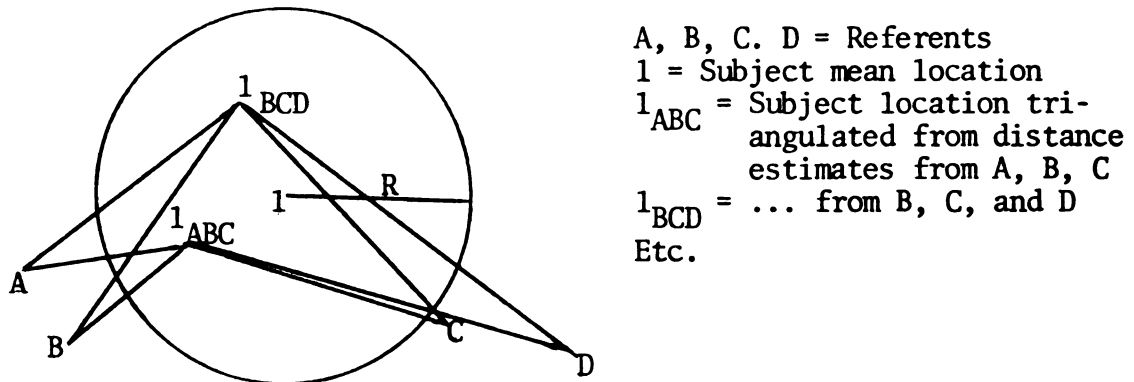
FIGURE 6

It is at this point that the validity of the assumption
that individuals can make reliable and accurate judgments of
relative distances within their stimulus domains must be
considered. If the individual can make such judgments re-
liably and accurately, it would seem to follow that the mag-
nitude of Radius R would be small. Relatively large radii
of individuals' proximity spheres could then be viewed as
evidence that the second key theoretic assumption upon which

these procedures depend is invalid. Upon closer examination,
however, we find that this need not be so. A proximity
sphere of large radius about the individual may, indeed, be
a result of unreliable distance estimates on the part of
that individual. There is some theoretic justification, how-
ever, for the possibility that such a large radius would be
an indicant of low involvement with the issue, or a combina-
tion of the two.

If we view the size of an individual's proximity sphere
as indicating the number of alternative placements he vis-
ualizes himself as potentially occupying in the space, then
it is plausible to consider the radius of this sphere as an
indicant of involvement with the issue. Theoretically, a
highly involved individual is strongly anchored in his own
position, knows what that position is, and would be unlikely
to provide distance estimates which would indicate the possi-
bility of his occupying a wide range of other positions.
Conversely, a subject who is not very involved, i.e., whose
own position provides only a weak anchor, should be able to
visualize himself as occupying a wider range of positions in
the space. Thus, the radius of the proximity sphere about
the individual may be a better quantitative estimator of
involvement than the other procedures suggested to measure
this variable earlier. Taken alone, this argument would
seem to stymie the check on reliability of individual judg-
ments which was potentially derivable from the magnitude of

radius R. Furthermore, even if R is an indicant of involve-
ment, it may or may not also be an indicant of unreliability
of individual judgments. Therefore, R cannot soundly be
conceived of as a function of unreliability. Neither can it
be utilized as an indicant of involvement, unless a check
can be provided on the contribution of unreliability to its
magnitude.

An alternative measure of reliability of individual
judgments of distances in the stimulus domain may be derived
from the individuals' estimates of interpoint distances be-
tween referents. Taking the position of the individual to
be the center of the proximity sphere about him, it is pos-
sible to compute the distances between each pair of referents
which would be reported by an individual in that position
who was reliably judging distances in the stimulus domain.
The distances actually reported by the individual may then
be subtracted from the distances he would have reported if
his judgments had been accurate. These error terms in judg-
ments of interpoint distances between referents from indi-
viduals' perspectives may then be summed, and expressed as
a percentage of the total of interpoint distances estimated.
For example, in Figure 7, Subject 1, in a known position
should perceive the interpoint distances between A and B,
B and C, C and D, A and D, etc., as the magnitudes of the
perpendiculars i, j, and k respectively. He reports esti-
mates of those distances as i', j', and k'. The error (E)
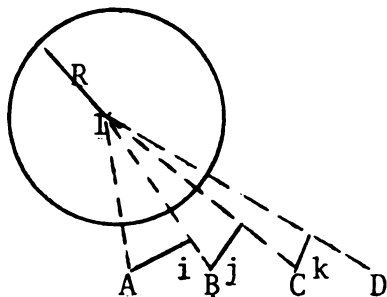
A, B, C, D = Referents
R = Radius of proximity sphere
1 = mean location of subject

FIGURE 7

of judgmental capacity in the stimulus domain would be

approximated by:

$$E = i - i' + j - j' + k - k' \ldots + n - n'$$

or, expressed as a percentage unreliability estimate (u):

$$U = \frac{E}{i + j = k \ldots + n} \times 100$$

The reliability (R) of judgmental capacity within the

stimulus domain would then be estimated by:

$$1 - U = R.$$

This reliability does two things. First, it provides

a check of the theoretic assumption that individuals are

capable of making reliable judgments of relative distances

between referents within their stimulus domains. And second,

it provides a figure of unreliability which can be compared

to the magnitude of R. Such comparison potentially would

allow utilization of the radius of the proximity sphere

about the individual as a measure of involvement,

uncontaminated by unreliability. The question of the efficacy of such utilization is, therefore, an empirical one.

CONCLUSION

Procedures have been proposed, and developed conceptually, for precise test of social judgment predictions about message placement and, by extension, attitude change. These procedures meet the conceptual requirements of the theory, centering around the placement of referents, subjects, and messages in a stimulus domain, analogous to the conceptual space generated mathematically by these procedures. Precise quantification of the variables attitude, message structure, and involvement is potentially possible by these methods. Once such quantification is achieved, social judgment theory may be reformulated as a mathematical formula, directly testable by controlled experiment, and subject to falsification.

CHAPTER II

METHODS, STUDY I

INTRODUCTION

    The procedures suggested depend for their viability
upon two assumptions. Explicit recognition of these assumptions is useful in identifying criteria by which the adequacy of an experimental test may be judged.

    The first is that multi-dimensional spaces in which
individuals are the units of analysis, generated at two
points in time, can be stabilized by inclusion of referent
points, whose location relative to each other is stable, in
both spaces. As discussed earlier, comparability of such
spaces can be established if the stability of the spatial
interrelationships among abstract alternative referents can
be. To the degree that these relationships among referents
are unstable, measurement of spatial dimensions relative
to those referents must be considered unreliable. Correlations of referent locations to themselves at different
points in time have been suggested as a measure of this stability. Since the feasibility of these procedures depends
on the assumption of stability of referents, a requirement
that mean correlations be $\geq$ .90 is considered necessary to
justify these procedures.

    The second assumption upon which the utility of these
procedures depends is that individuals can make reliable
quantitative judgments of relative distances between points

36

within their stimulus domains. Procedures have been described for estimation of the unreliability of these judgments. No *a priori* requirement for such reliability is set, however, since the utility of predictions made more or less precise by such individual judgmental unreliability is essentially a pragmatic question.

Experimentally, we wished to determine, through a series of experiments, the functional relations between discrepancy, involvement, and message structure which would yield accurate values of displacement as measured experimentally. A series of at least three experiments were required to achieve this, since the degree to which a message was structured in any one experiment could only have one value, and the relationship between message structure and displacement could be curvilinear. Further replications were desirable, however, as each new value of message structure for which values of displacement, discrepancy, and involvement were known for individuals added to the precision with which the relationship between message structure and displacement could be estimated.

Such a series of experiments, to yield meaningful results, was required to meet the following criteria:
1. They should allow for comparison of referent positions (stability of the aggregate spaces) for the same sample at two points in time, and for random samples drawn from the same population at one time. Additional stability measures for different random samples drawn from the

same population at different points in time were also desirable.

2. Individual's attitudes toward the topic, and involvement with the topic, should both be dispersed widely in approximately normal distributions in the population from which samples were drawn.

3. The topic should be one about which public statements, pro, con, and neutral have been made which the subjects would recognize. One topic was used for this series of experiments, but later replications should be performed to assure generalizability of the functional relations across topics.

4. Messages on the topic in succeeding trials should vary widely in the degree to which they are structured. In this series of experiments, messages of varying structure which expressed an approximately neutral attitude on the topic were used in the first three trials. Later messages expressed more extreme attitudes, in order to assure that the data collected would represent as wide a range of values for the principle variable, discrepancy, as possible.

These requirements were met by an offset series of pretest-postest with control experiments (represented schematically in Figure 8), and the procedures described below.

Group 1   N = 150 O_{11} X_1 O_{12}

Group 2   N = 75 O_{21} X_2 O_{22}

Group 3   N = 75 O_{31} X_3 O_{32}

Group 4   N = 75* O_{41} X_4 O_{42}

Group 5   N = 75* O_{51} X_5 O_{52}

    * The total number of subjects required is reduced to
300 by random assignment of subjects from Group 1 to Groups
4 and 5. This procedures allows spatial stability (reliability)
estimates to be computed for the same subjects over a longer
period of time than simple pretest-postest measures. Since cross
group reliability measures can be computed comparing Group 1,
Groups 2 and 3, this procedures does not reduce the number of
reliability checks which can be made within the design.

FIGURE 8

EXPERIMENTAL DESIGN

PROCEDURES

Topic selection. Seventy-four students in two communication
classes were presented with Likert Type items related to
eleven different controversial topics. For each topic they
were asked to indicate on a seven point scale the extent of
their agreement-disagreement with a statement expressing an
extreme stand on the issue (e.g., abortion is no better than
murder). They were then asked to indicate how important
each issue was to them on a seven point semantic differential.
Finally, they were asked to indicate sources, other than
interpersonal sources, from which they had obtained information

or opinions related to each topic. (See Appendix A).
Coefficients of skewness were then computed for the responses
to the Likert and semantic differential items. Of the eleven topics, two had non-skewed response distributions on
both the attitude and the involvement measures. Visual
inspection of a plot of these distributions indicated the
possibility of a ceiling effect for the attitude measure on
one of these topics. The nature of the topic (homosexual
marriage) made the presence of such an effect seem plausible.
The topic was then eliminated from consideration, because
of the possibly artifactual nature of the non-skewed distribution of attitudes, and the remaining topic (railroad nationalization) was selected for the study.

Sources from which students indicated that they had
received information about the topic were then examined.
Content of articles from the past five years dealing with
railroad nationalization was analyzed, and yielded on hundred forty-four statements expressing a wide range of attitudes on the subject of railroad nationalization. These
statements were all expressed in abstract, i.e., non spatio-temporally bound, form. (See Appendix B).

Subject selection. Since there was no theoretic reason to
believe that the functional relationships being examined in
this study were specific to a particular type of subject
population, student subjects were used. Generalizability
of findings to other populations, however, will require
future replications.

Three hundred and one students in seventeen communication classes participated in the experiment. Some were required to participate in a study as a course requirement and some were not. Some received credit for participation and some did not. Participation in this particular study, however, was voluntary for all. Sign-up sheets were distributed in each class, asking students to sign only if they were willing to devote from one to three hours of time outside of class to the study. Each S who signed these sheets was then assigned a number. Experimental groups 2, 3, 4 and 5 were then filled by assigning Ss to them sequentially as their number appeared in a table of random numbers. Identical procedures were used to randomly draw a sample of twenty Q-sort participants, each of whom was also a member of an experimental group, from the entire subject population. Group 1 was formed by combining groups 4 and 5, which therefore constituted randomized split-halves of group 1.

Q-sort and referent selection. The one hundred forty-four abstract attitudinal statements which had been culled from students' information sources were sorted into eleven categories by each of the twenty Q-sort particpants, in accordance with Thurstone's technique. One end of the eleven point scale was identified as representing an extreme laissez-faire attitude toward railroads, exemplified by the statement "The government should NOT interfere in any way with the railroad industry, either by regulating it OR by subsidizing it." The other end of the scale was identified

as representing an extreme pro-nationalization stand, exemplified by the statement "The government should own and operate all railroad facilities." Both of these statements were included among the statements to be sorted. Ss were then asked to place each statement in the category along the scale which most nearly approximated the attitude they perceived that statement to be expressing toward the railroad-government relationship.

Data from three of the Q-sort participants were discarded because of misplacement of the two criterion statements. The purpose of the Q-sort was to identify referents which were perceived unambiguously by Ss using the same criterion for distinction. Since misplacement of the criterion statements by these three Ss indicated that they were not making distinctions according to the given criterion, variance between their placements and those of the other Ss could not be taken as a valid indicant of ambiguity in the referent statements themselves.

Means and variances were computed for the placements of each of the statements by the remaining seventeen Ss. (See Appendix B). Nine statements with extremely low variance in placement, with mean placements ranging in approximately equal intervals across the eleven point scale, were then selected as referents. The adjacent pair of these statements whose mean placements were most central on the scale was chosen to define the unit of conceptual distance for the study, with the distance between them

being given as ten units. (See Table 1).

Pretest questionnaire. (Appendix C). The pretest ques-
tionnaire presented all possible pairs of the nine refer-
ent alternative, specifying that the first pair presented
was separated by a distance of ten units.

Order effects in the presentation of pairs of refer-
ents were minimized in the following manner. The seven
Q-sort cards with non-criterion referents were shuffled.
The statement at the top of this deck was then presented
eight times, paired with each of the remaining referents.
The second statement was then presented, paired with each
of the remaining seven statements, and so on. Ss were
asked to estimate the distance between each pair in the
same units of conceptual distance defined by the first pair.

Following the presentation of referent pairs, Ss were
asked to estimate the distance between "the way YOU feel
about railroads" and the attitude expressed by each refer-
ent. Next, Ss were asked to indicate which referents
expressed attitudes they found acceptable, which expressed
attitudes they found unacceptable and would reject, and
which expressed attitudes which they would neither accept
not reject. They were then asked to estimate the distance
to the nearest attitude they would reject. Finally, demo-
graphic data was solicited, including sex, race, age,
hometown population, approximate family income, college
rank, and grade point average.

TABLE 1

CONCEPT NUMBERS OF SCALED REFERENT STATEMENTS,
WITH MEANS AND VARIANCES OF Q-SORT PLACEMENTS

Concept	Statement	Mean Q-Sort Placement	Variance of Q-Sort Placement
1.*	THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY	5.58	1.25
2.*	THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIP-MENT SO THAT THEY CAN ATTRACT MORE PASSENGERS	4.23	1.19
3.	THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT	2.52	0.88
4.	GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT	7.88	1.98
5.	ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT	1.70	0.72
6.	RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS WITHOUT GOVERNMENT APPROVAL	9.82	0.52
7.	THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES	1.00	0.00
8.	RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR CARRYING FREIGHT	8.82	0.52
9.	THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT	11.00	0.00
10.	THE WAY YOU FEEL ABOUT RAILROADS [Not included in Q-Sort]		
11.	THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION" [Not included in Q-Sort]		

* Denotes criterion statement pair defined as expressing opinions ten (10) Galileos apart.

Message construction. (See Appendix D). Five messages
were required, of varying degrees of structure. The
first of these was constructed from statements representing
the entire range of attitudes on the topic, with a mean
attitude expressed near neutrality, as determined by the
Q-sort technique discussed earlier. This procedure was
intended to produce a message which would be highly suscep-
tible to displacement, i.e., highly unstructured and ambi-
guous. The second message was constructed from statements
representing a narrower range of attitudes, also with a
mean near neutrality. This message was intended to be per-
ceived as unstructured, but not as much so as the first.
The third message was constructed from statements in an
extremely narrow central range of attitudes expressed, and
explicitly drew the conclusion that neutrality was the only
reasonable stand on the issue. The fourth and fifth mes-
sages expressed mean attitudes further from neutrality, in
order to extend the range of subject-attitude distances
from attitudes expressed in the messages. Both of these
messages were constructed from a range of statements at
one end of the scale, but neither drew explicit conclusions.
This technique was intended to result in middle range per-
ceptions of structure, but attitudinal deviance from neu-
trality, with one message expressing a favorable and the
other an unfavorable attitude toward railroad nationaliza-
tion. Messages were presented in written form so as to
avoid the possibility of physical or vocal characteristics

of a speaker on video or audio tape creating differential subject perceptions of source credibility. Messages were not attributed to any source or organization.

Postest questionnaire. (Appendix E). The postest questionnaire began with presentation of all possible pairs of referents, duplicating the first portion of the pretest questionnaire. Ss were then asked once again to estimate the distance between their own attitudes and that expressed by each referent. This procedure was designed to allow cross group stability (reliability) checks at each stage of the study. Messages were then presented as a page in the questionnaire. Finally, Ss were asked to estimate the distance between each of the referents and the attitude expressed by the message.

Experimental procedure. One week before data collection began, each S was sent a letter informing him of the days he would receive questionnaires in his communication class. The appropriate questionnaire , precoded as to subject number, group, and treatment, was then distributed to each S on the same class day that other members of his experimental group received the same form. Ss were instructed to complete the questionnaires at home and return them at the next class meeting. At that time the postest questionnaires were distributed. Deliveries and exchanges of completed for uncompleted questionnaires involving students who were absent from class were made on an individual basis at the

S's home between class meetings. These procedures were repeated for each level of the study.

