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JONES, James Marc, 1939-
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The University of Oklahoma, Ph.D., 1968
Social Psychology

University Microfilms, Inc., Ann Arbor, Michigan

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THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

EXPERIMENTALLY INDUCED ATTITUDE CHANGE AS A FUNCTION OF QUALITATIVE DIFFERENCES IN COMMUNICATION CONSTRUCTION

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

BY

JAMES MARC JONES

Norman, Oklahoma

1968

EXPERIMENTALLY INDUCED ATTITUDE CHANGE AS A FUNCTION OF QUALITATIVE DIFFERENCES IN COMMUNICATION CONSTRUCTION

APPROVED BY

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DISSERTATION COMMITTEE

ACKNOWLEDGMENT

I would like to express my sincere appreciation to Dr. William R. Hood for his guidance and encouragement, some of it far beyond the usual student-professor duties, which have resulted in my obtaining both my M. S. and Ph. D. Bob Hood was the individual most responsible for my first considering attempting to complete my graduate education in the rather short time interval of three years. I owe him gratitude for his motivating influence and for his sage advice in matters regarding technical questions of research procedure.

I would also like to thank the other members of my committee, Drs. Arnold E. Dahlke, William Horosz and Albert D. Smouse for taking time from their already busy schedules to serve on both my dissertation and general examination committees. Particular gratitude must be expressed to Dr. William Horosz for both encouragement and enlightening advice during the past six years. James R. Curran was also quite helpful during the final stages of the dissertation by taking time to serve as a proxy for Dr. Dahlke.

The graduate students and other personnel of the Institute of Group Relations have provided both help and a stimulating influence. Betty Todd showed exceptional concern and willingness to disrupt her

family life in order to type the dissertation prospectus and reading copy under time pressure. It was her extraordinary conscientiousness that aided in meeting a particularly crucial deadline. Dr. James C. Stewart (sorry, Jim) was most helpful after my general examinations by stressing the true meaning of a Ph. D. His wise and pragmatic outlook aided in the final stages of writing this dissertation. My mother-in-law, Mrs. Iva M. Bailey, has been extremely helpful in arranging for the photographing of certain crucial materials used in the dissertation and in scheduling the time for the multilithed reporduction of the final manuscript.

The most important factor in my obtaining both my graduate and undergraduate education has been my wife, Susan. She has worked so closely on the research for both the M. S. and Ph. D. that it would be only just to award both degrees jointly. I would like to thank Susan for taking time from her duties as a professional computer programmer and systems analyst to edit the manuscripts for both pieces of research, do the computer programming for the statistical analyses, offer refreshingly new outlooks toward theoretical questions, and most of all for providing loving care and help in everything for the past five years.

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CHAPTER I

INTRODUCTION AND PROBLEM

Investigators of rather diverse theoretical backgrounds have reported numerous studies employing a standard attitude change paradigm which obtains a measure of subjects' feelings toward an issue, presents a communication regarding the issue, and then obtains a post-communication measure reflecting any possible changes in the subjects' attitudes. This paradigm was employed in both 1956 and 1960 in an attempt to shift political preferences in studies reported in the book, Attitude and Attitude Change (Sherif, Sherif, & Nebergall, 1965). Investigators representing this same school of thought have employed the same paradigm in the investigation of both attitude change and assimilation-contrast effects in studies reported in the book, Social Judgment (Sherif & Hovland, 1961).

Considering the work of theorists of a completely different orientation, one must begin with the seminal contributions of Festinger (A Theory of Cognitive Dissonance, 1957). The standard before-

communication-after design has been utilized in numerous studies reported in a later book by two of Festinger's students (Cf. Brehm & Cohen, 1962).

Regardless of the theoretical outlook of the experimenter, the studies to date have simply attempted to construct a communication designed to focus arguments of a rather heterogeneous composition upon the single issue in which the experimenters were interested, and to assess any resulting changes that might be attributed to the communication. It appears probable that the heterogeneous nature of the communications used has the defect of not allowing the theorist or researcher in attitudes sufficient knowledge of what characteristics of the communication were efficacious in inducing the attitude change. It is the purpose of the present study to clarify empirically the possible effects which differences in certain qualitative aspects of the communications used in the standard paradigm discussed thus far might have. The purposes and expectations regarding this study are outlined in some detail below following some preliminary discussion of the semantic differential and possible dimensions of meaning.

Aspects of Meaning

In their book, The Measurement of Meaning, Osgood, Suci, and Tannenbaum (1957) adduce the theoretical position that the meaning of any particular concept consists of many complex connotations or dimensions of meaning. In a series of empirical studies reported in the above cited book, Osgood et al. employ the semantic differential as a technique

to index the meaning of any given concept. Referring to the potential concepts, Osgood et al. say,

> We use the term 'concept' in a very general sense to refer to the 'stimulus' to which the subject's checking operation is a terminal 'response.' What may function as a concept in this broad sense is practically infinite. . . (Osgood, et al., 1957, p. 77).

As well as the single word concepts which are commonly used, the authors report studies using such varied stimuli for judgment as printed phrases, Rorschach cards, TAT cards, abstract paintings, sculptured abstracts, representational paintings, and sonar signals. In a more recent study by the present writer (Jones, 1967), subjects judged on a series of semantic differential scales statements which they had previously rated as either most acceptable or most objectionable in a standard Sherif-Hovland nine statement attitude scale (Sherif & Hovland, 1961). Factor analyses of the semantic differential data suggested the major dimensions of meaning inherent in the statements which the subjects had judged.

In the development of the semantic differential, Osgood et al. assumed that every concept could be located in an n-dimensional semantic space. In order to determine the meaning of a particular concept, they require the subjects to respond by rating the concept on a series of bipolar adjective scales. In part, the researcher's goal is to select an adequate number of these bipolar adjective scales and, by having the subjects rate the concept on the scales, map the dimensionality or meaning of the concept for the subject or group of subjects.

In fact, the goals of the experimenter are usually somewhat more ambitious than the above. He normally wishes to map the semantic space in the most efficient manner possible. Osgood and his associates state their goal as follows:

> . . . many of the 'directions' established by particular scales are essentially the same . . . and hence their replication adds little to the definition of the space. To define the semantic space with maximum efficiency, we would need to determine that minimum number of orthogonal dimensions or axes (again assuming the space to be Euclidean) which exhausts the dimensionality of the space--in practice, we shall be satisfied with as many such independent dimensions as we can identify and measure reliably. The logical tool to uncover these dimensions is factor analysis . . . (Osgood, Suci, & Tannenbaum, 1957, p. 25).

In the numerous factor analytic studies described by the authors, various combinations of three major dimensions of meaning continually reappear. The dimension which almost invariably accounts for the largest proportion of total variance is what has been labeled an evaluative dimension. The evaluative dimension is based upon the subjects' rating of the concept as to goodness or badness, as defined by their responses to a number of selected scales that prove to have high factor loadings on the designated factor. In addition to the adjective pair good-bad, other examples that frequently load highly on this factor are kind-cruel, clean-dirty, and true-false.

A second dimension which appears in a large number of the factor analytic studies is what Osgood et al. have called a potency dimension. They say that the potency factor is " . . . concerned with power and the things associated with it, size, weight, toughness, and the like"

(Osgood, Suci, & Tannenbaum, 1957, p. 73). Such scale pairs as strong-weak and heavy-light typify this dimension.

The third frequently appearing dimension is one called the activity dimension which they say is concerned with quickness, excitement, warmth, and agitation. Typical scales for this factor are active-passive, fast-slow, and relaxed-tense.

In addition to the above three dimensions of meaning, a number of less important factors may emerge--the number depending on the scales used, the concepts judged, and the method of factor analysis employed. These other factors are generally more protean in nature and account for a rather small percentage of both the total and common variances. A further common occurrence is the fusing of the potency and activity dimensions to form an alternative dimension which has been designated as dynamism.

The fact that the range of concepts for which the semantic differential is deemed appropriate is practically infinite and the fact that the major dimensions of meaning are assumed to be truly representative of the way people judge various concepts encouraged the writer to feel that such global components as evaluation, potency, and activity might be represented in relatively pure form in communications constructed and designed to change subjects' attitudes toward a given issue. Previous research by the writer (Jones, 1967) also indicated that complete sentences of the type used in the Sherif-Hovland nine statement scales were indeed responded to in terms of the Osgoodian dimensions of meaning.