CHAPTER III

RESULTS, STUDY I

ATTRITION AND RANDOMIZATION CHECK

Three hundred Ss volunteered to participate in the
study, and 231 provided usable data on all questionnaires
distributed to their treatment groups. Six questionnaires
were considered unusable, and the data from them discarded,
because of repeated occurrences of responses greater than
1000 to items with mean responses for all Ss of less than
40. The remaining attrition was attributable to uncom-
pleted or unreturned questionnaires. Of the group one Ss,
each of whom received four questionnaires, 121 completed
and returned the first two, while 112 completed and returned
all four. The result of this attrition, then, was that a
total of 352 cases were observed (with repeated measures
for each S), yielding ten treatment group observations
(see design, Fig. 8). The largest n for any observation
was 121 (O_{11} & O_{12}), while the smallest was 53 (O_{51} & O_{52}).
One way analyses of variance and chi square tests revealed
no significant differences between experimental groups on
any of the measured demographic characteristics.

STABILITY ESTIMATION

To estimate the stability of the aggregate spaces
across both groups and time the following procedure was
employed.

All data across all groups and measures was aggregated,

48

and a metric multidimensional space generated. This
total aggregate space was then taken as the best estimate
of the underlying structure of the culturally normative
stimulus domain, i.e., as providing the best estimate of
the spatial configuration which data gathered from each
treatment group at each point in time should approximate
if the scale was to be accepted as reliable in the aggregate.
This total aggregate space contained eleven factors
(dimensions), the first seven of which had positive eigen
roots, and the first three of which accounted for eighty-
nine percent of the real (non-imaginary) distance in the
space. None of the other non-imaginary dimensions accounted
for more than four percent of the real distance in the space,
and the seventh accounted for less than one percent. (See
Table 2).

Spaces were then generated from data gathered from
each treatment group at each point in time. The largest
number of real dimensions in any of these ten spaces was
seven, and the smallest was six. Each of these ten spaces
was then rotated into a least squares best fit with the
total aggregate space. Product moment correlations were
then computed between each vector representing a stable
alternative referent in the total aggregate space and the
corresponding vector in each of the ten treatment group
spaces, taking the factor loadings (coordinates) of the
concept vectors on each of the first six real dimensions
as observations. The resulting correlation matrix

TABLE 2

COORDINATES OF CONCEPTS IN TOTAL AGGREGATE (CRITERION) SPACE

DIMENSIONS

CONCEPT	1	2	3	4	5	6	7	8	9	10	11
1	.535	-5.710	-2.537	-4.189	-.073	4.625	-.603	-.008	.003	.332	-4.097
2	-3.123	-7.682	-1.176	.961	-3.472	-2.819	.094	-.004	-.292	1.937	-.866
3	-11.019	-1.408	.438	1.853	4.646	.577	2.432	.001	.159	.656	-.554
4	8.959	-.120	-1.050	4.417	-3.022	.778	.655	-.003	.955	-.937	-2.294
5	-13.869	8.989	-.179	-2.334	.491	-1.470	-1.616	-.001	.918	.586	.683
6	8.813	3.167	2.214	-4.374	.064	-3.248	1.155	.007	-.260	-1.005	-4.511
7	-17.904	7.481	-1.193	1.251	-2.807	1.450	.367	-.004	-.841	-.926	1.089
8	7.284	2.531	4.081	4.154	2.495	.167	-2.066	.013	-.499	.233	-3.366
9	21.097	8.095	-2.105	-.796	.112	1.119	.591	-.007	-.181	.963	5.361
10	.703	-7.589	-6.669	.340	2.400	-1.951	-.981	-.021	-.114	-1.292	3.179
11	-1.476	-7.755	8.177	-1.384	-.833	.771	-.129	.026	.150	-.546	5.386

EIGENVALUES (ROOTS) OF EIGENVECTOR MATRIX —

1	2	3	4	5	6	7	8	9	10	11
1303.066	430.094	147.896	87.861	63.600	50.770	16.082	-.001	-2.957	-10.332	-124.174

CUMULATIVE PERCENTAGES OF REAL DISTANCE ACCOUNTED FOR —

1	2	3	4	5	6	7	8	9	10	11
62.069	82.556	89.601	93.786	96.816	99.234	100.000	100.000	99.859	99.367	93.452

CUMULATIVE PERCENTAGES OF TOTAL (REAL AND IMAGINARY) DISTANCE ACCOUNTED FOR —

1	2	3	4	5	6	7	8	9	10	11
66.418	88.341	95.879	100.357	103.599	106.187	107.007	107.007	106.856	106.329	100.000

contained ten correlations, one for each treatment group
at each point in time, between each of the nine stable
referent vectors in the total aggregate space and the cor-
responding vector in each of the treatment group spaces.
These ninety correlations were then converted to Zs, and
the mean of the Zs computed. The mean Z score for the
ninety correlations was then reconverted to a correlation,
and taken as a measure of the extent to which each of the
spaces generated by treatment groups at each point in time
estimated the same underlying space. This aggregate sta-
bility was .948, which exceeded the .90 criterion figure
set in the proposal, so analysis continued. (See Table 3).

Operationalization of predictors. A matrix of total aggre-
gate mean interpoint distance estimates between each of the
referents and each of the other referents was punched, and
a data deck generated which duplicated this matrix 352
times (once for each observation). The last two columns
of this matrix (representing interpoint distance estimates
between S's own attitude and that expressed by each of the
referents, and distance estimates between the attitude
expressed by the message and that expressed by each of the
referents) were altered in each of these 352 matrices by
substituting the corresponding values obtained from each
individual S at each postest observation. These matrices
were then utilized to generate 352 multidimensional spaces,
one for each S at each postest observation. These spaces,
hereafter referred to as hybrid spaces because of the mixed

TABLE 3

CORRELATIONS OF STABLE CONCEPT VECTORS IN THE TOTAL AGGREGATE SPACE WITH CORRESPONDING VECTORS IN STUDY I TREATMENT GROUP SPACES, WITH z CONVERSIONS

Treatment Group and Time (See Design, Figure 8)

Concept		1·1	1·2	2·1	2·2	3·1	3·2	4·1	4·2	5·1	5·2	$\bar{z}$
1	r	.589	.980	.930	.511	.954	.943	.881	.893	.953	.973	
	z	0.676	2.298	1.658	0.565	1.874	1.768	1.381	1.437	1.864	2.146	1.566
2	r	.973	.866	.790	.569	.953	.924	.941	.993	.974	.439	
	z	2.145	1.317	1.071	0.648	1.864	1.616	1.748	2.826	2.165	0.472	1.587
3	r	.960	.806	.955	.985	.980	.978	.975	.924	.846	.896	
	z	1.946	1.116	1.887	2.410	2.298	2.249	2.185	1.616	1.242	1.452	1.840
4	r	.993	.990	.846	.897	.815	.975	.991	.845	.919	.843	
	z	2.760	2.647	1.242	1.462	1.142	2.185	2.704	1.239	1.583	1.232	1.819
5	r	.968	.996	.991	.944	.955	.969	.956	.907	.941	.956	
	z	2.060	3.106	2.704	1.774	1.887	2.076	1.897	1.510	1.748	1.897	2.065
6	r	.989	.824	.935	.871	.930	.789	.984	.857	.942	.931	
	z	2.601	1.169	1.697	1.336	1.658	1.069	2.410	1.282	1.756	1.665	1.664
7	r	.969	.999	.951	.980	.975	.926	.979	.993	.883	.961	
	z	1.959	3.453	1.843	2.298	2.190	1.630	2.275	2.826	1.390	1.959	2.182
8	r	.976	.693	.931	.729	.790	.761	.553	.840	.749	.726	
	z	2.205	0.856	1.666	0.927	1.071	0.999	0.623	1.221	0.971	0.920	1.145
9	r	.989	.999	.926	.994	.951	.989	.981	.989	.971	.889	
	z	2.601	3.453	1.630	2.903	1.843	2.601	2.328	2.601	2.110	1.417	2.448

$\bar{r} = .948$ $\bar{\bar{z}} = 1.812$

matrices used to generate them, represent the aggregate spaces as viewed by each individual.

These hybrid spaces all had at least two imaginary factors, i.e., factors with negative eigen roots, but some of them had *only* two imaginary factors.

As a measure of involvement, the absolute values of the loadings of each individual (as a concept) on these last two (imaginary) factors were averaged. Absolute values were utilized to avoid confounding estimates of the extent to which individuals could not be represented as point in real space with addition of loadings (coordinate values) of opposite sign. The *magnitude* of individual loadings on factors with imaginary eigen roots reflects the extent to which an individual cannot be represented in the aggregate real space as a point, i.e., his "size" in the space, or the extent to which he is uninvolved with the topic. The reciprocal of this figure was therefore taken, to reflect the extent to which each individual was involved in the topic. The mean value of this measure for the 352 cases was .157, with a minimum value of .008 and a maximum value of .370.[*]

Subsequent to the generation of the hybrid spaces described above, these 352 spaces were rotated into a least sqaures best fit with the total aggregate space, and loadings (coordinates) of the referents, messages, and individuals were punched. Unfortunately, available software

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[*]Initially, signed values of coordinate loadings were utilized to estimate involvement. For explanation see Appendix F.

would only punch the coordinates of the concepts on the first three real space factors, even though seven real (non-imaginary) factors had emerged in the total aggregate space. Since these first three factors accounted for 89 percent of the real distance in the total aggregate space, however, these coordinates were taken to closely approximate the location of concepts in the space.

Attitudinal discrepancy, or distance from the message, was computed using a three dimensional extension of the Pythagorean Theorem, as the geometric distance between the location of the individual in his hybrid space and the message in the aggregate space for that individual's treatment group. This computation resulted in a mean value of 23.908, with a minimum of 4.658 and a maximum of 317.300.

Degree of structure of message was computed in the following manner. First, the variance in message loadings (coordinates) on the first, or principle, factor in the rotated hybrid spaces of individuals in a treatment group was computed. This figure, if small, would be indicative of a high degree of structure. Its reciprocal was taken, therefore, so that larger numbers would indicate more structure. This figure was then multiplied by 100, in order to avoid indistinguishably small figures. The resulting values for the five messages had a mean of .999 with a minimum value of .354 and a maximum value of 1.596. (See Appendix D)

REGRESSION ANALYSES

Discrepancy, involvement and message structure were submitted as predictor variables to two stepwise multiple regression analyses. In the first of these, the magnitude of perceptual displacement was the criterion variable. In the second, a signed value of perceptual displacement was the criterion. In both, second, third, and fourth order power transformations of discrepancy, involvement, and message structure were also entered as predictors to check for curvilinear relationships.*

Displacement magnitude as criterion. The criterion variable for the first regression, displacement magnitude, was operationalized as the geometric distance between the location of the message in the individual's hybrid space and the location of the message in the aggregate space of the individual's treatment group. The mean value of this variable for the 352 cases was 16.860, with a minimum of 1.396 and a maximum of 283.509. Regression analysis (see Summary Table, Table 4) revealed that discrepancy was a powerful linear predictor, accounting for seventy-five percent of the variance in the magnitude of displacement ($r = .866$, $r^2 = .750$). Second and third power transformations of discrepancy also entered the equation, however, indicating a slightly

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*Regression analyses utilizing first power forms of the predictors, and logarithmic transformations of them, were conducted prior to the analyses reported here. For a summary of the results of these earlier analyses, see Appendix G.

TABLE 4

SUMMARY TABLE FOR REGRESSION WITH DISPLACEMENT MAGNITUDE AS CRITERION, STUDY I

STEP	VARIABLE ENTERED	F TO ENTER	SIGNIFICANCE $(P \geq)$	MULTIPLE R	R-SQUARE	R-SQUARE CHANGE	SIMPLE R
1	DISCREPANCY	1052.508	$\leq .001$	.866	.751	.751	.866
2	DISCREPANCY^2	55.346	$\leq .001$	.886	.785	.034	.841
3	DISCREPANCY^4	22.713	$\leq .001$	.893	.798	.013	.733
4	INVOLVEMENT	13.072	$\leq .001$	.897	.806	.007	-.442
5	INVOLVEMENT^2	18.879	$\leq .001$	.903	.815	.010	-.298
6	INVOLVEMENT^3	33.138	$\leq .001$	.912	.831	.016	-.207
7	MESSAGE STRUCTURE	12.977	$\leq .001$	.915	.838	.006	-.163
8	MESSAGE STRUCTURE^2	.345	$\leq .558$	.915	.838	.000	-.143

curvilinear relationship and accounting for nearly an additional four percent of variance. Involvement also predicted significantly, as did its second and third power transformations, accounting for an additional three percent of variance. Also worth noting is the large negative zero order correlation between displacement and the adjusted involvement variable (-.44), which corresponds to theoretical expectations and may be interpreted as an indication of construct validity. Message structure also predicted significantly in this analysis, although it added very little to the total variance explained. All together, the three predictors and their power transformations accounted for eighty four percent of the variance in computed values of displacement (r = .915, r^2 = .838). Regression coefficients for significant predictors are given in Table 5. In interpreting this table, and those provided for later analyses, it should be noted that the unadjusted slope (B) is a more informative figure than the standardized coefficient (Beta) in these analyses, since the spaces involved are metric.

Signed values of displacement as criterion. The dependent variable ultimately of interest, however, was the signed value of displacement which distinquished between assimilation and contrast effects. Values for this variable were computed by subtracting the raw data subject report of the distance between the S's attitude and that expressed by the message from the figure for discrepancy computed in the multidimensional spaces. The mean value of this variable

TABLE 5

REGRESSION COEFFICIENTS FOR PREDICTORS OF
DISPLACEMENT MAGNITUDES, STUDY I

Variable	B	Beta
DISCREPANCY	-0.4134	-0.4685
DISCREPANCY^2	0.6394×10^{-2}	1.7883
DISCREPANCY^4	-0.2956×10^{-7}	-0.8027
INVOLVEMENT	-8.6146×10^{2}	-2.6562
INVOLVEMENT^2	4.0819×10^{3}	4.3445
INVOLVEMENT^3	-6.1295×10^{3}	-2.0838
MESSAGE STRUCTURE	-3.9822	-0.0938
(CONSTANT)	79.0348	

OVERALL F — 253.3597   MULTIPLE R — .915

DEGREES OF FREEDOM — 7; 344   R-SQUARE — .838

SIGNIFICANCE — $P \leq .001$

for the 352 cases was 8.64, with a minimum of -282.70 and a maximum of 121.69. Regression analysis with signed values of displacement as the criterion variable (see Summary Table, Table 6) clearly indicated a quartic function of discrepancy to be the most powerful predictor.[*] Fourth, third, second and first power transformations of discrepancy were all significant predictors, and together accounted for slightly more than seventy two percent of the variance in the criterion ($r=.850$, $r^2=.723$). Involvement approached significance as a predictor ($P=.051$), but accounted for less than one half of one percent additional variance. None of the other predictors were significant. The most parsimonious predictions as to expected values of assimilation and contrast, then, can be made on the basis of the regression coefficients for discrepancy and its power transformations presented in Table 7. A plot of this predicted value curve is presented in Figure 9.

CONCLUSION

The results of Study I provided evidence of the viability of the assumptions upon which these scaling procedures depend. Cross group correlations of stable concept vectors

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[*]The possibility that this analysis might yield artifactually high figures for explained variance, as a result of having computed values for the dependent variable by subtracting another variable from the independent variable, was recognized. Additional analyses, utilizing raw data discrepancy figures as a criterion, were conducted for comparison with these analyses to check this possibility. Results did not indicate the presence of an artifact. These analyses are among those summarized in Appendix G.

TABLE 6

SUMMARY TABLE FOR REGRESSION WITH SIGNED VALUES OF DISPLACEMENT AS CRITERION, STUDY I

STEP	VARIABLE ENTERED	F TO ENTER	SIGNIFICANCE $(p \geq)$	MULTIPLE R	R-SQUARE	R-SQUARE CHANGE	SIMPLE R
1	DISCREPANCY[4]	461.050	$\leq$ .001	.754	.568	.568	-.754
2	DISCREPANCY[3]	119.123	$\leq$ .001	.824	.678	.110	-.731
3	DISCREPANCY[2]	4.266	$\leq$ .040	.826	.682	.004	-.647
4	DISCREPANCY	51.219	$\leq$ .001	.850	.723	.041	-.343
5	INVOLVEMENT	3.844	$\leq$ .051	.852	.726	.003	-.079
6	INVOLVEMENT[2]	1.035	$\leq$ .310	.853	.727	.001	-.091
7	INVOLVEMENT[3]	2.661	$\leq$ .104	.854	.729	.002	-.088
8	MESSAGE STRUCTURE[4]	.157	$\leq$ .692	.854	.729	.000	-.002
9	MESSAGE STRUCTURE[3]	1.999	$\leq$ .158	.855	.731	.002	-.002
10	MESSAGE STRUCTURE	1.613	$\leq$ .205	.856	.732	.001	.003

TABLE 7

REGRESSION COEFFICIENTS FOR PREDICTORS OF SIGNED VALUES OF
DISPLACEMENT, STUDY I

Variable	B	Beta
DISCREPANCY^4	-0.1142×10^{-5}	-30.3787
DISCREPANCY^3	0.5091×10^{-3}	42.8186
DISCREPANCY^2	-0.5615×10^{-1}	-15.3807
DISCREPANCY	2.1996	2.4420
(CONSTANT)	-14.8737	

OVERALL F — 226.4829   MULTIPLE R — .850

DEGREES OF FREEDOM — 4; 347   R-SQUARE — .723

SIGNIFICANCE - P $\leq$ .001
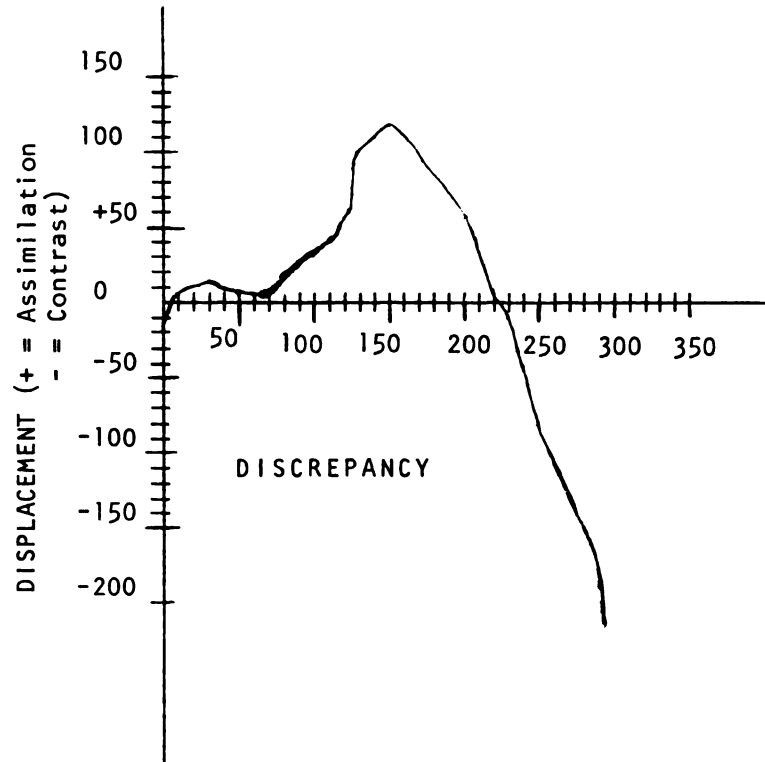
FIGURE 9

GRAPHIC SKETCH OF PREDICTED VALUES
OF DISPLACEMENT AS A FUNCTION OF DISCREPANCY,
STUDY I

provided evidence of a high degree of stability in the configuration of abstractly phrased attitudinal referents, at least across short periods of time. The substantial amounts of dependent variable variance explained using individual Ss as units of analysis made it possible to conclude directly that individuals could make sufficiently reliable discrepancy judgments to be pragmatically useful, since variations in individual judgments due to unreliability must, by definition, be unsystematic.

The quartic function of discrepancy identified using these procedures as a predictor of displacement did not, however, conform to theoretic expectations. Inspection of Figure 9 reveals that contrast effects are predicted for extremely low values of discrepancy, contrary to theoretic expectations, and for values of discrepancy so high as to represent advocacy of attitude change several times as great as the distance between the criterion statements used to define the end points of the scale in the earlier Q-sort procedure. For more moderate ranges of discrepancy, assimilation effects are predicted, with larger values of discrepancy generally yielding predictions of more assimilation.

CHAPTER IV

METHODS, STUDY II

INTRODUCTION

As noted in the conclusion of the preceding chapter, the results of Study I tended to support the assumptions of the scaling procedures utilized. These results also indicated that further research should be conducted, however, to address a number of additional questions. First, the question of alternative referent stability across time periods greater than the two week span covering data collection in the first study needed to be addressed. Second, replication of the first study was considered to be called for in light of the fact that the assimilation-contrast curve (Figure 9) derived from Study I data did not conform to theoretic expectations. Third , the high levels of explained variance in individual differences in the perception of messages suggested that it might be fruitful to utilize the scaling procedures developed in the first study in a controlled laboratory setting with attitude change as the dependent variable. Finally, since the operationalization of involvement depended upon an assumption of Euclideanism of the stimulus domain, i.e. that loadings on dimensions with negative eigen roots would be indicative of concept sizes in a Euclidean real space, a further attempt to validate the involvement measure was suggested. A second study was conducted two years after Study I to address these questions.

STABILITY CHECK PRETEST

Questionnaire construction. (See Appendix H). For reasons cited in Chapter I, it might be expected that configurations of attitudinal referents generated from sample data between two groups would differ if the distributions of attitudes in those two groups differed significantly. To provide means to determine if such differences existed, the unidimensional attitude and importance scales for the topic of railroad nationalization from the topic selection questionnaire (Appendix A) of Study I were included in the questionnaire. The remainder of the questionnaire consisted of the nine stable attitudinal referents used in Study I, presented in all possible pairs and in the identical format as in the pretest questionnaires (Appendix C) of the first study.

Subject selection. As in the first study, Ss were volunteers solicited from undergraduate communication classes.

Experimental procedure. Subjects were given questionnaires in their communication classes and asked to take them home and complete them. Questionnaires were returned at the next class meeting.

Results of stability check pretest. Approximately one hundred twenty questionnaires were distributed to students who volunteered to take them home and complete them. Seventy three were returned completed.

Analysis of data from the unidimensional attitude

and involvement measures revealed no significant differences in the mean responses obtained from this sample and those obtained from the topic selection sample of Study I. Distributions of responses on both of these measures were also non-skewed, as they had been in the previous sample.

Discrepancy estimation data obtained from two Ss were discarded because of repeated occurrences of responses greater than 1000 to items with mean responses less than 40. Discrepancy estimation data from the remaining 71 Ss were utilized to generate an aggregate space, which was then rotated into a least squares best fit with the total aggregate space from Study I. Correlations between each concept vector in the stability check space and the corresponding vector in the total aggregate space were then computed, just as in the cross group stability check of Study I. These correlations were converted to Zs, averaged, and the mean Z reconverted to a correlation. (See Table 8). This mean correlation (.938) was of the same order as the cross group figure obtained in the first study (.948), and was interpreted as indicating a high level of stability in the configuration of abstractly phrased attitudinal referents across a two year period.

PROCEDURES

Questionnaire construction. Given the evidence of the stability check pretest that the configuration of stable attitudinal referents was, in fact, stable across long periods of time as well as across groups, questionnaires for the

TABLE 8

CORRELATIONS BETWEEN STABLE CONCEPT VECTORS
IN THE TOTAL AGGREGATE SPACE OF STUDY I AND
CORRESPONDING VECTORS IN THE STABILITY CHECK
PRETEST SPACE OF STUDY II, WITH $\underline{Z}$ CONVERSIONS

CONCEPT	r	z
1	.880	1.376
2	.981	2.324
3	.961	1.959
4	.809	1.124
5	.936	1.705
6	.917	1.570
7	.972	2.127
8	.648	0.772
9	.987	2.516

$$\bar{z} = 1.719$$

$$\bar{r} = .938$$

second study did not include items asking Ss to estimate
the interpoint distances between these stable referents.
Rather, interpoint distances between stable concepts
generated by the total aggregate of Study I were taken to
represent the best estimate of the normatively perceived
distances. Location of individuals and messages in the
space therefore required only estimation by each S of the
distance between his own attitude and each stable referent,
distance between the attitude expressed by the message and
each stable referent, and distance of the individual's own
attitude to that expressed by the message.

Pretest questionnaires. (Appendix I). In light of the
above considerations, pretest questionnaires included only
those items asking respondents to estimate distances between
their own attitudes and each of the stable attitudinal
referents. These items were presented in the same order
and format as in the first study. Demographic items dupli-
cating those in the pretest questionnaires of Study I were
also included to allow for a randomization check. Addi-
tionally, a semantic differential type scale was included,
which was intended to tap the perceived importance of the
topic of railroad nationalization to Ss. This item was
included to provide a means of independently validating
the involvement operationalization.

Postest questionnaires. (Appendix J). Postest question-
naires for the five experimental groups each began with

the presentation of a persuasive message on the topic
of railroad nationalization. The same five messages
were used as in the first study (see Appendix D), both to
provide a wide range of possible levels of discrepancy
and message structure and to provide a means to compare
data from the two studies. Following the presentation
of the message, each questionnaire included items asking
Ss to estimate the distances between their own attitudes
and those expressed by the stable referents, the attitude
expressed by the message and each of the stable referents,
and their own attitude and the attitude expressed by the
message.

The postest questionnaire for the control group du-
plicated the pretest questionnaire, with the exception
that the unidimensional involvement measure and the demo-
graphic items were deleted.

Subject selection. Subjects for Study II were once again
volunteers from undergraduate communication classes, some
of whom received credit for participating and some of whom
did not. Approximately one week before the data were to
be collected, Ss were asked in their communication classes
to sign up to participate in the study. They were also
asked at this time to provide phone numbers and approxi-
mate times when data were to be collected when they expec-
ted to participate. Each S was then called the evening
before he expected to participate and reminded of the

commitment in order to minimize attrition.

Experimental procedures. Each S was given an identical pretest questionnaire upon arrival at the room where data were being collected. Upon completion of this quesionnaire, it was returned and a postest questionnaire distributed. The order of distribution of the different forms of the postest questionnaires was random. This was accomplished by having previously stacked the forms in the order in which the treatment group numbers appeared as the last digit in a table of random numbers, and by distributing the forms to Ss sequentially from the top of the stack. The result of this random distribution was that Ss were assigned, as they received their postest questionnaires, to one of the five experimental groups or to the control group. Each S was requested to supply his student number on the cover page of both forms to allow matching of pre and postest forms.

CHAPTER V

RESULTS, STUDY II

PARTICIPATION AND RANDOMIZATION CHECK

Data were collected from a total of one hundred and
six Ss over a three day period. Data obtained from three
of these Ss were discarded because of repeated occurrences
of responses greater than 1000 to discrepancy estimation
items for which mean responses were less than 40. Eighteen
of the one hundred and three Ss who provided useable data
were assigned to the control group. Treatment groups
receiving Messages 1, 2, 3, 4 and 5 (see Appendix D) were
assigned 16, 16, 18, 16 and 19 Ss respectively, for a
total of 85 treatment group observations. One way analyses
of variance and Chi square tests revealed no significant
differences between groups on any of the measured demogra-
phic characteristics or on responses to the semantic differ-
ential type topic importance scale.

OPERATIONALIZATION OF PREDICTORS

Hybrid spaces representing the aggregate space as
viewed by each individual in the treatment groups at both
pre and postest observations were generated by the same
procedure as in Study I. Given the evidence of stability
of the configuration of abstractly phrased attitudinal
referents obtained in the stability check pretest, and the
relative sizes of the sample for the stability check pretest
and the total aggregate of Study I, mean interpoint distance

estimates obtained from the total aggregate in Study I, rather than from the stability check pretest sample, were taken as the best estimate of normatively perceived inter-point distances and were duplicated as the first nine columns of the hybrid matrices. The criterion utilized in the rotation of these spaces was also the total aggregate space of the first study.

Involvement was operationalized, as in the first study, as the reciprocal of the mean magnitude of the coordinate values of each individual (as a concept) in his hybrid space on the two factors with the largest negative eigen roots. In this study, loadings on these factors in pretest hybrid spaces were utilized. The mean value of this variable for the 85 treatment group cases was .139, with a maximum of .889 and a minimum of .025.

Attitudinal discrepancy, or distance from the message, was operationalized, as in the first study, as the geometric distance between the location of the individual in his hybrid space and the location of the message in the aggregate space for the treatment group which had received the same message in the first study. Aggregate treatment group spaces from the first study were taken to provide better estimates of normative message locations than corresponding spaces generated from Study II data because of the larger sample sizes involved in Study I. The mean value of discrepancy for the 85 treatment group observations was 22.225, with a maximum of 80.705, and a minimum

of 7.670. Note that while the mean value of discrepancy
for this sample is of approximately the same magnitude as
for the Study I sample (23.908), the maximum value obtained
is far smaller. The maximum value of discrepancy obtained
in the Study I sample was 317.300. This difference in the
ranges of discrepancy values in the two samples will be
useful to keep in mind in interpreting the results of the
regression analyses reported in the next section.

Since the same messages were used in the present
study as in Study I, and since the sample sizes of treat-
ment groups in Study I were considerably larger than in
the present study, values of message structure obtained
from Study I data were utilized in Study II.

REGRESSION ANALYSES

As in the first study, discrepancy, message struc-
ture, and involvement were submitted as predictor variables,
along with second, third, and fourth order power transfor-
mations of each of them, to each of the four stepwise
multiple regression analyses reported below. The first
two of these analyses replicate the regression analyses
from Study I. In the last two magnitudes of attitude
change and signed values of attitude change are the cri-
terion variables.

Displacement magnitude as criterion. The criterion variable
for the first regression, displacement magnitude, was oper-
ationalized as the geometric distance between the location

of the message in the individual's postest hybrid space
and the location of the message in the aggregate treat-
ment group space for the Study I treatment group which
had received the same message. The mean value for this
variable for the 85 treatment group cases was 17.707,
with a minimum of 3.173 and a maximum of 59.451. Note
that, as with discrepancy, this mean value is of comparable
magnitude to the mean magnitude of displacement in the
Study I sample (16.860), but that the maximum value is
far less than the maximum value in the Study I sample
(283.509).

Regression analyses with displacement magnitude as
the criterion (see Summary Table, Table 9) confirmed the
Study I finding that discrepancy was a significant linear
predictor of displacement magnitude (F= 44.529; df.1,83;
p $\leq$ .001), accounting individually for thirty five percent
of the variance in magnitude of displacement (r= .591,
r^2= .349). No other predictors were individually signifi-
cant, although the fourth power of discrepancy approached
significance (p = .069) and added nearly three percent
to variance explained. The unadjusted slope (B) of dis-
crepancy was .416, with a constant of 8.459. Beta was .591.

The unadjusted slope of discrepancy as a sole pre-
dictor of displacement magnitude (Step 1 of the stepwise
multiple regression) in Study I, which corresponds to the
figure above, was .764, with a constant of -1.413. Beta
at this step was .866. Seventy five percent of the variance

TABLE 9

SUMMARY TABLE FOR REGRESSION WITH DISPLACEMENT MAGNITUDE AS CRITERION, STUDY II

STEP	VARIABLE ENTERED	F TO ENTER	SIGNIFICANCE (P ≤)	MULTIPLE R	R-SQUARE	R-SQUARE CHANGE	SIMPLE R
1	DISCREPANCY	44.529	.001	.591	.349	.349	.591
2	DISCREPANCY[4]	3.383	.069	.612	.375	.026	.412
3	INVOLVEMENT	1.515	.222	.622	.386	.011	-.272
4	MESSAGE STRUCTURE	0.383	.538	.624	.389	.003	-.300
5	MESSAGE STRUCTURE[4]	0.449	.505	.627	.393	.003	-.206
6	INVOLVEMENT[2]	0.037	.848	.627	.393	.000	-.133
7	DISCREPANCY[3]	0.020	.887	.627	.393	.000	.472

in displacement magnitudes was explained at this step.
(See Table 4).

In both studies, then, the magnitude of displacement
was found to generally increase as a linear function of
discrepancy. Study I data included a much greater range
of both discrepancy and displacement magnitude values.
Extremely high values of these variables must have occurred
in a small number of Study I cases, however, since the mean
values of these variables for the two samples were of com-
parable magnitudes. Deviation scores for these cases were
large, with the result that a regression line which fit
them would explain a considerable percentage of dependent
variable variance by fitting a small number of cases. If
this were the case, both the slope obtained and the per-
centage of variance explained by the Study I data would be
inflated. Consequently, the figures obtained from Study
II data may more accurately reflect the relationship be-
tween discrepancy and displacement magnitudes in normative
ranges.

Signed values of displacement as criterion. As in Study I,
signed values for displacement (assimilation and contrast)
were computed by subtracting raw data subject reports of
the distance between S's attitude and the attitude expres-
sed by the message from the figure for discrepancy computed
in the multidimensional spaces. The mean value for this
variable for the 85 treatment group cases was 9.967, with
a minimum of -22.903 and a maximum of 72.108. Corresponding

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figures obtained from Study I data were -282.70 and +121.69.

Regression analysis with signed values of displacement as the criterion (see Summary Table, Table 10) showed discrepancy to be a significant linear predictor (F = 42.790; df.1,83; p $\leq$ .001), accounting for thirty four percent of the variance in the dependent variable (r = .583, r^2 = .340). None of the other predictors were individually significant, nor did any of them add more than one percent to the explained variance when entered into the regression equation. The unadjusted slope for discrepancy was .535, with a constant of -1.914. Beta was .583.