What the discussion thus far implies to the writer is the desirability of constructing communications which represent in relatively pure form the standard dimensions of meaning found by Osgood and his associates and of comparing the differential effectiveness of the different types of communications in changing some dependent measure assumed to reflect the subjects' attitudes. Unfortunately, it is relatively rare to find, even in the judgment of the short phrase types of concepts, any concept which is truly factorially pure in the sense of having high factor loadings (Cf. Harman, 1960, 1967; Cattell, 1952) on but one of the standard dimensions of meaning. One approach to the construction of a short communication which embodies primarily a single dimension of meaning would involve the employment of sentences containing one side of the usual bipolar adjective scales. Although this type of approach may be theoretically feasible, there are certain technical difficulties which obviate such an approach for all of the standard dimensions of meaning. As an example of the type of difficulties which one might encounter in constructing communications by use of sentences containing either half of the biploar adjective scale, one might employ the issue of legalized abortion and one half of what has normally been classified as a potency scale. Consider the following statement: we should not legalize abortion because it would weaken the moral fabric of society. This statement employs what would normally be a potency scale, strong-weak, but the statement appears to contain also a definite evaluative flavor.

The above noted dilemma may prevent investigation of the exact type desired by the writer, but there are alternative approaches that might be considered for exploring the salient characteristics of communications which engender change of attitudes. One particularly promising approach which is employed in this research will be outlined after detailed discussion of the view of attitudes adduced by Sherif, Sherif, and Nebergall (1965) and by Sherif and Hovland (1961) and after discussion of the instrument for attitude measurement which has grown out of the Sherifian tradition.

Sherif's Conception of Attitudes

Sherif et al. say that "Attitudes refer to the stands the individual upholds and cherishes about objects, issues, persons, groups, or institutions" (Sherif, Sherif, & Nebergall, 1965, p. 4). They further say that an investigator in this area must infer attitudes in a given individual from that individual's ". . . characteristic and consistent modes of behavior toward some class of objects, persons, events, and issues over a time span" (Sherif, Sherif, & Nebergall, 1965, p. 6, emphasis in original). At several points in the above work and in the text on social psychology (Sherif & Sherif, 1956) the authors remark that it should be clearly noted that attitudes toward objects, people, institutions, etc. are formed or learned through exposure to these sources external to the individual as well as being influenced by internal states of the organism. These internal states, such as previously existing attitudes and motives, influence the development of attitudes toward

objects and issues not previously encountered. In accounting for attitude formation and change they say ". . . we have to study both (1) internal factors and (2) external factors in an interrelated way" (Sherif & Sherif, 1956, p. 539). These internal and external factors combine to produce in the individual phenomena having both motivational and emotional properties. In the 1965 work, Sherif et al. note that the states produced are not momentary or transitory, but rather that states with such ephemeral qualities should be designated under rubrics other than "attitude."

Part of the importance of the study of attitudes derives from the role of attitudes in defining the individual's self or ego system. In fact, the self identity of the person is said to consist of a hierarchy of attitudes toward various objects, persons, and institutions. The behavioral consequences evident when a person's attitudes toward some issue are tapped become of prime importance when a researcher is attempting to design an instrument to assess attitudes toward any given issue. It is cognizance of the complexity of the nature of attitudes that has led the above cited researchers to develop the nine statement instrument as one possible alternative to the "point fallacy" which had dominated attitude research for a large number of years. The point fallacy is the assumption that an individual's attitude can be represented by a single score representative of the individual's endorsement of one position among the range of possible alternatives.

In the past several years one technique which has enjoyed much

favor in social psychology for the measurement of attitudes is the Sherif-Hovland nine statement scale (Cf. Sherif & Hovland, 1961; Sherif, 1960; Sherif, Sherif, & Nebergall, 1965). This method of attitude assessment presents the respondent with a set of nine ordered statements, ranging from extremely favorable to the issue being judged to extremely unfavorable to the issue, and requires the choice of one single statement as most acceptable. The respondent is then asked to indicate any other positions which he finds also acceptable or not objectionable, and following this he must indicate the one statement which he finds most objectionable. Finally, the individual indicates any other statements which he finds objectionable.

According to Sherif and Hovland (1961) and Sherif, Sherif, and Nebergall (1965) this procedure may be employed to define a latitude of acceptance, a latitude of rejection and a latitude of noncommitment for the individual with respect to the given issue. In the latter work, the three terms are defined in the following manner:

> Latitude of acceptance is the position on an issue (or toward an object) that is most acceptable, plus other acceptable positions.
>
> Latitude of rejection is the most objectionable position on the same issue, plus other objectionable positions.
>
> . . . concept latitude of noncommitment, defined as those positions not categorized as either acceptable or objectionable in some degree (Sherif, Sherif, & Nebergall, 1965, p. 24).

Further, the single position which the person finds most acceptable is often referred to as the person's "own position." In employing this type instrument, no assumptions are made regarding the sizes of

intervals between the nine statements and no assumption is made that the positions are cumulative. It should be clearly recognized that the above discussed technique of attitude measurement is integrally related to the Sherif's entire view, which has already been considered briefly, of the genesis and structure of attitudes.

The Sherif-Hovland instrument allows a fuller and more realistic assessment of the complex structure of the person's attitude toward any particular issue than does the older punctiform view. Even though the individual's attitude may be best represented as a range of positions--some of which he finds acceptable, some objectionable and some toward which he is unwilling to commit himself--it is fully recognized that some of the positions are outstanding in their effect on the individual's categorization of any statement regarding the object of an attitude. The importance of these relatively more salient stimuli can best be considered in the context of the generic terms, reference scale and anchor, in the section immediately below.

Reference Scales and Anchors

In their 1956 work Sherif and Sherif define a reference scale in the following manner:

> Since a single stimulus is judged against the background of functionally related stimuli, this background for judgment can be called the individual's reference scale (Sherif & Sherif, 1956, p. 50).

This concept of reference scale which has been applied extensively to psychophysical scales has also been applied to what Sherif and Hovland

(1961) call psychosocial scales. Psychophysical scales are defined as reference scales which have been formed in relation to objectively well graded series of physical stimuli. Sherif and Hovland note that these scales are readily susceptible to change when the objective stimulus series changes. Psychosocial scales are defined as reference scales formed in relation to stimuli which are not objectively well graded. They are formed in normal social relations and are much less subject to change than are the psychophysical scales. One possible reference scale for judgment of specific statements of the type discussed earlier in this paper is the combination of the individual's acceptable and objectionable positions regarding the particular issue. Such reference scales are examples of psychosocial scales.

The Sherifs are also concerned with particularly outstanding items within a reference scale. Regarding these items the authors say:

> A reference scale generally has one or more salient or outstanding items which have more influence than others in the judgment of something else. These salient or outstanding reference points may be called anchorages or anchoring points (Sherif & Sherif, 1956, p. 50).

For the typical psychophysical scale with which much of the work on anchorages, or simply anchor, has been done, the anchor may consist of a standard stimulus introduced by the experimenter. It may also be an outstandingly high or low value stimulus relative to the range of stimuli within the reference scale. The fact that anchors play an important role in the well known assimilation and contrast effects makes knowledge of what precisely constitutes an anchor of value to a researcher.

As Sherif and Hovland (1961) frequently note, anchors also are important in the individual's psychosocial reference scales. At several points they mention that for psychosocial scales, unlike psychophysical scales, the items very often may not be motivationally neutral. One way of expressing this fact is by saying that the individual in judging social stimuli such as those typically presented in the Sherif-Hovland nine statement instrument may already have an internalized reference scale within which there are certain salient points which may serve as anchors. The one of these salient points which has received primary attention as a possible anchor for judgment is that single item which the individual judges as most acceptable to him. Sherif, Sherif, and Nebergall very clearly stress the importance of the most acceptable position in the following:

> Experimental evidence demonstrates that attitude-relevant items are ordered, or ranked, within the bounds of what is acceptable and what is objectionable in terms of the individual's own stand. In other words, the most acceptable item serves as a standard (anchor) to which other items in that universe of discourse are compared for their proximity or divergence from it. Reaction to the items is a comparison process, whether conscious or not (Sherif, Sherif & Nebergall, 1965, p. 7).

Although the importance of the most acceptable position as a major anchor for judgment has been noted, little direct investigation has concerned itself with the issue. The majority of work done in the area has consisted primarily of testing the effects of own position as an anchor by presenting communications varying in distance from this position (Cf. Whittaker, 1964; and for the effect of anchors on psychophysical

scales, Sherif, Taub, & Hovland, 1958).