At first glance, this function appears to bear little correspondence to the quartic function of discrepancy derived from Study I data to yield predicted values of assimilation and contrast, which is presented in Table 7 and graphically presented in Figure 9. As in the preceding analysis, however, interpretation requires consideration of the ranges of the variables represented in the data set. Examination of Figure 9 reveals that the portion of the curve in the range of discrepancy from eight to eighty represented in this data set does in fact approximate a line of positive slope with a small negative intercept. As in the previous analysis, it is possible to conclude that the figure for explained variance obtained from analysis of Study I data may have been inflated by a small number of cases representing extreme values of discrepancy, and that the figure obtained from analysis of Study II

TABLE 10

SUMMARY TABLE FOR REGRESSION WITH SIGNED VALUES OF DISPLACEMENT AS CRITERION, STUDY II

STEP	VARIABLE ENTERED	F TO ENTER	SIGNIFICANCE $(P \leq)$	MULTIPLE R	R-SQUARE	R-SQUARE CHANGE	SIMPLE R
1	DISCREPANCY	44.790	.001	.583	.340	.340	.583
2	DISCREPANCY^4	1.157	.285	.591	.349	.009	.543
3	DISCREPANCY^2	0.826	.366	.597	.356	.007	.582
4	MESSAGE STRUCTURE	1.133	.290	.604	.365	.009	-.128
5	MESSAGE STRUCTURE^4	2.346	.130	.619	.383	.018	-.138
6	INVOLVEMENT	0.695	.407	.623	.389	.005	-.210
7	INVOLVEMENT^2	0.418	.520	.626	.392	.003	-.062

data may be more realistic in normative ranges of discrepancy.

Magnitude of attitude change as criterion. Magnitude of attitude change was operationalized as the geometric distance between the individual S's location in his pretest hybrid space and his location in his postest hybrid space.* The mean value of this variable for the 85 treatment group cases was 17.199, with a maximum of 120.671 and a minimum of 1.667.

Regression analysis with attitude change magnitude as the criterion (see Summary Table, Table 11) revealed discrepancy as a powerful linear predictor, accounting individually for seventy-six percent of the variance in attitude change magnitudes (r = .870, r^2 = .758). Message structure was also a significant predictor ($p \leq$ .005) and explained two percent additional variance. Regression coefficients for these predictors are provided in Table 12.

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*Initially, values for magnitude of attitude change were obtained by subtracting the average motion vector from pre to postest in the control group from the difference between the S's pretest and postest distances from the message. Regression analysis was performed with this variable as the criterion. The amount of variance explained in this controlled value of magnitude of attitude change was sufficiently lower than the explained variance in the analyses reported here to lead to the conclusion that correcting for effects of testing observed in the control group was actually introducing unsystematic variance into the dependent variable values. This may have occurred because the control group was too small to yield accurate estimation of testing effects, or because testing effects varied across individual Ss. In light of the other findings of these studies, the latter explanation seems more plausible. The Summary Table for the regression with controlled values of attitude change magnitudes as the criterion is presented in Appendix K.

TABLE 11

SUMMARY TABLE FOR REGRESSION WITH ATTITUDE CHANGE MAGNITUDE AS CRITERION, STUDY II

STEP	VARIABLE ENTERED	F TO ENTER	SIGNIFICANCE (P ≤)	MULTIPLE R	R-SQUARE	R-SQUARE CHANGE	SIMPLE R
1	DISCREPANCY	259.292	.001	.870	.758	.758	.870
2	MESSAGE STRUCTURE	8.523	.005	.883	.780	.023	-.163
3	MESSAGE STRUCTURE[4]	2.972	.089	.888	.788	.008	-.135
4	INVOLVEMENT	1.546	.217	.890	.792	.004	-.324
5	DISCREPANCY[2]	0.174	.678	.890	.793	.000	.870
6	DISCREPANCY[3]	6.373	.014	.899	.808	.016	.823
7	INVOLVEMENT[2]	0.191	.663	.899	.809	.000	-.107

TABLE 12

REGRESSION COEFFICIENTS FOR PREDICTORS OF
ATTITUDE CHANGE MAGNITUDES, STUDY II

Variable	B	Beta
DISCREPANCY	1.334	0.927
MESSAGE STRUCTURE	9.630	0.161
(CONSTANT)	-20.816	

OVERALL F - 45.6584   MULTIPLE R - .883

DEGREES OF FREEDOM - 2; 82   R-SQUARE - .780

SIGNIFICANCE - P $\leq$ .001

<u>Signed values of attitude change as criterion</u>. Signed values of attitude change were obtained by subtracting each S's postest distance from the normative message location from his pretest distance from the normative message location.* The mean value of this variable for the 85 cases was -.443, with a minimum of -13.435 and a maximum of 21.816.

Regression analysis with signed values of attitude change as the criterion (see Summary Table, Table 13) revealed a polynomial function including discrepancy, second and fourth power transformations of discrepancy, message structure, second and fourth power transformations of message structure, and involvement as significant predictors. Taken together, these variables accounted for sixty-three percent of the variance in signed values of attitude change (multiple R = .791, r^2 = .626). Regression coefficients for these predictors are presented in Table 14.

<u>Correlational validation of involvement</u>. In an attempt to check the convergent validity of the involvement operationalization utilized in these studies, the zero order

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*As in the preceding analysis, effects of testing observed in the control group were removed in a previous operationalization. Regression analysis with controlled values of signed attitude change as the criterion yielded a function similar to that reported here, but which explained less variance (r^2=.464), suggesting that either differential effects of testing across individuals or inadequate control group sample size had resulted in attempts to control for effects of testing actually introducing unsystematic variance into the data. The Summary Table for this earlier regression is presented in Appendix L.

TABLE 13

SUMMARY TABLE FOR REGRESSION WITH SIGNED VALUES OF ATTITUDE CHANGE AS CRITERION, STUDY II

STEP	VARIABLE ENTERED	F TO ENTER	SIGNIFICANCE ($P \leq$)	MULTIPLE R	R-SQUARE	R-SQUARE CHANGE	SIMPLE R
1	DISCREPANCY	28.815	.001	.508	.258	.258	.508
2	DISCREPANCY^2	4.363	.040	.543	.295	.307	.445
3	MESSAGE STRUCTURE	6.335	.014	.588	.346	.051	-.056
4	MESSAGE STRUCTURE^2	29.744	.001	.724	.523	.177	-.110
5	DISCREPANCY^4	11.811	.001	.765	.585	.062	.355
6	MESSAGE STRUCTURE^4	4.268	.042	.779	.607	.022	-.157
7	INVOLVEMENT	3.997	.049	.791	.626	.019	-.149
8	INVOLVEMENT^2	0.270	.605	.792	.628	.002	-.034

TABLE 14

REGRESSION COEFFICIENTS FOR PREDICTORS OF
SIGNED VALUES OF ATTITUDE CHANGE, STUDY II

Variable	B	Beta
DISCREPANCY	2.012	4.868
DISCREPANCY^2	-0.327×10^{-1}	-5.970
MESSAGE STRUCTURE	112.657	6.568
MESSAGE STRUCTURE^2	-82.427	-9.859
DISCREPANCY^4	0.203×10^{-5}	1.894
MESSAGE STRUCTURE^4	11.070	3.861
INVOLVEMENT	-11.633	-0.153
(CONSTANT)	-61.942	

OVERALL F - 18.4407   MULTIPLE R - .791

DEGREES OF FREEDOM - 7; 77   R-SQUARE - .626

SIGNIFICANCE - P $\leq$ .001

correlation between involvement and scores obtained on
the semantic differential type topic importance scale was
computed. This correlation was low (-.0006) and non-signi-
ficant, suggesting that at least one of these scales was
not measuring involvement. In an attempt to determine
which was the better scale, correlations were then com-
puted between involvement and attitude change magnitude,
and between importance and attitude change magnitude. The
correlation between involvement as operationalized in these
studies and magnitude of attitude change was -.324, which
was significant ($p \leq .001$) and negative as the theory would
predict. The correlation between scores obtained on the
importance scale and attitude change was near zero (.013)
and non-significant ($p = .454$). On the basis of these
findings it was concluded that the operationalization of
involvement utilized in these studies was more probably
a valid measure of the theoretical construct than the
importance scale.

CHAPTER VI

DISCUSSION

INTRODUCTION

The goals of the research reported here were both
theoretical and methodological. In the theoretic realm,
these studies examined individual differences in percep-
tions of the attitudes advocated by persuasive messages, as
well as changes in receiver attitudes observed subsequent
to reception of those messages. In the methodological
area, a ratio level, multi-dimensional, response centered
attitude scale was developed for the purpose of accomplish-
ing the theoretic goals. Results of analyses conducted
on these data have implications in both areas.

THEORETIC FINDINGS

In the theoretic realm, these analyses point to a
number of conclusions. The results of Study I indicated
that the magnitude of the difference between an indivi-
dual's perception of the attitude expressed by a message
and the average, or culturally normative, perception of
the attitude expressed by the message, was primarily a
linear function of the discrepancy between the individual's
own attitude and the attitude expressed by the message.
Greater levels of discrepancy, or change advocated, were
associated with greater amounts of perceptual displacement,
and over three quarters of the variance in individual per-
ceptions of messages was explained. Results of the Study II

replication confirmed the positive linear relationship between levels of discrepancy and amounts of perceptual displacement of messages. The percentage of dependent variable variance explained in Study II was, however, reduced to only about thirty five percent. Examination of the mean values and ranges of the variables represented in the two data sets suggested that a small number of cases in the Study I data set represented extremely high values of both discrepancy and displacement. It was argued that a regression line which fit these cases would explain a high percentage of variance, and that the figure obtained from the Study II data might therefore more accurately reflect the relationship between discrepancy and displacement magnitudes in normative ranges.

Regardless of which data set more accurately reflects the strength of the relationship, the replicated finding of a positive linear relationship between discrepancy and displacement magnitudes runs counter to Social Judgment theory predictions. In general, Social Judgment theory predicts that messages which express attitudes relatively near to receiver attitudes will be assimilated, or perceived as expressing attitudes even nearer to those of receivers. Messages expressing attitudes relatively distant from the attitudes of receivers are expected to be contrasted, or perceived as expressing attitudes even further removed from the attitudes of receivers. Consequently, messages expressing attitudes at moderate ranges

from receiver attitudes (near the latitude of non-commit-
ment, latitude of rejection border) are expected to be
accurately perceived. The results of these studies do
not confirm this prediction.

The results of these analyses were also at variance
with Social Judgment Theory predictions as to the ranges
of discrepancy which would be associated with assimila-
tion and contrast effects. Results of Study I indicated
that contrast effects occurred in cases where normative
perceptions of messages would be that they expressed atti-
tudes in close agreement with the attitude of the receiver,
and in a small number of cases where the discrepancy be-
tween normative perceptions of the attitude expressed by
the message and the attitude of the receiver was extremely
large. In normative ranges of discrepancy, a curve of
generally small positive slope described the relationship
between discrepancy and signed values of displacement,
indicating that most messages are assimilated, and are
assimilated more as they express attitudes more discrepant
from receiver attitudes. The smaller Study II data set
contained no cases in the ranges of discrepancy where
contrast effects had been observed in Study I. Analysis
of these data resulted in the identification of a linear
function of discrepancy with a small positive slope and
small negative intercept which yielded predicted values
of assimilation and contrast. This result was interpreted
as confirming in general the relationship found in Study I.

Thirty-four percent of the variance in assimilation and contrast in the Study II data set was explained, while more than seventy percent had been explained in Study I. As in the analyses in which displacement magnitude was the criterion, this difference was thought to result from the different ranges of variable values represented in the two data sets.

Magnitude of attitude change was found in Study II to be largely a linear function of discrepancy, or change advocated, with greater amounts of advocated change resulting in greater amounts of change occurring. Social Judgment Theory predictions as to magnitudes of attitude change parallel predictions as to magnitudes of displacement. This finding is therefore also at odds with theoretic expectations. Message structure was also a significant predictor of magnitudes of attitude change, with less structured messages being associated with greater amounts of attitude change. Together, message structure and discrepancy accounted for over three quarters of the variance in magnitude of attitude change.

If magnitudes of attitude change are a relatively uncomplicated function of discrepancy, however, these data would indicate that signed values of attitude change along a line from the receiver's attitude to the message are not. Discrepancy was the most powerful predictor of signed values of attitude change, accounting individually for about a quarter of the variance. This relationship was

linear, with larger amounts of advocated change resulting in greater changes in the direction advocated. "Boomerang" effects, or changes in the direction opposite that advocated were observed, however, and the mean of the observed values of signed attitude change was near zero and negative. Further, second and fourth power transformations of discrepancy, message structure, second and fourth power transformations of message structure, and involvement were all also significant predictors of signed values of attitude change. Predicted values of attitude change were therefore yielded by a very complicated curvilinear function of these variables, which accounted for sixty-three percent of the dependent variable variance.

METHODOLOGICAL FINDINGS

In the methodological area, these results provided justification for further development of metric multidimensional techniques for scaling individuals' attitudes. Several authors have proposed measurement models which assume stable spatial configurations of stimuli (see e.g., Osgood, et al., 1957; Woelfel, Saltiel, McPhee, Serota, Barnett, Danes and Cody, 1975; Cody, Marlier and Woelfel, 1975, 1976), but have concentrated on adjectives and trait descriptors as stimuli because "adjectives are merely the most general and natural qualifiers in English" (Osgood, et al., 1957, p. 328). The ordered alternatives scales utilized in previous social judgment studies have assumed stability of more complex attitudinal referents, at least

with regard to ordinality along a single dimension. The
high degree of spatial stability of attitudinal referents
across groups and across time achieved in these studies
provided evidence that reliable metric-multidimensional
attitude scales can be constructed through carefully con-
trolled referent selection procedures. In fact, the high
levels of aggregate stability achieved in these studies,
and the substantial amounts of dependent variable variance
explained using individual Ss as units of analysis, made
it possible to conclude that individuals made highly reliable
metric discrepancy judgments without conducting further
analyses. As noted earlier, the question of individual
judgmental reliability was essentially a pragmatic one.
Variations in individual judgments due to unreliability must,
by definition, be unsystematic. These analyses revealed
large percentages of variations in individual judgments to
be systematic and predictable. It was therefore possible
to conclude directly that individuals could make suffi-
ciently reliable metric judgments to be predictively useful.

DIRECTIONS FOR FUTURE RESEARCH

Since the present study utilized student subjects
and only one topic, replications should be conducted to
check the generalizability of these findings.

Future research should also be conducted which at-
tempts to identify additional predictors of assimilation
and contrast. As noted in the text, Study II data yielded
considerably lower amounts of explained variance than

Study I data. Differences in the ranges of values of discrepancy and displacement represented in the two data sets were thought to account for these differences in explained variance. One interpretation of this explanation is that unsystematic variance due to unreliability of measurement constituted a larger percentage of the variance in the more limited ranges of discrepancy represented in the Study II data set. A second interpretation is that a small number of extreme cases represented a disproportionately large percentage of the reliable variance in the Study I data set. Given the large percentages of variance in attitude change explained in Study II, the first interpretation must be discounted, because these results could not have obtained if measurement unreliability represented a large portion of the variance in the Study II data. Therefore it appears that either there are very considerable unsystematic individual differences in the perception of persuasive messages, or that these differences are associated with variables other than the predictors utilized in these studies.

Since messages in these studies were presented in written form and attributed to no source, the influence of mode of presentation, and of source variables such as credibility and acquaintanceship of sources and receivers on the relationships reported here should also be examined.

Finally, since message structure as operationalized

here significantly predicts responses to message reception, research which seeks to determine the influence of various message elements on perceptions of structure might prove useful to researchers and practitioners alike.

APPENDIX A

TOPIC SELECTION QUESTIONNAIRE

TOPIC SELECTION QUESTIONNAIRE

Instructions: Each statement below is followed by three
                items.

On the first of these items, please indicate the extent to
which you AGREE or DISAGREE with the statement, by placing
an X in the appropriate space on the scale. For example, if
you strongly agree with the attitude expressed in the state-
ment, you would place an X in the space nearest Agree, or
the first space:

AGREE _X_:__:__:__:__:__:__ DISAGREE

Similarly, if you agree with the statement, but with some
reservation, you would place an X in the second or third
space. If you neither agree nor disagree with the statement,
or if you have no opinion on the subject, place an X in the
fourth, or middle, space.

On the second item, please indicate how IMPORTANT the topic
is to you, or how strongly you feel about it. For example,
if you are personally involved with an issue, or care very
much about it, you might mark the space nearest "Important".
On the other hand, if you have no experience or knowledge
about the topic, and don't really care about it one way or
the other, you might mark the space nearest "Unimportant".

The third item after each statement simply asks you to list
the titles of any publicly-available sources of information
you have used to get information about the topic. These
might be books, magazines, newspapers, or any others that
you can think of.

Thank you in advance for your cooperation with this project.

I. Education is valuable for its own sake, even if it
    doesn't prepare you for a job.

    AGREE __:__:__:__:__:__:__ DISAGREE

    How important is this topic to you, personally?

    IMPORTANT __:__:__:__:__:__:__ UNIMPORTANT

    Please list any sources, other than interpersonal
    sources, from which you have gotten information
    about this topic:

II. The sale and use of marijuana should be legalized.

AGREE __:__:__:__:__:__:__ DISAGREE

How important is this topic to you?

IMPORTANT __:__:__:__:__:__:__ UNIMPORTANT

Sources of information about the topic:

III. Abortion is no better than murder.

AGREE __:__:__:__:__:__:__ DISAGREE

How important is this topic to you?

IMPORTANT __:__:__:__:__:__:__ UNIMPORTANT

Sources of information about the topic:

IV. The Federal government should take over ownership and operation of all railroads in the United States.

AGREE __:__:__:__:__:__:__ DISAGREE

How important is this topic to you?

IMPORTANT __:__:__:__:__:__:__ UNIMPORTANT

Sources of information about the topic:

V. With the overpopulation problem as bad as it is,
    there ought to be a law which makes it a crime for
    any couple to have more than two children.

       AGREE __:__:__:__:__:__:__ DISAGREE

    How important is this topic to you?

      IMPORTANT __:__:__:__:__:__:__ UNIMPORTANT

    Sources of information about the topic:

VI. Organized religion has without a doubt been the most
     destructive force in human history.

       AGREE __:__:__:__:__:__:__ DISAGREE

    How important is this topic to you?

      IMPORTANT __:__:__:__:__:__:__ UNIMPORTANT

    Sources of information about the topic:

VII. Homosexual marriages should be legally recognized
      on exactly the same basis as heterosexual marriages.

       AGREE __:__:__:__:__:__:__ DISAGREE

    How important is this topic to you?

    IMPORTANT __:__:__:__:__:__:__ UNIMPORTANT

    Sources of information about the topic:

VIII. Women are equal to men in every respect, legal and social, and ought to be recognized as such.

AGREE __:__:__:__:__:__:__ DISAGREE

How important is this topic to you?

IMPORTANT __:__:__:__:__:__:__ UNIMPORTANT

Sources of information about the topic:

IX. Sexual intercourse before marriage is a sin against God and man.

AGREE __:__:__:__:__:__:__ DISAGREE

How important is this topic to you?

IMPORTANT __:__:__:__:__:__:__ UNIMPORTANT

Sources of information about the topic:

X. All governments are the worst enemies of the people they purport to govern.

AGREE __:__:__:__:__:__:__ DISAGREE

How important is this topic to you?

IMPORTANT __:__:__:__:__:__:__ UNIMPORTANT

Sources of information about the topic:

XI. More marriages between members of different races would make the world a better place.

AGREE __:__:__:__:__:__ DISAGREE

How important is this topic to you?

IMPORTANT __:__:__:__:__:__ UNIMPORTANT

Sources of information about the topic:

APPENDIX B

Q-SORT STATEMENTS WITH MEANS AND VARIANCES
OF Q-SORT PLACEMENT

APPENDIX B

Q-SORT STATEMENTS WITH MEANS AND VARIANCES
OF Q-SORT PLACEMENT

Statements	$\bar{X}$	σ^2
THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES	1.00	0.00
RAILROADS SHOULD BE GOVERNMENT OWNED CORPORATIONS, LIKE THE POST OFFICE	1.52	0.88
ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT	1.70	0.72
THE GOVERNMENT SHOULD RUN ALL RAILROAD PASSENGER SERVICE	1.76	2.19
RAILROADS SHOULD BE CONTROLLED SO THAT THEY DON'T GET TOO BIG	2.05	1.05
THE GOVERNMENT SHOULD REGULATE THE RAILROADS TO KEEP THEM FROM GETTING MONOPOLIES	2.41	2.13
RAILROADS MUST BE REGULATED BY THE GOVERNMENT TO KEEP THEM FROM BECOMING MONOPOLISTIC	2.47	3.01
THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT	2.52	0.88
THE GOVERNMENT HAS AN INTEREST IN TRANSPORTATION IN THIS COUNTRY WHICH IT MUST PROTECT	2.70	2.09
CENTRAL MANAGEMENT OF THE NATION'S RAILROADS WOULD LEAD TO GREATER EFFICIENCY	2.70	2.47
RAILROAD WAGE RATES SHOULD BE SET BY CONGRESS	2.88	1.98
RAILROAD RIGHT OF WAYS SHOULD BE GOVERNMENT OWNED, WITH RENT CHARGED TO THE RAILROADS THAT USE THEM	2.94	2.05
THE PRESIDENT SHOULD BE ALLOWED TO PROHIBIT STRIKE ACTION IN THE TRANSPORTATION INDUSTRY WHILE HE SENDS THE DISPUTE TO A FACT FINDING BOARD FOR FINAL DETERMINATION	3.05	1.55

Statement	$\bar{X}$	σ^2
THE GOVERNMENT SHOULD FORCE THE RAILROADS TO ABANDON UNECONOMICAL LINES THAT ARE NOT IN THE PUBLIC INTEREST	3.05	2.55
IF ANY RAILROADS ARE GOVERNMENT RUN, THEN ALL OF THEM SHOULD BE, TO MAKE THE SYSTEM MORE SENSIBLE	3.17	2.52
THE GOVERNMENT SHOULD RUN RURAL AND COMMUTER PASSENGER TRAINS, EVEN AT A LOSS, BECAUSE THEY ARE SOCIALLY DESIRABLE	3.17	2.90
THE PRESIDENT SHOULD BE GIVEN MORE WEAPONS TO USE IN RESOLVING RAILROAD LABOR DISPUTES, INCLUDING LONGER ARBITRATION PERIODS	3.17	3.15
IF THE RAILROADS WERE NATIONALIZED, THE GOVERNMENT WOULD PAY A FAIR MARKET PRICE TO THEIR PRIVATE OWNERS	3.17	3.40
THE GOVERNMENT SHOULD INTERVENE TO PREVENT STRIKES BY RAILROAD WORKERS	3.23	4.19
THE GOVERNMENT SHOULD BUY RAILROAD TRACKS AND EQUIPMENT IF CESSATION OF SERVICE THREATENS	3.35	2.24
THE BEST CHANCE RAILROAD STOCKHOLDERS HAVE OF MAKING A PROFIT IS FOR THE GOVERNMENT TO BUY THEM OUT	3.52	2.13
THE RAILROADS MUST NOT BE ALLOWED TO GROW TOO LARGE AND POWERFUL	3.52	4.38
RAILROADS SHOULD BE GOVERNMENT OWNED AND PRIVATELY OPERATED	3.64	2.36
THE RAILROADS SHOULD BE CONSIDERED AS VITAL NATIONAL ASSETS	3.70	4.97
UNIONS SHOULD BE ALLOWED TO STRIKE AGAINST ONLY RAILROADS THAT THE CONGRESS SELECTS	3.76	5.06
THE GOVERNMENT SHOULD MODERNIZE RAILROAD TERMINALS LIKE IT HAS AIRPORTS	3.82	3.77
RAILROAD WALKOUTS SHOULD BE HANDLED BY EMERGENCY LEGISLATIVE ACTION	3.90	3.97

Statement	$\overline{X}$	σ^2
LEGISLATORS SHOULD ACT ON PERMANENT LEGISLATION TO PREVENT RAILROAD WORK STOPPAGES	3.94	6.43
THE DEPARTMENT OF TRANSPORTATION SHOULD HAVE THE OPTION OF BECOMING INVOLVED IN MANAGEMENT TO TRY TO MAKE THE RAILROADS PROFITABLE	4.00	1.62
THE GOVERNMENT SHOULD BUY OR BUILD FREIGHT CARS AND THEN RENT OR LEASE THEM TO THE RAILROADS	4.05	1.05
RAILROAD MANAGEMENT SHOULD INITIATE AND PURSUE PLANS SUBMITTED TO THEM BY THE SECRETARY OF TRANSPORTATION	4.05	2.80
THE FEDERAL GOVERNMENT SHOULD SPONSOR RESEARCH ON IMPROVED RAILROAD FACILITIES LIKE IT DOES FOR AIRPLANES	4.11	2.61
RAILROAD FREIGHT SERVICE SHOULD BE MAINTAINED IN THE U.S. IN THE NATIONAL INTEREST	4.17	2.40
THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO THAT THEY CAN ATTRACT MORE PASSENGERS	4.23	1.19
RAILROADS SHOULD BE PRIVATELY OWNED AND GOVERNMENT OPERATED	4.23	2.56
A NATIONAL COMPUTER SYSTEM SHOULD BE BUILT BY THE GOVERNMENT TO HELP THE RAILROADS OPERATE MORE EFFICIENTLY	4.29	4.47
CONGRESS SHOULD MAKE MAJOR CHANGES IN BASIC LABOR LAWS TO PREVENT FUTURE RAILROAD SHUTDOWNS	4.29	5.47
THE GOVERNMENT SHOULD ASSIST THE RAILROADS IN MEETING THEIR LOCOMOTIVE AND FREIGHT CAR NEEDS	4.35	4.61
RAILROADS CAN NO LONGER MAKE A REASONABLE PROFIT IN THE UNITED STATES	4.41	5.00
TRANSPORTATION WORKERS SHOULD ONLY BE ALLOWED TO STRIKE AGAINST A FEW RAILROADS AT A TIME	4.47	2.13

Statement	$\overline{X}$	σ^2
RAILROAD MANAGEMENT OFTEN IS LESS THAN MEDIOCRE	4.47	5.51
CONGRESS SHOULD REVAMP THE STRIKE-HANDLING MACHINERY FOR THE RAILROAD INDUSTRY	4.52	2.38
EVEN BRIEF RAILROAD STRIKES BRING LAYOFFS IN INDUSTRY AND CUTBACKS IN PRODUCTION	4.64	1.86
RAIL SERVICE MUST BE PROVIDED AT ALL COSTS	4.64	3.86
IF THE RAILROADS WERE NATIONALIZED, THE TAXPAYERS SHOULD IMMEDIATELY PAY FOR IMPROVEMENT OF TRAINS AND STATIONS	4.76	5.69
GOVERNMENT MANAGEMENT OF RAILROADS WOULD PROBABLY BE JUST ABOUT AS EFFICIENT AS PRIVATE MANAGEMENT	4.76	7.94
THE GOVERNMENT SHOULD GUARANTEE LOANS TO THE RAILROADS TO HELP THEM STAY IN BUSINESS	4.88	5.61
THE GOVERNMENT SHOULD LOAN MONEY TO THE RAILROADS TO IMPROVE THEIR FACILITIES AND SERVICES	4.94	2.68
RAILROAD LABOR DISPUTES SHOULD BE RESOLVED BY COMPULSORY ARBITRATION	4.94	4.05
RAILROADS SHOULD BE PRIVATELY OWNED AND OPERATED, BUT REGULATED BY THE GOVERNMENT	5.00	4.12
RAILROAD STRIKES ARE INCONVENIENT FOR COMMUTERS	5.11	1.98
THE GOVERNMENT SHOULD SUPPLY BARRICADES AND SAFETY EQUIPMENT AT ALL HIGHWAY RAILROAD CROSSINGS	5.11	4.48
THE GOVERNMENT SHOULD PROVIDE TAX INCENTIVES FOR THE RAILROADS TO IMPROVE THEIR EQUIPMENT AND SERVICES	5.11	4.98
RAILROAD PASSENGER SERVICE SHOULD BE MAINTAINED FOR THE PUBLIC GOOD	5.23	1.69
THE GOVERNMENT SHOULD HELP SUPPORT ONLY THOSE RAILROADS IN DANGER OF BANKRUPTCY	5.23	5.19

Statement	$\bar{X}$	σ^2
IF THE GOVERNMENT IS GOING TO CONTINUE TO SUBSIDIZE TRUCKING AND AIRLINES BY BUILDING HIGHWAYS AND AIRPORTS, THEN IT SHOULD DO THE SAME FOR THE RAILROADS	5.47	8.76
RAILROADS SHOULD HAVE THE SAME STATUS AS PUBLIC UTILITIES, PRIVATELY OWNED BUT GOVERNMENT REGULATED	5.50	5.62
THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY	5.58	1.25
THE RAILROADS SHOULD BE PROTECTED BY LAW FROM COMPETITORS IN THE TRANSPORTATION INDUSTRY	5.58	1.25
THE EXISTENCE OF RAILROAD FREIGHT SERVICE IS GOOD FOR THE COUNTRY	5.58	1.75
THERE ARE NO GOVERNMENT BUILT RAILROAD TRACKS FOR THE RAILROADS TO USE, SO TRUCKS SHOULD NOT BE ALLOWED TO RUN ON GOVERNMENT BUILT HIGHWAYS	5.59	7.50
THE BURDEN OF PASSENGER SERVICE LOSSES SHOULD BE LIFTED FROM THE RAILROADS THROUGH TAX BREAKS AND SUBSIDIES	5.64	7.24
RAILROADS ARE GOOD FOR THE COUNTRY	5.76	0.56
RAILROAD NATIONALIZATION WOULD REQUIRE LARGE GOVERNMENT EXPENDITURES TO BUILD BETTER TRAINS	5.94	6.05
SKILLED RAILROAD WORKERS DESERVE MORE PAY	6.11	1.11
WORK RULES AND LABOR PRACTICES IN THE RAILROAD INDUSTRY SHOULD BE MODERNIZED	6.11	3.36
GOVERNMENT SHOULD TAX TRUCKERS MORE HEAVILY TO HELP PAY FOR HIGHWAYS AND MAKE TRUCKS LESS COMPETITIVE WITH THE RAILROADS	6.17	6.02
RAILROADS SHOULD ABANDON UNECONOMICAL LINES THAT ARE NOT IN THE PUBLIC INTEREST	6.23	4.81
THE RAILROADS SHOULD NOT BE GIVEN ANY TAX BREAKS THAT ARE NOT ALSO GIVEN TO TRUCKERS AND AIRLINES	6.41	6.00

Statement	$\overline{X}$	σ^2
THE GOVERNMENT SHOULD ENCOURAGE PRIVATELY OWNED RAILROADS TO MERGE IN ORDER TO INCREASE EFFICIENCY	6.47	3.13
RAILROADS DO NOT RUN ON GOVERNMENT TRACKS, SO TRUCKS SHOULD NOT USE PUBLIC ROADS	6.76	9.19
THE GOVERNMENT SHOULD HELP THE RAILROADS BECOME MORE SELF SUPPORTING SO THAT THEY CAN BE FREED OF THE REGULATION THAT GOES ALONG WITH SUBSIDIES	6.82	4.15
RAILROADS ARE A PUBLIC SERVICE, SO THAT THEIR INCOME SHOULD NOT BE TAXED	7.00	5.50
RAILROADS SHOULD BE GIVEN TAX BREAKS	7.23	5.19
RAILROADS SHOULD BE RELIEVED OF THE BURDEN OF INEQUITABLE LOCAL TAXATION	7.23	5.19
THE RAILROADS COULD RECOVER FINANCIALLY IF THE REST OF THE ECONOMY WAS IN BETTER SHAPE	7.29	2.97
RAILROADS SHOULD DIVERSIFY THEIR FINANCIAL INTERESTS	7.47	4.13
WHEN A RAIL STRIKE OCCURS, THE PRESIDENT SHOULD HAVE TO GO TO CONGRESS FOR SPECIAL LEGISLATION IF HE WANTS TO INTERVENE	7.47	4.88
THE GOVERNMENT SHOULD HELP RESTORE THE RAILROADS TO COMPETITIVE HEALTH BECAUSE NATIONALIZATION OF THE RAILROADS WOULD BE MORE COSTLY AND LESS EFFICIENT	7.47	5.51
RAILROADS SHOULD NOT HAVE TO PAY TAXES	7.64	6.74
GOVERNMENT SHOULD NOT BUILD AIRPORTS FOR THE AIRLINES, BECAUSE THAT IS UNFAIR TO PRIVATELY OWNED RAILROADS THAT MUST COMPETE WITH THEM	7.64	7.61
LAWS SHOULD BE PASSED WHICH WILL MAKE IT POSSIBLE FOR THE RAILROADS TO MAKE A PROFIT ON THEIR OWN	7.70	3.84
RAILROAD LABOR SHOULD HAVE THE RIGHT TO SELECTIVELY STRIKE AGAINST ONE OR TWO COMPANIES AT A TIME	7.76	2.44

Statement	$\bar{X}$	σ^2
IF THE GOVERNMENT OWNED THE RAILROADS, TAXES WOULD HAVE TO BE RAISED TO SUPPORT THEM	7.76	5.31
GOVERNMENT SHOULD NOT BUILD HIGHWAYS, BECAUSE THAT GIVES TRUCKERS AN UNFAIR COMPETITIVE ADVANTAGE OVER THE RAILROADS	7.76	5.69
THE RAILROADS SHOULD NOT BE CENTRALLY MANAGED BECAUSE THEN THEY WOULD BE TOO POWERFUL	7.82	7.77
THE RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE PASSENGER SERVICE	7.94	5.30
RAILROAD MANAGEMENT SHOULD BE ALLOWED TO STREAMLINE ITS WORK FORCE	8.05	3.05
GOVERNMENT MANAGEMENT OF RAILROADS WOULD RESULT IN POORER SERVICE TO FREIGHT SHIPPERS	8.05	4.68
IF THE GOVERNMENT OWNED THE RAILROADS, IT WOULD HAVE AN UNFAIR COMPETITIVE ADVANTAGE OVER TRUCKERS AND AIRLINES	8.23	3.81
LEGAL BARRIERS TO OWNERSHIP OF DIFFERENT FORMS OF TRANSPORTATION BY THE SAME COMPANY SHOULD BE REMOVED	8.23	5.06
THE RAILROADS SHOULD BE PERMITTED TO EARN A RATE OF RETURN ON INVESTMENT SUFFICIENT TO ATTRACT PRIVATE CAPITAL	8.35	1.99
IF THE GOVERNMENT RAN THE RAILROADS THEY WOULD PROBABLY LOSE TREMENDOUS AMOUNTS OF MONEY	8.35	7.36
THE RAILROAD INDUSTRY SHOULD NOT BE AS CAREFULLY REGULATED AS IT IS NOW	8.41	2.00
THE RAILROADS SHOULD BE ALLOWED TO LAY OFF WORKERS WHOSE JOBS ARE NO LONGER NECESSARY	8.47	1.38
IF THE GOVERNMENT BOUGHT THE NATION'S RAILROADS FROM THEIR PRIVATE OWNERS, THE COST TO THE TAXPAYER WOULD BE GREAT	8.52	3.01