One notable exception to the above mentioned method of obtaining information on a particular position is found in a recent article by Diab (1965) who required that subjects indicate, in addition to the usual information obtained by the Sherif-Hovland technique, their intensity of feeling with regard to each position that they had checked as either acceptable or objectionable in some degree. Diab used a three point intensity scale with the subjects indicating M for mildly, S for strongly and VS for very strongly. His purpose in collecting this type of information was to help differentiate between individuals who superficially seemed to hold similarly extreme stands but who differed in their responses to other of the nine positions in ways Diab regarded as salient. Although the above approach may represent some minimal advance of knowledge regarding the important anchor provided by the most acceptable position, the present writer felt that knowledge of a much more detailed type should have been demanded. It was also felt that the position deemed most objectionable by subjects might provide another possible anchor for judgment, and the writer undertook an investigation which compared subjects' responses to their own position and to the position judged most objectionable.

Because most of the predictions regarding the possible differential effectiveness of different types of communications in changing the five possible response measures in the Sherif-Hovland scale (own position, most objectionable position, and sizes of the three latitudes) are

drawn from a combination of the writer's past research (Jones, 1967) and basic Sherifian theory, it appears appropriate to summarize the former and draw upon standard sources for information concerning the latter. In addition to the summary provided below, a more complete treatment (in the form of a copy of a pre-publication manuscript) of the writer's earlier research is attached as Appendix A to this dissertation. This appendix provides much more detailed information regarding the research which is summarized below.

The Meanings of Most Acceptable and Most Objectionable

The study herein summarized represented an attempt to explore in depth some pertinent characteristics of statements judged most acceptable and most objectionable on Sherif-Hovland nine statement attitude instruments (Cf. Sherif, 1960; Sherif & Hovland, 1961; Sherif, Sherif & Nebergall, 1965). The lack of previous direct investigations into the nature of these two salient positions prompted the researcher to secure detailed information on each of the positions, and where feasible to make direct comparisons of the two positions.

One hundred and fifty-three subjects (61 males and 92 females) from upper division psychology classes participated in the study. The subjects responded to a questionnaire which contained Sherif-Hovland instruments for two issues of possible interest to college students--the importance of grades as indicators of learning and the effect of intercollegiate athletics on a college campus. The order of these issues was counterbalanced for each half of the subject sample. After they had

marked all of their choices for one of the nine statement instruments, the subjects were then required to rate the statements which they had deemed most acceptable and most objectionable on a series of 18 semantic differential scales. The same procedure was followed for the second issue.

Initial analysis of the data was performed by one factor analysis of the semantic differential data obtained on the most acceptable positions and a second factor analysis of these same scales for the most objectionable positions. The object of this mode of analysis was the descriptive comparison of the semantic structures which arose in the judgment of these two positions. A second part of the data analysis consisted of statistical comparisons of the ratings given to most acceptable and most objectionable positions on the single semantic differential scales ACCEPT-REJECT and IMPORTANT-UNIMPORTANT, and of similar statistical comparisons of factor scores (Osgood et al., 1957) derived for comparable components from the analyses of the data for the two positions.

The factor analysis of the data for most acceptable positions resulted in the extraction of four components, with two components clearly interpretable. The two interpretable components were labeled as the evaluative factor and the potency factor. The factor analysis for most objectionable resulted in the extraction of five factors, the first two of which were again evaluation and potency. The writer concluded that the overall patterns of common variance accounted for in the two analyses

supported the idea that the two semantic structures were not identical.

Analysis of the ACCEPT-REJECT scale indicated that the subjects appeared to respond to the questionnaire in a serious manner for this one check. It was also found that the subjects rated their most acceptable positions as significantly more important than their most objectionable positions. Both of these results held for both issues.

Analysis of the data for the tests on the factor scores revealed that the most acceptable positions for the two issues were rated significantly higher on the evaluative factor than their corresponding most objectionable positions. The exact opposite of this ensued for the potency factor with the most objectionable positions significantly higher than the own position on both issues.

The results of the above research have implications leading to certain predictions regarding changes in the possible dependent measures in the Sherif-Hovland nine statement instrument in response to an attitude-discrepant communication of a particular type. The findings summarized above will be alluded to at appropriate points below when considering the purposes of the present study and the possible predictions that might be made.

Purpose of the Present Study

It was stated earlier in this chapter that the approach which appears ideal to the investigator is the construction of a series of communications representing in each case but a single one of the Osgoodian dimensions of meaning. It would then be desirable to compare

the differential effectiveness of these communications in inducing attitude change. The relatively remote possibility of constructing any communication that could be regarded as factorially pure (Osgood et al., 1957; Harman, 1960, 1967) in the sense of having high factor loadings on but one of the Osgoodian dimensions has been stressed. Because of the difficulty just noted and because of the very large expense in terms of both subjects needed and time necessary for construction of communications if a large number of dimensions of meaning were to be used, the writer has chosen the more highly focused and slightly less ambitious approach adumbrated below.

As was previously noted, the dimension of meaning which normally accounts for the largest percentage of total variance is the evaluative dimension. Examples of scales which usually load highly on this dimension are: good-bad, correct-incorrect, valuable-worthless, optimistic-pessimistic, kind-cruel, and important-unimportant (Osgood et al., 1957). Scales such as the foregoing are utilized in the construction of a communication intended to represent primarily the evaluative dimension of meaning; however, no presuppositions are made that the communication represents in pure form only this one dimension of meaning. Rather, it is felt that this communication is one which can be reliably identified by social scientists familiar with the theory adduced by Osgood and his associates as primarily evaluative in nature and as distinguishably different from the second communication employed.

In their book, The Measurement of Meaning (Osgood et al., 1957),

Osgood and associates report that for a number of concepts (particularly those of a political nature) the potency and activity dimensions fuse to form another dimension that they have named dynamism. Earlier in this chapter, it was noted that the potency dimension is ". . . concerned with power and the things associated with it, size, weight, toughness, and the like" (Osgood, Suci, & Tannenbaum, 1957, p. 73). Examples of scales which typically load highly on the potency dimension are: hard-soft, strong-weak, severe-lenient, tenacious-yielding, heavy-light, large-small, and constrained-free. The activity dimension is concerned with quickness, excitement, warmth, and agitation. Examples of activity scales are: active-passive, excitable-calm, hot-cold, impulsive-deliberate, and fast-slow. Considering the fact that the activity and potency dimensions do so frequently collapse to form the single dimension known as dynamism, it appears of definite theoretical importance to employ scales from both the potency and activity dimensions in an attempt to construct a communication roughly representing the dynamism dimension.

The present study compares the differential effectiveness in changing attitudes of a communication representing the evaluative dimension with a communication representing the dynamism dimension. Both of these communications and a non-attitude-relevant control communication are presented as Appendix B to this dissertation. Inspection of these two communications reveals that the evaluative communication stresses essentially the desirability of change or of adherence to a given position. This communication states that the particular position has

good or bad results and advocates change almost solely on a desirability of results criterion. In contrast, the communication representing the dynamism dimension stresses essentially the inevitability of a given result. This emphasizes the potency dimension in the form of the "probability or possibility" of a particular outcome and the activity dimension in the form of describing situations which stress by implication the active qualities attributed to a particular position or factual outcome. Both the evaluative and the dynamism communications were intended to fall roughly at position B or C on the Sherif-Hovland nine statement scale for the issue employed. No more extreme statement was used because of fear that all change would be canceled by the resulting contrast effects (Cf. Sherif & Hovland, 1961).

In the next chapter of this dissertation, the specific issue chosen and the reasons for the choice are presented. First, however, are considered some possible predictions regarding the probable outcomes in this unexplored area. Predictions are derived from several theoretical traditions within social psychology and the possible outcomes are compared. Further possibilities are predicted based on the results of the earlier research by the writer (Jones, 1967).

Possible Predictions

Considering the fact that the Sherif-Hovland nine statement instrument being used as the dependent measure provides five possible dependent measures (own and most objectionable position changes and changes in sizes of the three latitudes), it is possible to derive specific predictions regarding any one of the five measures in addition to general predictions

regarding the effects of attitude-discrepant communications. Most of the specific predictions regarding the effects of the communication on any one of these five measures are derived from standard sources expounding the Sherifian view on attitude theory (e. g. Sherif & Hovland, 1961; Sherif, Sherif, & Nebergall, 1965). Some further possible consequences of exposure to a specific type of communication are suggested as a result of the research reported in Appendix A of this dissertation. Finally, some possible predictions based on various equilibrium models of attitude formation and change (Brown, 1965; and Secord & Backman, 1964 present cogent summaries of these positions) are adduced and considered.

According to Sherif et al. (1965) an individual's judgments of and reactions to a given issue or to a communication regarding a specific issue are visibly different provided he has a stand on or attitude toward the issue from what they might be if he had no specific stand regarding the issue. This is one way of stating that an individual's attitude provides him with a relatively stable frame of reference for judgment of whether a given communication or statement is attitude-relevant or not. In numerous works (e. g. Sherif & Sherif, 1956; Sherif & Hovland, 1961; and Sherif et al., 1965) Sherif and his associates have both demonstrated and discussed the fact that people are unable to make "objective" (i. e. free of personal values) judgments regarding items in which they are ego involved. In the last cited of the above books, Sherif et al. state:

> Ego involvement, in plain terms, is the arousal, singly or in combination, of the individual's commitments or

> stands in the context of appropriate situations, be they interpersonal relations or a judgment task in actual life or an experiment (Sherif, Sherif, & Nebergall, 1965, p. 65).

From this rather vague definition and from statements made in several of the works cited thus far, one may conclude that there should be little change in major anchors within the reference scale for judgment provided the individual is ego-involved in the issue. The individual's own position and from the results presented in Appendix A the individual's most objectionable position are both likely to serve as important anchors for judgment of the communications presented. It seems probable that there should be no significant change in these two positions in response to the communications in the paradigm employed in the present research. It is recognized that the demand characteristics (Orne, 1962) of the situation itself are likely to produce some change in either or both of these positions. This prediction of no change is very general in nature, and it is recognized that for any specific individual the amount of change toward or away from the position advocated in the communications would depend also on the relation of the communication to the individual's three latitudes as well as to the major anchors within his reference scale.

Sherif and associates (Sherif et al., 1965) have proffered the size of the latitude of noncommitment as a good general index of the amount of ego involvement of a given subject population relative to another subject population or perhaps relative to the same population sampled at a later point in time. They state that the smaller the average size of the

latitude of noncommitment in a population the more ego involved the population may be assumed to be in the particular issue. Because the participation of the subjects in the experiment itself may be ego involving (perhaps "task involvement" would be better) by virtue of exposing the subjects to a previously unconsidered range of alternative positions regarding an issue and because the subjects may embrace some of the arguments presented in communications, one should expect subjects exposed to the communications to decrease the size of their latitudes of noncommitment and to have smaller average latitudes of noncommitment than subjects not so exposed.

Thus far the following predictions have been made from within the Sherifian framework, considering some gross change measure encompassing all subjects: no significant change in own position in response to the communications; also, no significant change in most objectionable position; and, finally, a significant decrease in the average size of the latitude of noncommitment. Deriving predictions from this framework, one should expect all of these predictions to hold for both communications employed in the present study. —Some alternative predictions made from different theoretical positions might also be worthy of consideration at this time.

In the original formulation by Festinger (1957) and in the later elaboration by Brehm and Cohen (1962) dissonance theory has stressed the importance of behavioral commitment to attitude-discrepant acts as an important force toward attitude change. These writers have also

included other important parameters such as the degree of choice (felt freedom from coercive force) the individual had when engaging in the act. The more choice the individual had the greater would be the attitude change according to the dissonance formulations (ceteris paribus). Unfortunately, all other things are seldom equal and the results of research by dissonance theorists have been subject to considerable dispute (see Chapanis & Chapanis, 1964). The present writer feels that some rather logical extrapolations from the dissonance position might provide important predictions bearing upon the research for this dissertation.

Although no previous data is available pertaining to this exact situation, the dissonance theorist would probably predict that the general tendency of subjects exposed to an attitude discrepant communication of any type would be to change in the direction of the communication (provided the choice parameter is maximized). They have further predicted, in the past, that the nature of the function was linear with the greater discrepancy resulting in greater change. Sherif and associates (Sherif, Sherif, & Nebergall, 1965) have taken exception to this prediction and reported research by Whittaker (1958; 1964) demonstrating that the function is actually U-shaped, with extreme discrepancies resulting in a boomerang effect.

As was noted earlier in this chapter, the communications employed to date have been a composite of numerous types of arguments, and in the research reported to date dissonance theorists have made the

prediction of the preceding paragraph. The present writer feels that from a dissonance viewpoint one would expect change in some dependent measure assessing attitudes if the subjects are exposed to either the evaluative or the dynamic communication. However, it is probable that the evaluative communication, which stresses only the desirability of change, would engender less attitude change or would be less likely to induce any change at all than would the dynamism communication with its emphasis on the inevitability of change in the proposed direction. What is being suggested is that subjects exposed to the dynamism communication are likely to engage in a type of accommodative behavior to manage "dissonance avoidance" in the event that the change stated to be a virtual certainty in the communication does indeed take place. The equilibrium models reviewed by Brown (1965), by Secord and Backman (1964), and those presented in original form in the book by Rosenberg, Hovland, McGuire, Abelson, and Brehm (1960) all tend to deal with changes in attitude resulting from the person's obtaining or possessing knowledge that some significant figure or institution in the person's environment possesses a different attitude from the subject's. Insofar as an equilibrium model is an appropriate model for attitude formation and change, one would expect that confronting one with a knowledge of almost certain change in the future, change opposed to his own stand, would result in some type of accommodative reaction. However, it is quite possible that the accommodative reaction might take the form of a rejection of the communicator instead of attitude change. A recent

Master's Thesis by White (1965) found rejection of the communicator to be one mode employed by subjects confronted with attitude-discrepant communications. It should be noted that none of the equilibrium models offer any clues as to which of the dependent measures in the Sherif-Hovland instrument might be most likely to evidence change.

From the research by the writer, summarized earlier in the chapter and presented more completely as Appendix A, it appears probable that if any changes are engendered in either own position or in most objectionable position these changes might be of a predictable type. Noting the fact that this earlier research showed the most objectionable position was rated significantly higher on the factor score for the potency dimension than was the most acceptable position, one might conclude that the dynamism communication, which would further strengthen the potency of the most objectionable position, would result in more gross change in most objectionable positions than would the evaluative communication. Depending on the distance of the communication from the various positions and depending on the sizes of the various latitudes, there might occur an assimilation or a contrast effect. Regardless of which of these occurred, one could possibly predict more average change in most objectionable position with the dynamism communication than with the evaluative communication. By this type of hazardous logic, it could be concluded that the most acceptable position would show more average change in response to the evaluative communication because it previously received higher ratings on the evaluative

factor score than did the most objectionable position. It is obvious that much of the above is pure speculation, but in an area where no direct research has previously been done there is little choice other than such speculation. It is also obvious that the above predictions are confined to a situation in which most of the subjects are opposed to the position advocated in the communications or only for subjects who are opposed to the position advocated.

Still requiring an asymmetrical issue, one could hazard similar guesses with regard to the effects of the communications on the latitudes of acceptance and rejection. Thus, one might expect the dynamism communication to result in more average change in the sizes of subjects' latitudes of rejection than would the evaluative communication. Because, for any given subject, the size of the latitude of rejection is the best single indicator of ego involvement, it seems probable that the size of the latitude of rejection would tend to increase in response to either communication for subjects who are extremely opposed to the position advocated (a type of overall contrast effect). By the same logic, one would expect more average change in the size of the latitude of acceptance for subjects exposed to the evaluative communication than for those exposed to the dynamism communication.

It is clearly recognized that not all of the hypotheses outlined in this chapter are readily testable within the framework of the design employed in this study. Some of the more obviously testable hypotheses are enumerated below, and some of the other possible testable

hypotheses which depend upon the numbers of subjects falling in particular extreme categories on the Sherif-Hovland instrument can only be meaningfully enumerated after inspection of the data with regard to the number of subjects holding extreme positions. Since the specific direction of change is readily predictable only for the proposition regarding the expected shrinking of the latitude of noncommitment, the general tendency is to employ two tailed statistical tests (Walker & Lev, 1953; Winer, 1962), and to regard much of the research undertaken as exploratory. The following hypotheses are essentially redundant with those introduced in an organic manner throughout this chapter, but they are reviewed here for summary purposes.

1. For subjects who are ego involved in the issue employed, little change would be expected in either own or most objectionable positions because of the manner in which they function as major anchors and because of the brevity of the experimental communications.

2. For subjects who are exposed to the experimental communications, one would expect the size of the latitude of noncommitment to decrease in comparison with a control sample or in comparison with these subjects acting as their own control.