Statement	$\overline{X}$	σ^2
RAILROADS SHOULD BE ALLOWED TO EARN AN ADEQUATE RETURN ON INVESTMENT	8.58	0.75
RAILROADS SHOULD BE ALLOWED TO OWN AND OPERATE TRUCKING COMPANIES AND AIRLINES	8.58	1.50
RAILROADS SHOULD BE NATIONALIZED ONLY AS A LAST RESORT	8.58	5.63
THE RAILROADS SHOULD BE ALLOWED TO AUTO-MATE THEIR EQUIPMENT WITHOUT LABOR LAWS STOPPING THEM	8.64	3.99
THE TAXPAYER SHOULD NOT HAVE TO SHOULDER THE BURDEN OF A HIGH COST NATION-ALIZED RAILWAY SYSTEM	8.64	7.36
RAILROAD MANAGEMENT SHOULD HAVE THE RIGHT TO FIRE UNNECESSARY WORKERS TO STAY IN BUSINESS	8.76	1.56
PRIVATELY OWNED RAILROADS SHOULD BE ENCOURAGED TO MERGE TO INCREASE EFFICIENCY	8.76	2.81
RAILROADS SHOULD BE ALLOWED TO MERGE IN ORDER TO INCREASE PROFITS	8.76	2.81
RAILROADS SHOULD NOT BE EXPECTED TO SUR-VIVE UNDER GOVERNMENT REGULATION THAT TREATS THEM LIKE MONOPOLIES	8.76	2.94
RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR CARRYING FREIGHT	8.82	0.77
FREIGHT SERVICE WOULD NOT IMPROVE ANY IF THE RAILROADS WERE GOVERNMENT OWNED	8.82	1.02
RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN PRICING THEIR SERVICES	8.82	1.65
RAILROADS SHOULD BE PRIVATELY OWNED BECAUSE WORKERS WOULD NOT BE ALLOWED TO STRIKE AGAINST THE GOVERNMENT IF IT OWNED THE RAILROADS	8.88	4.11
RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PASSENGER RATES	8.94	1.68

Statement	$\bar{X}$	σ^2
RAILROADS SHOULD BE ALLOWED TO CHANGE THEIR RATES WITHOUT GOVERNMENT APPROVAL	9.11	2.36
MAXIMUM OPERATING EFFICIENCY OF THE RAILROADS WOULD ONLY BE ACHIEVED BY MAXIMUM PROFIT MAKING INCENTIVE	9.11	3.86
PRIVATELY OWNED RAILROADS SHOULD BE ALLOWED TO MERGE TO INCREASE EFFICIENCY	9.17	1.15
LABOR LAWS IMPOSED ON RAILROADS BY GOVERNMENT ARE OUTDATED, INCOMPATIBLE WITH MODERN TECHNOLOGY, AND SHOULD BE REPEALED	9.17	2.52
RAILROADS SHOULD BE ALLOWED TO MERGE IN ORDER TO INCREASE OPERATING EFFICIENCY	9.17	2.52
NATIONALIZATION OF THE RAILROADS WOULD LEAD TO NATIONALIZATION OF OTHER INDUSTRIES AND THE COLLAPSE OF OUR FREE ENTERPRISE SYSTEM	9.23	10.81
STRICT ECONOMIC REGULATION OF RAILROAD RATES SHOULD BE REMOVED SO THAT RAILROADS CAN EARN A REASONABLE PROFIT	9.29	0.84
STRICT GOVERNMENT REGULATION OF RAILROAD FREIGHT RATES SHOULD BE REMOVED SO THAT THEY CAN EARN A REASONABLE PROFIT	9.35	1.24
THE GOVERNMENT SHOULD NOT INTERFERE WITH ANY RAILROAD WHICH MAKES A PROFIT	9.35	1.86
RAILROADS ARE BUSINESSES, AND THE ONLY PROPER INCENTIVE FOR ANY BUSINESS IS THE PROFIT MOTIVE	9.35	2.11
RAILROADS SHOULD CONTINUE TO OPERATE WITH THE FREE ENTERPRISE INCENTIVES THAT HAVE ALLOWED THEM TO DEVELOP SO MUCH, SO FAST, IN THIS COUNTRY	9.35	3.36
STRICT LEGAL REGULATIONS OF RAILROAD RATES SHOULD BE REMOVED SO THAT THEY CAN EARN A FAIR PROFIT	9.52	0.51

Statement	$\bar{X}$	σ^2
THE GOVERNMENT SHOULD NOT INTERFERE WITH RAILROAD LABOR DISPUTES	9.52	1.13
THE GOVERNMENT SHOULD NOT INTERVENE IN RAILROAD LABOR DISPUTES	9.58	1.75
NATIONALIZATION WOULD ROB RAILROAD STOCK-HOLDERS OF THEIR INVESTMENT	9.64	1.24
ANTI-MONOPOLY REGULATIONS SHOULD BE REMOVED FROM THE RAILROAD INDUSTRY	9.70	1.47
RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS WITHOUT GOVERNMENT APPROVAL	9.82	0.52
GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT	9.88	1.98
AMERICAN WORKERS HAVE COME TO ENJOY A GOOD LIFE UNDER FREE ENTERPRISE, SO PRIVATE OWNERSHIP OF THE RAILROADS SHOULD BE CONTINUED	10.00	1.00
RAILROADS SHOULD BE ALLOWED TO MERGE AND EXPAND, EVEN IF THEY GET A MONOPOLY	10.47	0.51
RAILROADS SHOULD BE PRIVATELY OWNED AND OPERATED, AND NOT SUBJECT TO GOVERN-MENT REGULATION	10.47	3.01
THE RAILROAD INDUSTRY SHOULD BE LEFT ALONE BY THE GOVERNMENT SO THAT IT CAN BEGIN OPERATING PROFITABLY	10.58	0.50
THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT	11.00	0.00

APPENDIX C

PRETEST QUESTIONNAIRE FROM STUDY I

APPENDIX C

PRETEST QUESTIONNAIRE FROM STUDY I

MICHIGAN STATE UNIVERSITY

COLLEGE OF COMMUNICATION ARTS   EAST LANSING • MI • 48824
DEPARTMENT OF COMMUNICATION

Dear Participant:

This questionnaire asks you to tell us <u>how different</u> (or in other words, how "far apart") opinions about railroad nationalization are. Difference between opinions can be measured in Galileos. A Galileo is a unit of conceptual distance, much as an inch is a unit of physical distance. The <u>more different</u> two opinions are, the more Galileos apart from each other they are.

To help you know how big a Galileo is, the <u>difference</u>, or <u>distance</u> <u>between</u> feeling that:

THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY

and feeling that:

THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO
   THAT THEY CAN ATTRACT MORE PASSENGERS

is <u>TEN (10)</u> Galileos. In other words, these two opinions are ten Galileos "apart".

You are supposed to tell us how many Galileos apart you think the opinions in the questionnaire are. Remember, the <u>more different</u> two opinions are, the bigger the number of Galileos apart they are. If you think that any of the pairs of opinions in the questionnaire are <u>more</u> <u>different</u> than the two opinions mentioned above, then you would write a number <u>bigger</u> than ten. If you think that they are <u>not so different</u>, then you would write a number <u>smaller</u> than ten.

The last couple of pages of the questionnaire have some different kinds of questions. These will be explained as you come to them.

Please fill this questionnaire out at home, and turn it in at the next meeting of your communication class.

Thank you very much for your help.

Sincerely,

John T. Marlier
Graduate Assistant
Department of Communication

IF the distance between feeling that:
> THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE
> COUNTRY.

and feeling that:
> THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
> SO THAT THEY CAN ATTRACT MORE PASSENGERS.

is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
> THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE
> COUNTRY.

and feeling that:
> THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
> _____Galileos

---

feeling that:
> THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE
> COUNTRY.

and feeling that:
> GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
> _____Galileos

---

feeling that:
> THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE
> COUNTRY.

and feeling that:
> ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE
> GOVERNMENT.
> _____Galileos

---

feeling that:
> THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE
> COUNTRY.

and feeling that:
> RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
> WITHOUT GOVERNMENT APPROVAL.
> _____Galileos

---

feeling that:
> THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE
> COUNTRY.

and feeling that:
> THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
> _____Galileos

Remember: IF the difference between feeling that:
        THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR
        THE COUNTRY.
    and feeling that:
        THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR
        EQUIPMENT SO THAT THEY CAN ATTRACT MORE PASSENGERS.
    is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE
    COUNTRY.
and feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.
    _____Galileos

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE
    COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.
    _____Galileos

---

feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
and feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
    _____Galileos

---

feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
and feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
    _____Galileos

---

feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
and feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE
    GOVERNMENT.
    _____Galileos

Remember: IF the difference between feeling that:

    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR
    THE COUNTRY.

and feeling that:

    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR
    EQUIPMENT SO THAT THEY CAN ATTRACT MORE PASSENGERS.

is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:

    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.

and feeling that:

    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
    WITHOUT GOVERNMENT APPROVAL.

_____Galileos

---

feeling that:

    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.

and feeling that:

    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.

_____Galileos

---

feeling that:

    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.

and feeling that:

    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.

_____Galileos

---

feeling that:

    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.

and feeling that:

    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.

_____Galileos

---

feeling that:

    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.

and feeling that:

    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.

_____Galileos

---

feeling that:

    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.

and feeling that:

    ANY RAILROAD BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.

_____Galileos

<u>Remember</u>:   IF the difference between feeling that:
            THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR
            THE COUNTRY.
        and feeling that:
            THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR
            EQUIPMENT SO THAT THEY CAN ATTRACT MORE PASSENGERS.
        is TEN (10) Galileos, <u>then how many Galileos apart are</u>:

---

feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and feeling that:
    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
    WITHOUT GOVERNMENT APPROVAL.
    _____Galileos

---

feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
    _____Galileos

---

feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.
    _____Galileos

---

feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and feeling that:
    THE GOVERNMENT SHOULD <u>NOT</u> INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT <u>OR</u> BY SUBSIDIZING IT.
    _____Galileos

---

feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
and feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.
    _____Galileos

---

feeling that:
    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
    WITHOUT GOVERNMENT APPROVAL.
and feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
    _____Galileos

Remember: IF the difference between feeling that:
             THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR
             THE COUNTRY.
         and feeling that:
             THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR
             EQUIPMENT SO THAT THEY CAN ATTRACT MORE PASSENGERS.
         is TEN (10) Galileos, <u>then how many Galileos apart are</u>:

---

feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
and feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
    _____Galileos

---

feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
and feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.
    _____Galileos

---

feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
and feeling that:
    THE GOVERNMENT SHOULD <u>NOT</u> INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT <u>OR</u> BY SUBSIDIZING IT.
    _____Galileos

---

feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.
and feeling that:
    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
    WITHOUT GOVERNMENT APPROVAL.
    _____Galileos

---

feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.
and feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
    _____Galileos

---

feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.
and feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.
    _____Galileos

<u>Remember:</u>   IF the difference between feeling that:
>THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR
>THE COUNTRY.
and feeling that:
>THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR
>EQUIPMENT SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, <u>then how many Galileos apart are:</u>

---

feeling that:
>ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.
and feeling that:
>THE GOVERNMENT SHOULD <u>NOT</u> INTERFERE IN ANY WAY WITH THE RAILROAD
>INDUSTRY, EITHER BY REGULATING IT <u>OR</u> BY SUBSIDIZING IT.
>_____Galileos

---

feeling that:
>RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
>WITHOUT GOVERNMENT APPROVAL.
and feeling that:
>THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
>_____Galileos

---

feeling that:
>RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
>WITHOUT GOVERNMENT APPROVAL.
and feeling that:
>RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
>CARRYING FREIGHT.
>_____Galileos

---

feeling that:
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>INDUSTRY, EITHER BY REGULATING IT <u>OR</u> BY SUBSIDIZING IT.
>_____Galileos

---

feeling that:
>THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
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>RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
>CARRYING FREIGHT.
>_____Galileos

Remember: IF the difference between feeling that:
            THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR
            THE COUNTRY.
         and feeling that:
            THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR
            EQUIPMENT SO THAT THEY CAN ATTRACT MORE PASSENGERS.
         is TEN (10) Galileos, then how many Galileos apart are:

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feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
and feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.
    _____Galileos

---

feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.
and feeeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.
    _____Galileos

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE
    COUNTRY.
and feeling:
    THE WAY YOU FEEL ABOUT THE RAILROADS.
    _____Galileos

---

feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS.
    _____Galileos

---

feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS.
    _____Galileos

---

feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS.
    _____Galileos

Remember: IF the difference between feeling that:
  THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR
  THE COUNTRY.
and feeling that:
  THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR
  EQUIPMENT SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
  ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.
and feeling:
  THE WAY YOU FEEL ABOUT RAILROADS
  _____Galileos

---

feeling that:
  RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
  WITHOUT GOVERNMENT APPROVAL.
and feeling:
  THE WAY YOU FEEL ABOUT RAILROADS.
  _____Galileos

---

feeling that:
  THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
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  _____Galileos

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feeling that:
  RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
  CARRYING FREIGHT.
and feeling:
  THE WAY YOU FEEL ABOUT RAILROADS.
  _____Galileos

---

feeling that:
  THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
  INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.
and feeling:
  THE WAY YOU FEEL ABOUT RAILROADS.
  _____Galileos

Directions: Please indicate below any opinion about railroads which you, personally, consider to be an ACCEPTABLE opinion by placing a one (1) in the space beside it. Indicate any opinion which you, personally, REJECT by placing a two (2) in the space beside it. Place a three (3) in the space beside any opinion which you NEITHER ACCEPT NOR REJECT.

_____ THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.

_____ THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO THAT THEY CAN ATTRACT MORE PASSENGERS.

_____ THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.

_____ GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.

_____ ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.

_____ RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS WITHOUT GOVERNMENT APPROVAL.

_____ THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.

_____ RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR CARRYING FREIGHT.

_____ THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.

Directions: Please estimate HOW MANY Galileos AWAY from your own opinion about railroads an opinion could be which would still be acceptable to you. Then estimate HOW MANY Galileos AWAY from your own opinion about railroads an opinion would have to be before you would consider it UNACCEPTABLE to you.

Remember: The difference, or distance between, feeling that:
THE EXISTENCE OF RAILROAD PASSENGER SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos.

An opinion about railroads could be about _____ Galileos from your own opinion about railroads and still be acceptable to you.

An opinion about railroads would have to be about _____ Galileos from your own opinion about railroads before you would find it unacceptable and reject it.

Directions: Please indicate for each of the following questions the answer which <u>best</u> describes <u>you</u>. This information is needed to compare personal characteristics of the members of different groups participating in the project. Your <u>name</u> will be removed from it after the data are collected, and it is confidential. If for any reason you would rather not reveal any of the information requested, even under these conditions, then leave the question blank.

Sex:

_____Male
_____Female

Race:

_____Black
_____White
_____Oriental
_____American Indian
_____Other or mixed

Age:

_____(Please supply, in years.)

Hometown population:

_____Less than 1,000
_____1,000 - 5,000
_____5,000 - 20,000
_____20,000 - 100,000
_____More than 100,000

Approximate family income:

_____Less than $4,000 per year
_____$4,000 to $7,000 per year
_____$7,000 to $10,000 per year
_____$10,000 to $20,000 per year
_____More than $20,000 per year

College Rank:
_____Freshman
_____Sophomore
_____Junior
_____Senior
_____Graduate

Grade Point Average:
_____0.00-2.00
_____2.00-2.50
_____2.50-3.00
_____3.00-3.50
_____3.50-4.00

APPENDIX D

EXPERIMENTAL MESSAGES WITH VALUES OF MESSAGE STRUCTURE

APPENDIX D

EXPERIMENTAL MESSAGES WITH VALUES OF MESSAGE STRUCTURE

Message 1
Message structure = 1.5957

ON RAILROAD NATIONALIZATION

America has always operated on a capitalistic economic system. The railroads have thrived in the past in this country because maximum operating efficiency could be achieved as long as there was a maximum profit making incentive. In recent years, however, other forms of transportation have been cutting into railroad profits. Trucks, indirectly subsidized by government road building programs, compete with the railroads for freight hauling business. Airlines, operating out of municipal airports, compete for passenger business. In the face of these facts, it would only be fair for the government to loan money to the railroads to improve their facilities and services. In addition to this, however, government should encourage privately owned railroads to merge in order to increase their operating efficiency. Further, railroads should be allowed to discontinue unprofitable passenger service. At the same time, however, railroads must be controlled so that they don't get too big. Some government regulation is necessary to keep them from becoming monopolistic. And the uneconomical lines that they abandon cannot be lines that are in the public interest. Some aspects of railroad transportation are vital to the national interest. While it is true that the taxpayer should not have to shoulder the financial burden of a high cost nationalized railway system, it is also true that the government must assure the continuation of rural and commuter passenger trains. Any financial loss involved with running these trains is worth it, because they are socially desirable.