3. From both a dissonance framework and from the research reported in Appendix A, one might expect a larger change in the size of latitude of rejection in response to the dynamism communication than in response to the evaluative communication.

4. On the basis of the research in Appendix A, it appears probable that the evaluative communication would induce more gross change in the size of the latitude of acceptance than would the dynamism communication.

Several facts should be noted regarding the above predictions. Other possible outcomes have been adduced and considered based upon

other theoretical positions. The specific predictions enumerated are of a rather doubtful nature because of the lack of previous research in this area. Finally, these predictions are of a gross nature, and they will be refined if it proves possible to break subjects down into smaller sub-samples based on extremity of own position.

CHAPTER II

METHOD

Subjects

The subjects were 132 volunteers from the total populations within three lower division undergraduate psychology classes at the University of Oklahoma. All of the subjects responded to the questionnaire during regular class time, and students who did not wish to respond were required to sit quietly reading or studying until the other students completed their participation in the experiment. Only the returned questionnaires of respondents who completed both the pretest and posttest measures in the manner prescribed by the written directions were considered in the data analysis of the following chapter. The effective response of usable subjects (132) mentioned in the initial sentence above represented 88 per cent of the 150 students present in the classes at the times of administration. The 150 students present were randomly assigned to the two experimental samples and one control sample in such a manner as to result in 50 students in each of the samples. However, because of slightly differential volunteer and completion rates, there were 45 subjects in each experimental sample and 42 subjects in the control sample for the final data analysis described in the next chapter.

The design employed is described in detail in the procedure section of this present chapter.

Materials

The questionnaire used in this study employed a Sherif-Hovland nine statement instrument for the issue of the effects of censorship of movies on the public interests. This instrument was developed in accord with the design provided by Sherif, Sherif and Nebergall, and it had been used in this form in a recent Doctoral Dissertation by Rand (1967). The nine statements for this issue ranged in favorableness from extremely favorable to extremely unfavorable, including also a middle-of-the-road position. The nine statement instrument and the appropriate instructions to the subjects are included as Appendix C to this dissertation. The two most extreme statements and the middle of the road statement are reproduced below.

A. Censorship of movies is absolutely essential for the best interests of the public.

E. It is very difficult to decide whether or not censorship of movies is a valuable or a detrimental influence for the best interests of the public.

I. Censorship of movies is absolutely detrimental for the best interests of the public.

This particular issue was selected by the writer following a review of recent Masters' and Doctoral Theses at the University of Oklahoma where a number of such instruments have been developed for issues of possible interest to the subject population of the present study (e.g. see Richter, 1966; Pishel, 1966). There were several factors

which argued in favor of choosing this issue. On the basis of rather intuitive nonexplicit evidence, it was felt that the college and university atmosphere is such that one would be highly likely to find the vast majority of the potential subject population favoring "liberal" positions on most issues. In general, the expected "liberal" position would be against almost any form of censorship. If this assumption regarding the expected skewedness of the distribution in response to the nine statement instrument is a valid one, then an investigator would only need to construct a communication of approximately specifiable extremity at one end of the two-valued nine statement instrument. This would obviate problems encountered in marshalling arguments of equal credibility and of the exact same form and intensity both for and against the given position. At the same time, choosing an issue with such an expected skew allows the employment of almost the maximum number of subjects because it avoids the cancellation of significant change by countering assimilation and contrast effects (Sherif & Hovland, 1961), which would occur were one to employ a symmetrical issue. It was also felt that this was an issue that was likely to be ego involving for a relatively large percentage of the subject population.

The cover sheet of the questionnaire employed in the present research presented the study as part of a graduate research project, assured the subjects that it was not a test but rather an attempt to see how people feel about an issue, and guaranteed the subjects' anonymity. Data were also collected on the subjects' academic classification and sex.

Following the initial instructions and obtaining of the demographic data mentioned, the Sherif-Hovland instrument of Appendix C was presented to all of the subjects. After this preliminary attitude assessment was a page of instructions to the subjects stating that they would find on the page following a Xeroxed copy of a recent article published in the Chicago Tribune of June 1, 1968. The subjects were requested to read the communication and then they again responded to the Sherif-Hovland instrument. With the experimental design of the present study, one-third of the subjects were exposed to the evaluative communication, one-third were exposed to the dynamism communication, and the final third were exposed to a communication which is not relevant to the issue of censorship. All of these communications were constructed by the experimenter and planted in the newspaper in such a way as to misrepresent their source. All of the authorities cited in each of the articles were fictitious. The subjects were randomly assigned to either experimental or control samples. After the subjects had read the appropriate experimental or control communication, their attitudes were again assessed by means of a readministration of the Sherif-Hovland instrument.

Regarding the administration of the nine statement scale displayed in Appendix C, the issue to which the subjects responded was displayed in the form of the usual nine statements on one page and was repeated three more times for a total of four consecutive pages of the same statements. Appropriate instructions to the subject were included at the top of each of the four pages. On the first page the subjects were

required to indicate their most acceptable position, and on the page following they marked any other positions which they regarded as also acceptable to them. Next the subjects marked their most objectionable position and on the final page designated any other positions which they found objectionable.

The total questionnaire consisted of seventeen pages and it included, in addition to the Sherif-Hovland instrument for the issue chosen, the evaluative or dynamism communication or a non-attitude-relevant communication (depending on which experimental or control sample the subject is in). In addition, the subjects were required to rate the articles they read by indicating on two unmarked nine centimeter lines the positions which they felt best represented the position of the article. One of the lines was bounded on the left by the words "very unfavorable toward censorship in movies" and on the right by the words "very favorable toward censorship in movies." The other line was bounded by the words "very improbable censorship in movies will occur" on the left and by the words "very probable censorship in movies will occur" on the right.

Further, the subjects rated the communications presented as to how pleasing the communication was to them personally, how biased or unbiased the article was, and whether the arguments presented were propaganda or fact. All of these ratings were on descriptively labeled five point scales with neutral points. Next, the subjects were required to circle the letter in front of the single one of the nine statements

which they felt best represented the views expressed in the article they had read. Finally, the subjects were asked two questions intended to yield information on the demand characteristics (Orne, 1962) of the experimental situation. The first question requested the subjects indicate what they felt the purpose of the experiment was, and the second question inquired if they suspected deception.

As was already noted, the two experimental and one control communications are all presented as Appendix B and the Sherif-Hovland instrument is presented as Appendix C. The cover sheet to the questionnaire, the various directions to the subjects, and the other questions mentioned in the preceding paragraph are all given as Appendix D to this dissertation.

Procedure

The data were obtained from the subjects during the second week of the summer semester of 1968, with all subjects responding on the same day during their regular class sessions. In each class which participated, the experimenter was introduced by the instructor as a graduate student in the Department of Psychology who was involved in an individual research project as a part of the requirements for the Ph. D. It was stressed that the participation in the experiment was on a voluntary basis, and that such voluntary participation would be a valuable aid to the present research.

The administration of the questionnaire required approximately 35 to 40 minutes, and because of the deception involved in the study it

was necessary to use the remainder of the class hour to inform the subjects of the exact nature and extent of the deception employed. This deception and debriefing procedure is the type of procedure which has engendered much controversy regarding the right of the individual to privacy and the ethicality of experimenters deceiving subjects. Kelman (1967) has proffered the creation of a sympathetic relation between subject and experimenter as an alternative to the employment of deception in psychological research. Unfortunately, Kelman's suggested solution would not allow the researcher to obtain the type of information sought in the present study. The most reasonable solution from the viewpoint of the experimenter's goals and at the same time least damaging solution for the subjects seemed to be to follow the course of action outlined above, and to inform the subjects of the deception immediately at the experiment's conclusion. The subjects in all classes were informed of the deception at the conclusion of the experimental session, and the subjects in the first class used were asked not to discuss the study for a few hours. This procedure was followed in order to prevent transmission of information from the first to the third class employed.

Table 1 displays the research design employed in the present study. This design is a variation of the very familiar pretest-posttest control group design treated by Campbell and Stanley (1963) as design four. The basic variations from the Campbell and Stanley design four are the employment of two experimental groups rather than the single

Table 1

Experimental Design Employed in the Present Study

Pretest	Evaluative Communication	Posttest
Pretest	Dynamism Communication	Posttest
Pretest	Non-attitude-relevant Communication	Posttest

group normally used and the specific assumption that the non-attitude-relevant communication is approximately equivalent to a nontreated control group (a very frequent assumption noted by Campbell & Stanley).