Message 2
Message structure = 0.6181

ON RAILROAD NATIONALIZATION

The government should help the railroads become more self supporting so that they can be freed of the regulation that goes along with subsidies. Toward this end, laws should be passed which will make it possible for the railroads to make a profit on their own. The railroads should be protected by law from competitors in the transportation industry. The government builds airports for the airlines, which is unfair to the privately owned railroads that must compete with them. Government should tax truckers more heavily to help pay for highways and make trucks less competitive with the railroads. Ideally, the railroads should not be given any tax breaks that are not also given to truckers and airlines; but neither should truckers and airlines be given any tax breaks which are not also given to the railroads. The burden of passenger service losses should be lifted from the railroads through tax breaks and subsidies. The government should guarantee loans to the railroads to help them stay in business. Railroad freight service must be maintained in the national interest. To achieve this, Congress should revamp the strike handling machinery for the railroad industry. Railroad management should initiate and pursue plans submitted to them by the Secretary of Transportation. Even brief railroad strikes bring layoffs in industry and cutbacks in production that must be avoided.

Message 3
Message structure = 0.8868

ON RAILROAD NATIONALIZATION

Railroads should be privately owned, but regulated by the government. Railroads are important. The existence of railroad freight hauling service is good for the country. And commuter trains are an important form of mass transportation. The government should therefore provide tax incentives for the railroads to improve their equipment and services. Also, since railroad strikes are inconvenient for both shippers of freight and commuters, work rules and labor practices in the railroad industry should be modernized. The government can lend indirect financial support to the railroads by supplying barricades and safety equipment at all highway-railroad crossings, too. But direct support should only be given to those railroads which are in danger of bankruptcy. Railroads must be regulated to avoid monopolies, but that doesn't mean they should be owned by government. The only sensible stand on the railroad nationalization issue is a middle-of-the-road stand.

Message 4
Message structure = 0.3544

ON RAILROAD NATIONALIZATION

The government has an interest in transportation in this country which it must protect. The railroads of the nation should be considered as vital national assets. It must be realized that central management of the nation's railroads would lead to greater operating efficiency. This means that if the government has a hand in running all of them, to make the system more sensible. In particular, the government should expand its hold on the passenger services of the nation's railroads. Of course, it should also see to it that the investors who own the railroads are adequately compensated. But the advantages to government involvement with the railroads cannot be ignored. Government intervention to prevent railroad strikes, in particular, would minimize the disruption caused by railroad labor disputes. Legislators should act on permanent legislation to prevent railroad work stoppages. The President should be given more weapons to use in resolving railroad labor disputes, too, including binding arbitration. Unions should be allowed to strike against only those railroads that the Congress selects. And finally, railroad wage rates should be set by Congress.

Message 5
Message structure = 0.8885

ON RAILROAD NATIONALIZATION

If the government bought the nation's railroads from their private owners, the cost to the taxpayer would be great. Besides this, nationalization of the railroads would lead to nationalization of other industries and the collapse of our free enterprise system. And railroad services, both to freight shippers and to passengers, would not improve any if the railroads were government owned. The railroads should be nationalized only as a last, desperate resort. What the railroad industry really needs is less government interference, not more. The railroads should be permitted to earn a rate of return on investment sufficient to attract private capital. Railroads should not be expected to survive under government regulation that treats them like monopolies. They should be allowed to merge in order to increase operating efficiency. Railroads should be allowed to own and operate trucking companies and airlines. And labor laws imposed on the railroads by government, which are outdated and incompatible with modern technology, should be repealed. Railroad management should be allowed to streamline its work force. Railroad management should have the right to fire unnecessary workers to stay in business, and to automate their equipment, without labor laws stopping them.

APPENDIX E

POSTEST QUESTIONNAIRE FROM STUDY I WITH MESSAGE 1

POSTEST QUESTIONNAIRE FROM STUDY I WITH MESSAGE 1

MICHIGAN STATE UNIVERSITY

COLLEGE OF COMMUNICATION ARTS   **EAST LANSING • MI • 48824**
DEPARTMENT OF COMMUNICATION

Dear Participant:

This questionnaire is a follow-up to the one you have already completed. Many of the questions are the same, but not all of them. Once again we are asking you to tell us how different, or "far apart" opinions about railroad nationalization are. If you recall, we measure the difference between opinions in Galileos. A Galileo is a unit of conceptual distance, much as an inch is a unit of physical distance. The more different two opinions are, the more Galileos apart from each other they are. The difference, or distance between feeling that:

THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY

and feeling that:

THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
SO THAT THEY CAN ATTRACT MORE PASSENGERS

is TEN (10) Galileos.

Once again, you are supposed to tell us how many Galileos apart you think the opinions in the questionnaire are. In addition, you will be asked to tell us how far, or how many Galileos away, the opinion expressed by the message near the end of the questionnaire is from each of the other opinions in the questionnaire.

Remember, the more different two opinions are, the bigger the number of Galileos apart they are. If you think that any of the pairs of opinions in the questionnaire are more different than the two opinions mentioned above, then you would write a number bigger than ten. If you think that they are not so different, then you would write a number smaller than ten.

Please fill this questionnaire out at home and return it at the next meeting of your communication class.

Once again, thank you for your help.

Sincerely,

John Marlier
Graduate Assistant
Department of Communication

IF the difference between feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
_____ Galileos

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.

_____ Galileos

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERN-
    MENT.

_____ Galileos

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
    WITHOUT GOVERNMENT APPROVAL.

_____ Galileos

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.

_____ Galileos

<u>Remember</u>:
If the difference between feeling that:
>THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.

and feeling that:
>THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
>SO THAT THEY CAN ATTRACT MORE PASSENGERS.

is TEN (10) Galileos, <u>then how many Galileos apart are</u>:

---

feeling that:
>THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.

and feeling that:
>RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
>CARRYING FREIGHT.

_____ Galileos

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feeling that:
>THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.

and feeling that:
>THE GOVERNMENT SHOULD <u>NOT</u> INTERFERE IN ANY WAY WITH THE RAILROAD
>INDUSTRY, EITHER BY REGULATING IT <u>OR</u> BY SUBSIDIZING IT.

_____ Galileos

---

feeling that:
>THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
>SO THAT THEY CAN ATTRACT MORE PASSENGERS.

and feeling that:
>THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.

_____ Galileos

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feeling that:
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>SO THAT THEY CAN ATTRACT MORE PASSENGERS.

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_____ Galileos

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feeling that:
>THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
>SO THAT THEY CAN ATTRACT MORE PASSENGERS.

and feeling that:
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_____ Galileos

Remember:
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  _____ Galileos

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  _____ Galileos

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  CARRYING FREIGHT.

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    WITHOUT GOVERNMENT APPROVAL.
and feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
and feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
and feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.

_____ Galileos

---

feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.
and feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.

_____ Galileos

Remember:
IF the difference between feeling that:
 THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
 THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO
 THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
 THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling:
 THE WAY YOU FEEL ABOUT RAILROADS

  _____ Galileos

---

feeling that:
 THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO
 THAT THEY CAN ATTRACT MORE PASSENGERS
and feeling:
 THE WAY YOU FEEL ABOUT RAILROADS

  _____ Galileos

---

feeling that:
 THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and feeling:
 THE WAY YOU FEEL ABOUT RAILROADS.

  _____ Galileos

---

feeling that:
 GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
and feeling:
 THE WAY YOU FEEL ABOUT RAILROADS.

  _____ Galileos

---

feeling that:
 ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERN-
 MENT.
and feeling:
 THE WAY YOU FEEL ABOUT RAILROADS.

  _____ Galileos

---

feeling that:
 RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
 WITHOUT GOVERNMENT APPROVAL.
and feeling:
 THE WAY YOU FEEL ABOUT RAILROADS

  _____ Galileos

Remember:
IF the difference between feeling that:
 THE EXISTENCE OF RAILROAD PASSENGER SERVICE IS GOOD FOR THE
 COUNTRY.
and feeling that:
 THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
 SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
 THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
and feeling:
 THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
 RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
 CARRYING FREIGHTS.
and feeling:
 THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
 THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
 INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.
and feeling:
 THE WAY YOU FEEL ABOUT THE RAILROADS

_____ Galileos

<u>Directions:</u>   Please read the message below, entitled "ON RAILROAD
NATIONALIZATION", before continuing.   The questions on the next two
pages will ask you to estimate how far the opinion it expresses is from
other opinions, including your own.

ON RAILROAD NATIONALIZATION

America has always operated on a capitalistic economic system.
The railroads have thrived in the past in this country because maximum
operating efficiency could be achieved as long as there was a maximum
profit making incentive.   In recent years, however, other forms of
transportation have been cutting into railroad profits.   Trucks, indi-
rectly subsidized by government road building programs, compete with
the railroads for freight hauling business.   Airlines, operating out of
municipal airports, compete for passenger business.   In the face of
these facts, it would only be fair for the government to loan money
to the railroads to improve their facilities and services.   In addition
to this, however, government should encourage privately owned railroads
to merge in order to increase their operating efficiency.   Further,
railroads should be allowed to discontinue unprofitable passenger ser-
vice.   At the same time, however, railroads must be controlled so that
they don't get too big.   Some government regulation is necessary to
keep them from becoming monopolistic.   And the uneconomical lines
that they abandon cannot be lines that are in the public interest.
Some aspects of railroad transportation are vital to the national inter-
est.   While it is true that the taxpayer should not have to shoulder
the financial burden of a high cost nationalized railway system, it
is also true that the government must assure the continuation of rural
and commuter passenger trains.   Any financial loss involved with
running these trains is worth it, because they are socially desirable.

Remember:
IF the difference between feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and:
    THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION"
    ON THE PAGE BEFORE THIS.

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
and:
    THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION"
    ON THE PAGE BEFORE THIS.

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and:
    THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION"
    ON THE PAGE BEFORE THIS.

_____ Galileos

---

feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
and:
    THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION"
    ON THE PAGE BEFORE THIS.

_____ Galileos

---

feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERN-
    MENT.
and:
    THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION"
    ON THE PAGE BEFORE THIS.

_____ Galileos

Remember:
IF the difference between feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE
    COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
    WITHOUT GOVERNMENT APPROVAL
and:
    THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION."

    _____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
and:
    THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION."

    _____ Galileos

---

feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.
and:
    THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION."

    _____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.
and:
    THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION."

    _____ Galileos

---

feeling:
    THE WAY YOU FEEL ABOUT RAILROADS.
and:
    THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION."

    _____ Galileos

APPENDIX F

DESCRIPTION OF INITIAL INVOLVEMENT OPERATIONALIZATION

APPENDIX F
DESCRIPTION OF INITIAL INVOLVEMENT OPERATIONALIZATION

Initially, involvement was operationalized by averaging the signed loadings of each individual (as a concept) on the last two (imaginary) factors of his hybrid space. This average loading (coordinate value) on imaginary factors was initially taken to reflect the extent to which the individual could not be represented in the aggregate real space as a point, i.e., high "size" in the space, or the extent to which he is <u>un</u>involved in the topic. The reciprocal of this figure was therefore taken, to reflect the extent to which each individual was involved in the topic, and multiplied by one hundred to avoid indistinguishably small figures. The mean value of this measure for the 352 cases in Study I was 15.994, with a range of 3,718. This operationalization was utilized in all of the analyses reported in Appendix G, but failed to significantly predict dependent variable values in any of them. At that point in the analysis, it was realized that if the individual's coordinate values on these last two imaginary factors, which are signed numbers, were of approximately equal magnitudes but of opposite sign, then their mean would not accurately refelct the magnitude of loadings on factors with imaginary eigen roots. Consequently, the operationalization of involvement reported in the text was developed, and was utilized in all later analyses.

APPENDIX G

SUMMARY OF LINEAR AND LOGARITHMIC
REGRESSION ANALYSES FROM STUDY I

APPENDIX G

SUMMARY OF LINEAR AND LOGARITHMIC
REGRESSION ANALYSES FROM STUDY I

Prior to the analyses reported in the text, a number
of regression analyses were performed, the results of which
suggested that the analyses reported in the text would be
revealing. In each of these analyses, the predictors were
discrepancy, message structure, and the initial operation-
alization of involvement described in Appendix F.

In the first of these analyses the criterion variable
was the magnitude of perceptual displacement, operational-
ized as the geometric distance between the location of the
message in the individual's hybrid space and the location
of the message in the aggregate space of the individual's
treatment group. Attitudinal discrepancy, or distance
between the individual and the message, was a significant
predictor (F = 1052.508, df. = 1;350, p < .001), and
accounted for seventy five percent of the variance in com-
puted displacement (R = .866, r^2 = .750). Message struc-
ture was also a significant predictor (F = 4.778, df. =
2;349, p < .029), but added less than one percent to the
variance explained (multiple r^2 = .754). The regression
coefficients (Beta) for these variables were .881 and .060
respectively. Unadjusted slopes (B) were .778 and 2.547,
and the constant was -4.278.

Since the predicted relationship between discrepancy
and displacement was quadratic, the log values of the

variables were also submitted to multiple regression analysis. Although the log of discrepancy was a statistically significant predictor (F = 151.904, df. = 1;350, p < .001), this model accounted for only thirty percent of the variance in the criterion (log |displacement|). Neither of the other predictors was significant. The results of these analyses indicated that the linear model was by far the better predictor of magnitude of perceptual displacement. Subsequent analyses were duplicated with log values, also, but with similar results. Consequently, these later log form analyses are not reported here.

At this point a question arose to the correspondence between the values of the variables in the hybrid spaces and the real world. It must be remembers that subject responses (raw data) had undergone several mathematical transformations in the generation of these spaces. As a check on the correspondence between the variables as operationalized in the multi-dimensional spaces and the raw data, another value for displacement was computed and another regression analysis performed.

The second measure of displacement was computed by subtracting the raw data subject report of his distance from the message from the figure for discrepancy computed in the multidimensional spaces. The mean value of this variable was 8.64, with a minimum of -282.70 and a maximum of 121.69. This figure for displacement was then submitted as the criterion variables, to regression analysis, with

discrepancy, message structure, and involvement as predictors. Discrepancy was a significant predictor (F = 46.640, df. = 1;350, p <.001) but accounted for only twelve percent of the variance in displacement. Neither of the other predictors was individually significant, although message structure approached significance (p = .085).

The absolute value of this second displacement measure was then computed. This measure corresponded to the computed displacement measure within the space, since the Pythagorean computation has the effect of eliminating negative numbers. The absolute value of the second displacement measure was then submitted to multiple regression analysis as the criterion, with the same three predictors as in previous analyses. Discrepancy computed wihin the space was once again a significant predictor (F = 804.889, df. = 1;350, p < .001), and accounted for seventy percent of the variance in the criterion (R = .835, r^2 = .697). Message structure was also a significant predictor (F = 9.692, df. = 2;349, p < .002), although it explained less than one percent additional variance (multiple r = .840, r^2 = .705). Unadjusted slopes for discrepancy and message structure were .698 and 3.659, respectively. Betas were .859 for discrepancy and .094 for message structure. The constant was -8.061.

Another regression analysis was run as a check on the possibility that the results of the above analysis might be artifactual, i.e., a result of having computed

values for the dependent variable by subtracting another variable from the independent variable. In this analysis the criterion variable was the raw data subject report of discrepancy, and the predictors were the same as in previous analyses. Once again discrepancy was a significant predictor (F = 837.523, df. = 1;350, p < .001), accounting for seventy one percent of the variance (r = .840, r^2 = .705). Message structure approached, but did not reach, significance as a predictor (F = 2.98, df. = 2;349, p < .085). The unadjusted slope (b) for discrepancy was 1.309. Beta was .840, and the constant was -16.020.

On the basis of the similarity in the regression equations yielding predicted values for the first displacement measure and the absolute value of the second displacement measure, a working assumption was then adopted that there was a high correspondence between the values of displacement as computed within the hybrid spaces and derived from raw data. The low level of variance explained in the signed values of perceived displacement by linear predictors was taken to indicate both that values of perceived displacement were unlikely to be procedural artifacts and that prediction of signed values of displacement would require a curvilinear function. Further, since log transformations of the independent variables had failed to yield high levels of variance explained, it was suspected that the necessary curve might be relatively complex.

Consequently, the analyses reported in the text, utilizing power transformations of discrepancy, message structure and the revised involvement operationalization as predictors were performed.

APPENDIX H

QUESTIONNAIRE FROM STABILITY CHECK PRETEST, STUDY II

APPENDIX H

QUESTIONNAIRE FROM STABILITY CHECK PRETEST, STUDY II

MICHIGAN STATE UNIVERSITY
_____
COLLEGE OF COMMUNICATION ARTS AND SCIENCES   EAST LANSING • MI • 48824
DEPARTMENT OF COMMUNICATION

Dear Participant:

This questionnaire is the latest in a series associated with a study
of opinions about railroad nationalization which was begun over two
years ago. It asks you to report your own attitude about this topic,
how important the topic is to you, and then to tell us how different (or
in other words, how "far apart") some other opinions about railroad
nationalization are.