The only discernable difference in appearance between the questionnaires was the written numeral 1, 2, or 3 on the cover sheet. It was explained to the subjects that this numeral served only to indicate different questionnaires and was not some insidious plan to violate the promised anonymity. Form 1 of the questionnaire contained the evaluative communication, form 2 the dynamism communication, and form 3 the control communication. After all the questionnaires had been passed out to the particular class, the subjects were requested to begin working on the forms. Students who chose not to volunteer were asked to remain quietly in their seats while the others completed the task. Further, the subjects were told to turn their questionnaires face down and either sit quietly or study when they had completed the forms. At

the end of approximately 35 to 40 minutes all forms were collected. Following the collection of the forms, the experimenter explained the source of and fictitious nature of the communications employed, and the subjects were apprised of the general purpose of the study. In order that later classes employed should not have prior knowledge of the study, the subjects were requested not to discuss with anyone for a few hours the nature of the study in which they had participated.

CHAPTER III

RESULTS

As an initial step in the data analysis, the data were coded numerically and tabulated onto sheets of graph paper. The following data were coded for each subject identified by an assigned subject number that also indicated which of the three classes he was in: sample, classification, sex, pre and posttest measures on most acceptable position, size of latitude of acceptance, most objectionable position, size of latitude of rejection, and size of latitude of noncommitment. Data were also coded indicating how favorable or unfavorable the subjects felt the articles were toward censorship, their feelings regarding how probable or improbable the article stated censorship was, how pleased or irritated they were with the communication, how biased or unbiased they felt their article was, and whether the subjects felt the articles were propaganda or fact. In addition, they provided an objective rating of the communication by circling the letter of the most appropriate position on the nine statement scale, and they also stated what they felt the purpose of the experiment was and answered a question regarding any possible deceit by the experimenter. All of the data for the above and an appropriate key to the coding are provided as Appendix

E of this dissertation. Following the above described data tabulation, all of the information was transferred to IBM cards, and all the subsequent analyses for this study were performed using IBM computers and peripheral equipment.

Before considering the various statistical analyses performed, it should first be noted that the pretest distribution of most acceptable positions did not possess the highly skewed character expected. It was stated in the initial chapter that the experimenter felt the majority of the subjects would hold positions opposed to censorship of movies. However, it can be seen from inspection of the data presented in Table 2 that the distribution was approximately normal with a mode at position five on the Sherif-Hovland nine statement scale. This unexpected distribution renders many of the predictions of Chapter I less meaningful than they would have been, but it can be seen from Table 3 that the subjects were probably ego involved in the issue. In all three samples the pretest latitudes of rejection (around four positions) were larger than either pretest latitudes of acceptance or noncommitment. In Table 2, the numeral 1 corresponds to position A, favorable toward censorship, and the numeral 9 corresponds to position I, unfavorable toward censorship.

The first performed analysis of the data collected was done by a series of 15 t tests for dependent measures (Cf. Walker & Lev, 1953, p. 153). All of these tests employed pretest to posttest gain scores for each individual subject and they were done for all five of the possible

Table 2

Pretest Most Acceptable Positions for Samples 1, 2, and 3 and Totals for All Samples

Sample	Pretest Most Acceptable Position								
	1	2	3	4	5	6	7	8	9
1	1	1	7	8	15	7	2	1	3
2	4	3	2	8	16	6	4	1	1
3	3	3	7	7	8	9	5	0	0
Total	8	7	16	23	39	22	11	2	4

dependent measures provided by the Sherif-Hovland instrument. These tests were performed separately for each experimental and control sample. These analyses are described in detail in the section immediately below.

Dependent t Tests

All of the tests described in this section were performed in an identical manner. The exact procedure was to take an individual subject's posttest score on one of the dependent measures in the Sherif-Hovland instrument and subtract his pretest score on the same measure. In this way five signed t values were obtained for each of the treatment samples. Below is a summary of the meanings of a positive or negative t value for each of the five dependent measures. These meanings are the same for all treatment samples and the abbreviations employed in

tabular presentation are given in parentheses beside the name of the dependent measure.

1. For the most acceptable position (MA), a positive t value indicates that the subjects moved their own position away from the position advocated in the communication and a negative t value indicates the subjects moved their own positions in the direction of the position advocated in the communication.

2. For the latitude of acceptance (LA), a positive t value shows that the subjects increased the sizes of their latitudes of acceptance, with a negative value indicating a decrease in the size of the latitude of acceptance.

3. For the most objectionable position (MO), a positive t indicates that the subjects shifted their most objectionable position away from the advocated position, and a negative t indicates a shift of MO in the direction of the advocated position.

4. For the latitude of rejection (LR), a positive value suggests an increase in the size of the latitude, and a negative value shows a decrease in the size of the latitude.

5. Finally, for the latitude of noncommitment (LN), a positive t value demonstrates that subjects were increasing the sizes of their latitudes of noncommitment, and a negative t that subjects were decreasing the sizes of their latitudes of noncommitment.

The above statements can be summarized succintly by stating that a positive t value for any of the three latitudes indicates an increase in the size of the latitudes and a negative t value indicates a decrease in the size of these same measures. Further, a positive value for either own position or most objectionable position suggests that the

subjects had shifted that anchor away from the position advocated and a negative t value indicates a shift in the direction of the advocated position which was in favor of censorship of movies.

All apposite results for the t tests for dependent measures for the experimental evaluative communication sample (no. 1), the experimental dynamism communication sample (no. 2), and for the control sample (no. 3) are presented in Table 3. This table presents for all three samples the number in each sample, the mean pretest and mean posttest score on each of the five measures, the standard deviation both pretest and posttest for each of the five measures, the value of the resulting t and an indication of which t's are statistically significant and at what level. It also notes which tests are one and which are two tailed tests, if the results were significant. For those tests which were not significant this indication was not available, and it should be noted that only the tests on changes in the size of latitude of noncommitment were one tailed tests, with the prediction being that the experimental samples would shrink the size of this latitude from pretest to posttest. Thus, a sufficiently large negative value would confirm the hypothesis.

As is shown in Table 3, the sample exposed to the experimental evaluative communication consisted of 45 subjects. With the exception of the test for changes in the size of the latitude of noncommitment all tests were two tailed tests. The obtained t value for changes in the most acceptable position was equal to -3.71 which was significant at better than the .001 level using 40 degrees of freedom as the nearest

Table 3

Pretest and Posttest N's, Means, Standard Deviations, and t Values for Samples 1, 2, and 3 for All Attitude Measures

Sample	Measure	N	Mean Pre-	Mean Post-	Std. Dev. Pre-	Std. Dev. Post-	t
1	MA	45	4.93	4.60	1.71	1.73	-3.71a
	LA	45	2.19	2.49	.87	.67	3.73a
	MO	45	4.00	4.65	3.75	3.75	2.49b
	LR	45	4.10	4.65	1.67	1.97	2.20b
	LN	45	2.80	1.95	2.69	1.95	-4.05c
2	MA	45	4.89	4.61	.92	1.24	-0.67
	LA	45	2.12	2.37	.23	.89	2.73d
	MO	45	4.00	4.19	3.66	3.74	.32
	LR	45	3.85	4.45	1.89	2.43	3.16d
	LN	45	2.77	1.91	2.02	1.79	-3.76c
3	MA	42	4.49	4.52	1.80	1.78	1.00
	LA	42	2.31	2.40	.97	1.00	2.22b
	MO	42	4.95	4.69	3.85	3.75	-1.20
	LR	42	4.17	4.19	1.73	1.85	.33
	LN	42	2.52	2.36	2.00	1.98	-2.21e

a t. 001 = + or -3.55 (two tailed test). df = 40

b t. 05 = + or -2.02 (two tailed test). df = 40

c t. 0005 = -3.55 (one tailed test). df = 40

d t. 01 = + or -2.70 (two tailed test). df = 40

e t. 05 = -1.68 (one tailed test). df = 40

table value (Walker & Lev, 1953, p. 465). This indicates that there was a significant tendency for the subjects to move their own position in the direction of the position advocated, a position favoring censorship.

The t value for the change in the size of the latitude of acceptance

for sample 1 (the evaluative communication) was equal to 3.73. This indicated a significant tendency (at the .001 level) for subjects to increase the sizes of their latitudes of acceptance in response to the evaluative communication. This test and all others employing the t test for dependent measures used 40 degrees of freedom as the nearest "conservative" (i.e. smaller than the actual df) table value.