Further down on this page you will see a statement about government
ownership of railroads, followed by two scales. On the first of these
scales, please indicate the extent to which you agree or disagree with
the statement, by placing an X in the appropriate space on the scale.
For example, if you strongly agree with the attitude expressed in the
statement, you would place an X in the space nearest Agree, or in the
first space:

          Agree X : X:__:__:__:__:__ Disagree

Similarly, if you agree with the statement, but with some reservation,
you would place an X in the second or third space. If you neither agree
nor disagree, or if you have no opinion on this subject, you would mark
the fourth, or middle, space.

On the second item, please indicate how important this topic is to
you or how strongly you feel about it. For example, if you are person-
ally involved with this issue, or care very much about it, you might
mark the space nearest Important. On the other hand, if you have no
experience or knowledge related to this topic, and don't really care
about it one way or the other, you might mark the space nearest Unimpor-
tant. The statement is:

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

          Agree __:__:__:__:__:__:__ Disagree

How important is the topic to you?

          Important __:__:__:__:__:__:__ Unimportant

Thank you for your responses. Now please go on to the next page, which
explains the rest of the questionnaire.

The rest of the questionnaire asks you to tell us <u>how different</u> (or in other words, how "far apart") opinions about railroad nationalization are. Difference between opinions can be measured in Galileos. A Galileo is a unit of conceptual distance, much as an inch is a unit of physical distance. The <u>more different</u> two opinions are, the more Galileos apart from each other they are.

To help you known how big a Galileo is, the <u>difference</u>, or <u>distance between</u> feeling that:

THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY

and feeling that:

THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO THAT THEY CAN ATTRACT MORE PASSENGERS

is <u>TEN (10)</u> Galileos. In other words, these two opinions are ten Galileos "apart".

You are supposed to tell us how many Galileos apart you think the opinions on the following pages of the questionnaire are. Remember, the <u>more different</u> two opinions are, the bigger the number of Galileos <u>apart they are</u>. If you think that any of the pairs of opinions in the questionnaire are <u>more different</u> than the two opinions mentioned above, then you would write a number <u>bigger</u> than ten. If you think that they are <u>not so different</u>, then you would write a number <u>smaller</u> than ten.

Please fill out the remainder of the questionnaire, and the attached Research Participation Credit Form, at home, and return them at the next meeting of your communication class.

Thank you very much for your help.

Sincerely,

John Marlier
Graduate Assistant
Department of Communication

IF the difference between feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE
    COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, <u>then how many Galileos apart are</u>:

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.

_____ Galileos

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.

_____ Galileos

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    ANY RAILROAD BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.

_____ Galileos

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
    WITHOUT GOVERNMENT APPROVAL.

_____ Galileos

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.

_____ Galileos

Remember:
IF the difference between feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
IS TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.

_____ Galileos

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO
    THAT THEY CAN ATTRACT MORE PASSENGERS.
and feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO
    THAT THEY CAN ATTRACT MORE PASSENGERS.
and feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO
    THAT THEY CAN ATTRACT MORE PASSENGERS.
and feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.

_____ Galileos

Remember:
IF the difference between feeling that:
   THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
   THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO
   THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

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feeling that:
   THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
   SO THAT THEY CAN ATTRACT MORE PASSENGERS.
and feeling that:
   RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
   WITHOUT GOVERNMENT APPROVAL.

   _____ Galileos

---

feeling that:
   THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
   SO THAT THEY CAN ATTRACT MORE PASSENGERS.
and feeling that:
   THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.

   _____ Galileos

---

feeling that:
   THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO
   THAT THEY CAN ATTRACT MORE PASSENGERS.
and feeling that:
   RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
   CARRYING FREIGHT.

   _____ Galileos

---

feeling that:
   THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
   SO THAT THEY CAN ATTRACT MORE PASSENGERS.
and feeling that:
   THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
   INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.

   _____ Galileos

---

feeling that:
   THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and feeling that:
   GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.

   _____ Galileos

Remember:
IF the difference between feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and feeling that:
    ANY RAILROAD BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and feeling that:
    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE PROFITABLE TRAINS WITH-
    OUT GOVERNMENT APPROVAL.

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROADS.

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.

_____ Galileos

Remember:
IF the difference between feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO
    THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
and feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERN-
    MENT.

_____ Galileos

---

feeling that:
    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
    WITHOUT GOVERNMENT APPROVAL.
and feeling that:
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_____ Galileos

---

feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
and feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.

_____ Galileos

---

feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
and feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.

_____ Galileos

---

feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
and feeling that:
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    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.

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Remember:
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    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO
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    WITHOUT GOVERNMENT APPROVAL.

_____ Galileos

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feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.
and feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES

_____ Galileos

---

feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.
and feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.

_____ Galileos

---

feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.
and feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.

_____ Galileos

---

feeling that:
    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
    WITHOUT GOVERNMENT APPROVAL.
and feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.

_____ Galileos

Remember:
IF the difference between feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
    WITHOUT GOVERNMENT APPROVAL.
and feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.

_____ Galileos

---

feeling that:
    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
    WITHOUT GOVERNMENT APPROVAL.
and feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
and feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
and feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.

_____ Galileos

---

feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHT.
and feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.

_____ Galileos

APPENDIX I

PRETEST QUESTIONNAIRE FROM STUDY II

PRETEST QUESTIONNAIRE FROM STUDY II

Student No. _____

MICHIGAN STATE UNIVERSITY

COLLEGE OF COMMUNICATION ARTS AND SCIENCES   EAST LANSING · MI · 48824
DEPARTMENT OF COMMUNICATION

Dear Participant:

This questionnaire and the one you will pick up after you have completed
this one are the latest in a series associated with a study of opinions
about railroad nationalization which was begun over two years ago. This
questionnaire asks you to tell us how different, or far away, some opin-
ions about rarilroad nationalization are from your own opinion about this
topic. It then asks you to indicate how important this topic is to you
personally. Finally, it asks you to provide some factual information
about yourself. This information will be kept confidential, and your
name will not be attached to it. If you have any hesitancy about pro-
viding it, just leave the question you would prefer not to answer blank.

Much of the questionnaire consists of questions about how different (or
in other words, how "far apart") your opinion and other opinions about
railroad nationalization are. Differences in opinions can be measured
in Galileos. A Galileo is a unit of conceptual distance, much as an
inch is a unit of physical distance. The more different two opinions
are, the more Galileos apart from each other they are.

To help you know how big a Galileo is, the difference, or distance
between feeling that:

THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY

and feeling that:

THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
SO THAT THEY CAN ATTRACT MORE PASSENGERS

is TEN (10) Galileos. In other words, these two opinions are ten
Galileos "apart".

You are supposed to tell us how many Galileos apart your opinions and
the opinions on the following pages of the questionnaire are. Remember,
the more different two opinions are, the bigger the number of Galileos
apart they are. If you think that any of the pairs of opinions in the
questionnaire are more different than the two opinions mentioned above,
then you would write a number bigger than ten. If you think that they
are not so different, then you would write a number smaller than ten.

151

Before beginning to fill out the questionnaire, PLEASE BE SURE TO FILL
IN YOUR STUDENT NUMBER AT THE TOP OF THIS PAGE. Then turn to the next
page and begin. When you have finished, please return this question-
naire and pick up the second one. Thank you.

Sincerely,

John Marlier
Graduate Assistant
Department of Communication

Remember:
IF the difference between feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
    WITHOUT GOVERNMENT APPROVAL
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS
_____ Galileos

---

Remember:
IF the difference between feeling that:
    THE EXISTENCE OF RAILROAD PASSENGER SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHTS.
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.
and feeling:
    THE WAY YOU FEEL ABOUT THE RAILROADS

_____ Galileos

Directions: On the scale below, please indicate how important the topic of railroad nationalization is to you, personally, by placing an X in the appropriate space. For example, if the subject is very important to you or you have strong feelings about it, you would put an X in the space all the way to the left, closest to "IMPORTANT". If you don't care at all about the topic, you would put an X in the right hand space. If you are somewhat interested in the topic, choose and appropriate space in between.

The subject of railroad nationalization is:

IMPORTANT :__:__:__:__:__:__:__: UNIMPORTANT

to you?

Directions: Please indicate for each of the following questions the answer which <u>best</u> describes <u>you</u>. This information is needed to compare personal characteristics of the members of different groups participating in the project. Your <u>name</u> will be removed from it after the data are collected, and it is confidential. If for any reason you would rather not reveal any of the information requested, even under these conditions, then leave the question blank.

Sex:

_____Male

_____Female

Race:

_____Black

_____White

_____Oriental

_____American Indian

_____Other or mixed

Age

_____(Please supply, in years)

Hometown population:

_____Less than 1,000

_____1,000-5,000

_____5,000-20,000

_____20,000-100,000

_____More than 100,000

Approximate family income:

_____less than $4,000 per year

_____$4,000 to $7,000 per year

_____$7,000 to $10,000 per year

_____$10,000 to $20,000 per year

_____More than $20,000 per year

College Rank:

_____Freshman

_____Sophomore

_____Junior

_____Senior

_____Graduate

Grade Point Average:

_____0.00-2.00

_____2.00-2.50

_____2.50-3.00

_____3.00-3.50

_____3.50-4.00

APPENDIX J

POSTEST QUESTIONNAIRE FROM STUDY II WITH MESSAGE 1

POSTEST QUESTIONNAIRE FROM STUDY II WITH MESSAGE 1

Student No._____

MICHIGAN STATE UNIVERSITY

COLLEGE OF COMMUNICATION ARTS AND SCIENCES   EAST LANSING • MI • 48824
DEPARTMENT OF COMMUNICATION

Dear Participant:

BEFORE BEGINNING TO FILL OUT THIS QUESTIONNAIRE, PLEASE BE SURE TO FILL
IN YOUR STUDENT NUMBER AT THE TOP OF THIS PAGE so that we will be able
to match up this questionnaire later with the one you just turned in.
Then turn to the next page and carefully read the message about railroad
nationalization which appears there. When you have finished reading
the message, turn to the next page and begin filling in the questions.

Once, again, this questionnaire asks you to tell us how many Galileos
apart your opinion, the opinion expressed by the message on the next
page, and the other opinions on the following pages are. Remember, the
more different two opinions are, the bigger the number of Galileos
apart they are. If you think that any of the pairs of opinions in the
questionnaire are more different than the pair which appears at the
top of each page, then you would write a number bigger than ten. If
you think that they are not so different, then you would write a number
smaller than ten.

When you have finished, you may turn in the questionnaire and leave.
Thank you very much for your help.

John Marlier
Graduate Assistant
Department of Communication

156

Directions: Please read the message below, entitled "ON RAILROAD NATIONALIZATION", before continuing. The questions on the next two pages will asks to to estimate how far the opinion it expresses is from other opinions, including your own.

ON RAILROAD NATIONALIZATION

America has always operated on a capitalistic economic system. The railroads have thrived in the past in this country because maximum operating efficiency could be achieved as long as there was a maximum profit making incentive. In recent years, however, other forms of transportation have been cutting into railroad profits. Trucks, indirectly subsidized by government road building programs, compete with the railroads for freight hauling business. Airlines, operating out of municipal airports, compete for passenger business. In the face of these facts, it would only be fair for the government to loan money to the railroads to improve their facilities and services. In addition to this, however, government should encourage privately owned railroads to merge in order to increase their operating efficiency. Further, railroads should be allowed to discontinue unprofitable passenger service. At the same time, however, railroads must be contolled so that they don't get too big. Some government regulation is necessary to keep them from becoming monopolistic. And the uneconomical lines that they abandon cannot be lines vital to the national interest. While it is true that the taxpayer should not have to shoulder the financial burden of a high cost nationalized railway system, it is also true that the government must assure the continuation of rural and commuter passenger trains. Any financial loss involved with running these trains is worth it, because they are socially desirable.

Remember:
IF the difference between feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
    THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
    GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
    ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
    RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
    WITHOUT GOVERNMENT APPROVAL
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

Remember:
IF the difference between feeling that:
    THE EXISTENCE OF RAILROAD PASSENGER SERVICE IS GOOD FOR THE
    COUNTRY.
and feeling that:
    THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
    SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
    THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS.

_____ Galileos

---

feeling that:
    RAILROADS SHOULD BE ALLOWED MORE FREEDOM IN SETTING PRICES FOR
    CARRYING FREIGHTS.
and feeling:
    THE WAY YOU FEEL ABOUT RAILROADS

_____ Galileos

---

feeling that:
    THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
    INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.
and feeling:
    THE WAY YOU FEEL ABOUT THE RAILROADS.

_____ Galileos

Remember:
IF the difference between feeling that:
     THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
     THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
     SO THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
     THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and:
     THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION"
     ON THE PAGE BEFORE THIS.

_____ Galileos

---

feeling that:
     THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT
     SO THAT THEY CAN ATTRACT MORE PASSENGERS.
and:
     THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION"
     ON THE PAGE BEFORE THIS.

_____ Galileos

---

feeling that:
     THE GOVERNMENT SHOULD TAKE OVER ANY RAILROAD WHICH GOES BANKRUPT.
and:
     THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION"
     ON THE PAGE BEFORE THIS.

_____ Galileos

---

feeling that:
     GOVERNMENT REGULATION OF RAILROAD RATES SHOULD BE LESS STRINGENT.
and:
     THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION"
     ON THE PAGE BEFORE THIS.

_____ Galileos

---

feeling that:
     ANY RAILROADS BUILT IN THE FUTURE SHOULD BE OWNED BY THE GOVERNMENT.
and:
     THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION"
     ON THE PAGE BEFORE THIS.

_____ Galileos

Remember:
IF the difference between feeling that:
      THE EXISTENCE OF PASSENGER RAILROAD SERVICE IS GOOD FOR THE COUNTRY.
and feeling that:
      THE GOVERNMENT SHOULD HELP THE RAILROADS IMPROVE THEIR EQUIPMENT SO
      THAT THEY CAN ATTRACT MORE PASSENGERS.
is TEN (10) Galileos, then how many Galileos apart are:

---

feeling that:
      RAILROADS SHOULD BE ALLOWED TO DISCONTINUE UNPROFITABLE TRAINS
      WITHOUT GOVERNMENT APPROVAL
and:
      THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION".

_____ Galileos

---

feeling that:
      THE GOVERNMENT SHOULD OWN AND OPERATE ALL RAILROAD FACILITIES.
and:
      THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION."

_____ Galileos

---

feeling that:
      THE GOVERNMENT SHOULD NOT INTERFERE IN ANY WAY WITH THE RAILROAD
      INDUSTRY, EITHER BY REGULATING IT OR BY SUBSIDIZING IT.
and:
      THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION."

_____ Galileos

---

feeling:
      THE WAY YOU FEEL ABOUT RAILROADS.
and:
      THE OPINION EXPRESSED BY THE MESSAGE "ON RAILROAD NATIONALIZATION."

_____ Galileos

APPENDIX K

TABLE A1

SUMMARY TABLE FOR REGRESSION WITH ATTITUDE CHANGE MAGNITUDES
CONTROLLED FOR EFFECTS OF TESTING AS CRITERION

APPENDIX K

TABLE A1

SUMMARY TABLE FOR REGRESSION WITH ATTITUDE CHANGE MAGNITUDES
CONTROLLED FOR EFFECTS OF TESTING AS CRITERION

STEP	VARIABLE ENTERED	F TO ENTER	SIGNIFICANCE (P >)	MULTIPLE R	R-SQAURE	R-SQAURE CHANGE	SIMPLE R
1	DISCREPANCY[3]	33.297	.001	.535	.286	.286	.535
2	MESSAGE STRUCTURE[4]	0.616	.435	.540	.292	.005	-.153
3	MESSAGE STRUCTURE	9.502	.003	.605	.366	.074	-.055
4	DISCREPENCY[4]	1.161	.285	.612	.375	.009	.524
5	DISCREPENCY	1.051	.308	.619	.383	.008	.466
6	INVOLVEMENT[4]	0.087	.769	.620	.384	.001	.024
7	INVOLVEMENT	1.701	.196	.630	.397	.013	-.176

APPENDIX L

TABLE A2

SUMMARY TABLE FOR REGRESSION WITH SIGNED VALUES OF
ATTITUDE CHANGE CONTROLLED FOR EFFECTS
OF TESTING AS CRITERION

APPENDIX L

TABLE A2

SUMMARY TABLE FOR REGRESSION WITH SIGNED VALUES OF ATTITUDE CHANGE
CONTROLLED FOR EFFECTS OF TESTING AS CRITERION

STEP	VARIABLE ENTERED	F TO ENTER	SIGNIFICANCE (P $\geq$)	MULTIPLE R	R-SQUARE	R-SQUARE CHANGE	SIMPLE R
1	DISCREPANCY	29.937	.001	.515	.265	.265	.515
2	DISCREPANCY^2	4.029	.048	.547	.300	.035	.454
3	DISCREPANCY^4	3.844	.053	.576	.331	.031	.369
4	INVOLVEMENT	3.070	.084	.597	.356	.025	-.246
5	MESSAGE STRUCTURE	3.505	.065	.619	.383	.027	-.171
6	MESSAGE STRUCTURE^2	4.911	.030	.648	.420	.037	-.174
7	MESSAGE STRUCTURE^4	3.556	.063	.667	.445	.025	-.164
8	INVOLVEMENT^2	2.655	.107	.681	.464	.019	-.113

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LIST OF

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