Also, for the sample exposed to the evaluative communication, the t value for the change in the most objectionable position was significant at the .05 level. This time the t was equal to 2.49 demonstrating that subjects exposed to this article chose new most objectionable positions which were significantly further away from the end favoring censorship than they had before reading the article.

For this same treatment sample, the t for the change in the size of the latitude of rejection was 2.20. This showed a significant tendency (.05 level) for subjects to increase the sizes of their latitudes of rejection in response to the evaluative communication.

Finally, the subjects significantly decreased the sizes of their latitudes of noncommitment after reading the experimental evaluative communication. This time the t was equal to a -4.05 employing a one tailed test for 40 degrees of freedom. This was significant at better than the .0005 level.

For sample two, the experimental dynamism communication, the number of subjects was 45 and the directions of three of the five tests were the same as in the sample exposed to the preceding communication.

Again all tests employed 40 degrees of freedom as the nearest table value to the actual degrees of freedom of 44. Also, all of the tests were two tailed except for the one concerned with the latitude of non-commitment.

The t value for the change in most acceptable position was -0.67. This value showed that the subjects did not significantly change their own position from before to after reading the experimental dynamism communication.

The subjects in sample two did, however, show a significant tendency to increase the sizes of their latitudes of acceptance in response to the dynamism communication. The t of 2.73 demonstrated that the change was significant at the .01 level.

Exposure to the dynamism communication apparently had no significant effect on the subjects' most objectionable positions. The t corresponding to the shift from before to after the experimental dynamism communication equaled 0.32, a value that was not significant.

The t of 3.16 for the change in size of the latitude of rejection demonstrated a significant increase in the size of the latitude of rejection after subjects had read the dynamism communication. This change was significant at the .01 level.

The final statistical test run for the subjects in sample two was to detect possible changes in the size of the latitude of noncommitment in the direction of decreasing the sizes of this latitude. The t for this test was -3.76 showing that subjects significantly decreased the sizes

of their latitudes of noncommitment after exposure to this experimental communication. This shrinkage of the latitude was significant at better than the .0005 level when employing a one tailed test.

The last series of five dependent t tests was performed on the changes in the five measures for the control sample. The control sample consisted of 42 subjects, and two of the five measures changed significantly from pretest to posttest. Again all of the tests with the exception of that concerned with the changes in the sizes of the subjects' latitudes of noncommitment were two tailed tests. The latter test was a one tailed test, and like all the other dependent t tests was checked under the table value of 40 degrees of freedom because it was the nearest conservative value.

As may be seen by inspection of Table 3, three of the measures on the control sample failed to change significantly in response to what was intended as a neutral communication with respect to the issue of censorship of movies. The t's of 1.00 for the change in most acceptable positions, -1.20 for the change in the subjects' most objectionable positions, and 0.33 for the change in the size of the latitude of rejection were all statistically insignificant.

In contrast to the foregoing results, the subjects of sample three did evidence significant differences in the sizes of their pretest and posttest latitudes of acceptance. The t value of 2.22 was significant at the .05 level. In addition, the control subjects significantly decreased the sizes of their latitudes of noncommitment. The t of -2.21

was significant at the .05 level employing a one tailed test.

All of the above discussed statistical tests were comparisons of subjects' responses from before to after the particular experimental or control communication was read. The next section of this chapter presents a series of statistical comparisons of samples one and two, one and three, and two and three with regard to the five measures. These tests are a series of 15 t tests between independent samples or basically between noncorrelated data (Cf. Walker & Lev, 1953, p. 156 and 157; Winer, 1962, pp. 28 and 37).

Independent t Tests

In order to compare the differential effectiveness of the two experimental treatments and of each of the experimental treatments with the control for all five of the measures in the Sherif-Hovland instrument, the above mentioned series of 15 independent t tests were run. The dependent measures on which all three treatment samples were compared were the mean differences between the posttest score and the pretest score (posttest-pretest) on a particular one of the Sherif-Hovland measures for the respective samples. This resulted in the comparison of mean difference scores for each of the samples. Before performing the calculations for the particular t test, it was first necessary to obtain knowledge of whether or not the variances of the difference scores for the two samples being tested differed significantly from one another on that particular measure. This knowledge is necessary because the estimates of experimental error which are appropriate differ depending

on whether or not there is homogeneity of variance in the two samples. In order to test the hypotheses of equality or inequality of variances in the various samples for any given measure, the larger variance was divided by the smaller variance and the resulting F ratio was employed in a two tailed test that revealed whether the variances differed significantly at the .02 level. This procedure is described in Walker and Lev (1953, p. 186). The resulting F ratio has degrees of freedom equal to the degrees of freedom associated with the numerator and the denominator.

Table 4 gives the number in each sample, the variances of the difference score for each of the five measures of the Sherif-Hovland instrument, the value of the F ratios comparing the various samples, and an indication of the significant F's. If the variances did not differ significantly, the t test employed was that described by Walker and Lev on page 156. If the variances did differ significantly, the formula employed was that on page 157 of the same work. The experimental evaluative treatment is again designated as sample one, the experimental dynamism as sample two, and the control treatment as sample three. Also, the same abbreviations are used as were earlier employed to refer to the various measures.

Inspection of Table 4 reveals five of the F ratios were not significant. The comparisons of sample one and sample two variances with respect to latitude of acceptance, most objectionable position, latitude of rejection, and latitude of noncommitment were all statistically

Table 4

N's, Variances of Difference Scores, and F Values for Samples 1, 2, and 3 for All Attitude Measures

Measure	Sample	N	Variance	Sample	N	Variance	F
MA	1	45	.36	2	45	1.24	3.40a
LA	1	45	.52	2	45	.58	1.12
MO	1	45	4.40	2	45	7.62	1.73
LR	1	45	1.84	2	45	1.39	1.33
LN	1	45	1.95	2	45	2.39	1.22
MA	1	45	.36	3	42	.21	1.70
LA	1	45	.52	3	42	.17	2.97b
MO	1	45	4.40	3	42	1.65	2.67b
LR	1	45	1.84	3	42	.22	8.42b
LN	1	45	1.95	3	42	.24	8.14b
MA	2	45	1.24	3	42	.21	5.77b
LA	2	45	.58	3	42	.17	3.35b
MO	2	45	7.62	3	42	1.65	4.62b
LR	2	45	1.39	3	42	.22	6.34b
LN	2	45	2.39	3	42	.24	9.97b

a F.02 = 2.06 (two tailed test).. df = 40 num, 44 dn

b F.02 = 2.11 (two tailed test). df = 40 num, 40 dn

insignificant. In addition, the comparison of sample one and three variances with respect to most acceptable position yielded an insignificant F. It should be noted that the degrees of freedom given for each of the significant F's at the base of Table 4 were the nearest available table values (Walker & Lev, 1953, p. 466) rather than the actual degrees of freedom.

As was previously noted, the series of independent t tests employed in this section is in each case a comparison of two mean difference

scores. Table 5 gives for each of the three treatment samples the mean difference scores on each of the five Sherif-Hovland measures and the standard deviation of the difference scores. This table also gives the number in each sample, the t value obtained by comparing two of the samples on a given measure (with the difference score for the second listed sample being subtracted from the first), and an indication of the significance level if that particular comparison is statistically significant.

It may be seen by examining Table 5 that none of the comparisons of sample one, evaluative communication, and sample two, dynamism communication, yielded sufficiently large values to be statistically significant. The t values of the largest magnitude resulted from the comparisons of change scores for most acceptable and for most objectionable. The value of the former was -1.18 and the latter was 1.25. Neither of these appraoched statistical significance.

The comparisons of those subjects exposed to the evaluative communication with the control subjects presents a rather vivid contrast to the results of the preceding paragraph. As was the case with the dependent t tests discussed in the previous section, all of the independent t tests with the exception of those concerned with the latitude of noncommitment were two tailed tests. All of the results for all of the independent t tests were checked for statistical significance using 60 degrees of freedom as the nearest table value, and four out of the five comparisons of sample one with the control sample were statistically

Table 5

N's, Mean Difference Scores, Standard Deviations of Difference Scores, and t's for Samples 1, 2, and 3

Measure	Sample	N	Mean	Std. Dev.	Sample	N	Mean	Std. Dev.	t
MA	1	45	-.33	.60	2	45	-.28	1.11	-1.18
LA	1	45	.30	.72	2	45	.25	.76	.57
MO	1	45	.65	2.20	2	45	.19	2.77	1.25
LR	1	45	.55	1.36	2	45	.60	1.16	-0.41
LN	1	45	-.85	1.39	2	45	-.86	1.55	.07
MA	1	45	-.33	.60	3	42	.03	.46	-3.49a
LA	1	45	.30	.72	3	42	.09	.41	2.05b
MO	1	45	.65	2.20	3	42	-.26	1.27	2.74c
LR	1	45	.55	1.36	3	42	.02	.47	1.96
LN	1	45	-.85	1.39	3	42	-.12	.49	-3.06d
MA	2	45	-.28	1.11	3	42	.03	.46	-1.01
LA	2	45	.25	.76	3	42	.09	.41	1.29
MO	2	45	.19	2.77	3	42	-.26	1.27	.81
LR	2	45	.60	1.16	3	42	.02	.47	2.80c
LN	2	45	-.86	1.55	3	42	-.12	.49	-2.89d

a t.001 = + or -3.46 (two tailed test). df = 60

b t.05 = + or -2.00 (two tailed test). df = 60

c t.01 = + or -2.66 (two tailed test). df = 60

d t.01 = -2.39 (one tailed test). df = 60

significant. The comparison of the difference scores for the most acceptable positions revealed that the subjects exposed to the evaluative communication significantly shifted their own positions toward the positions advocated when compared with the control sample. The t value of -3.49 was significant at the .001 level.

In addition, the subjects of the experimental evaluative sample showed a statistically significant tendency to increase their latitudes of acceptance more than the control subjects did. The t value corresponding to this difference was 2.05 which was significant at the .05 level. The comparison of the evaluative sample and the control sample with respect to changes in their most objectionable positions also yielded a statistically significant t of 2.74, showing that the experimental evaluative subjects shifted their most objectionable positions away from the advocated position more than the control subjects did. This value was significant at better than the .01 level.

The comparison of sample one and sample three for mean shifts in the sizes of the latitude of rejection was not statistically significant. The obtained value was 1.96 with the value of 2.00 being required to indicate a significant difference in the changes of the two samples.

The t value for the last test comparing the experimental evaluative sample and the control sample was equal to -3.06 indicating that the subjects in the evaluative sample decreased their latitudes of noncommitment more than the subjects of the control sample. Employing a one tailed test, this value was significant at the .01 level.

For the comparison of sample two, the dynamism communication, and the control sample there were two out of the five comparisons statistically significant. The t value of 2.80 indicated a tendency, significant at the .01 level, for the subjects reading the dynamism communication to increase the sizes of their latitudes of rejection more than did

the subjects in the control condition. This comparison employed a two tailed test. The other significant comparison employed a one tailed test to check on the predicted decrease in size of the latitude of non-commitment of experimental sample subjects when compared with the control sample subjects. The t of -2.89 confirmed at the .01 level the prediction that the dynamism communication would result in more shrinkage of the latitude of noncommitment than would the control communication.

Having examined the data comparing the different samples and their changes in the five measures relative to one another, the next section of this chapter also employs a series of t tests for independent samples. In this case, the experimenter's purpose is an attempt to explore the demand characteristics (Orne, 1962) of the experimental situation. More specifically, a series of five independent t tests are performed comparing the responses on the five measures of subjects who indicated a knowledge of the purpose of the experiment with those subjects who indicated no such knowledge.

Knowledge or No Knowledge

The independent variable for this series of analyses was a dichotomization of subjects on the basis of their responses to an open ended question regarding what they thought the purpose of the experiment was. Subjects who indicated a general awareness that the experiment was basically concerned in some way with attitude change were placed in one category labeled sample one, and subjects whose responses indicated

a lack of awareness of the purpose of the experiment were placed in another category labeled sample two. These designations should not be confused with the three experimental and control samples of the previous section since both classes, those who knew and those who did not, included subjects from both experimental samples and the control sample. In both Table 6 and Table 7 which follow, sample 1 refers to the people indicating knowledge of the experimenter's purpose and sample 2 refers to the people indicating a lack of such knowledge.

Because the t test for independent samples requires different estimates of experimental error depending on whether there is homogeneity of variance in the two samples, a series of five F tests were run before computing the appropriate t tests. The procedure was the same as that given in the previous section of this chapter. The larger sample variance was divided by the smaller sample variance with the resulting F value being used in a two tailed test at the .02 level to detect any departure from equality of sample variances. Table 6 gives the number in each sample, the variance of the difference scores for each of the five dependent measures, the value of the F, and an indication of significance when appropriate. As was the case in the previous t tests for independent samples, the dependent measure is again the difference between the posttest and pretest scores (posttest-pretest) for any given one of the Sherif-Hovland measures. As can be seen in Table 6, only one of the F values reached the significance level of .02. The variances of sample one and sample two on the measure of change

Table 6

N's, Variances of Difference Scores, and F's for Knowledgeable and Nonknowledgeable Samples

Measure	Sample	Variance	Sample	Variance	F
MA	1	.53	2	.80	1.53
LA	1	.36	2	.55	1.52
MO	1	3.88	2	6.08	1.57
LR	1	1.64	2	.57	2.87a
LN	1	1.96	2	1.18	1.67

a $F_{.02} = 1.82$ (two tailed test). df num = 75, df dn = 50

in size of the latitude of rejection yielded an F of 2.87.

Considering the results from the checks on homogeneity of variance, the t test for the comparison of samples one and two with respect to changes in the sizes of latitudes of noncommitment employed the formula on page 156 of Walker and Lev (1953) and the other t tests used the formula on page 157. Table 7 presents the number in each sample, the means of the difference scores for each sample, the standard deviation of the difference scores for each sample, and the t values appropriate for comparison of both samples on all five measures. In this case only the change in the sizes of the latitudes of rejection showed differences between knowledgeable and nonknowledgeable subjects. The t of 1.98 demonstrates that the subjects who had knowledge of the experiment's purpose increased the sizes of their latitudes of rejection significantly more (.05 level for a two tailed test) than did the subjects

Table 7

N's, Means of Difference Scores, Standard Deviations of Difference Scores, and t's for Knowledgeable and Nonknowledgeable Samples

Measure	Sample	N	Mean	Std. Dev.	Sample	N	Mean	Std. Dev.	t
MA	1	77	-.14	.73	2	54	-.11	.89	-0.25
LA	1	77	.26	.60	2	54	.31	.78	-0.28
MO	1	77	.21	1.94	2	54	.26	2.61	-0.08
LR	1	77	.39	1.28	2	54	.15	.76	1.98a
LN	1	77	-.79	1.40	2	54	-.46	1.09	-1.42

a t.05 = + or -1.96 (two tailed test). df = infinity

without such knowledge.

The above concludes the data which the experimenter deemed of central importance and that which required treatment by orthodox inferential statistics. In the section which follows, other less pertinent data are discussed and presented using ordinary descriptive statistical measures.

Descriptive Data

It was noted in the preceding chapter that the subjects in both of the experimental samples and in the control sample were required to rate the communications which they had read on several characteristics which the experimenter deemed important. The most relevant of these data were the subjects' ratings of the communications with respect to how favorable or unfavorable the communications were toward censorship in movies and how probable or improbable the communications

stated censorship in movies to be. The rating scale for these measures consisted of two unmarked nine centimeter lines which were descriptively labeled at each end. The line for the favorable-unfavorable rating was labeled "very unfavorable toward censorship in movies" on the left and "very favorable toward censorship in movies" on the right. The subjects' responses were scored to the nearest centimeter with a response of one indicating the most favorable rating possible and a response of nine indicating the most unfavorable response possible. This technique is adapted from that employed in the 1956 and 1960 election studies reported by Sherif, Sherif, and Nebergall (1965).

The line for the probable-improbable rating was labeled "very improbable censorship in movies will occur" on the left and "very probable censorship in movies will occur" on the right. This response was also scored to the nearest centimeter with a response of one indicating the response of most probable and a response of nine indicating the response of most improbable.

As was noted in the previous chapter, it was intended that both communications should fall at approximately positions two or three for their particular dimensions of meaning. This would imply that the subjects exposed to the experimental evaluative communication should rate that communication at position two or three on the favorable-unfavorable line, and subjects who read the dynamism communication should rate that communication at position two or three on the probable-improbable line. No predictions could be readily made regarding how subjects in one experimental sample would rate their communication on the dimension which was more appropriate for the other experimental sample.

Inspection of the data presented in Table 8 supports the expectations of the experimenter. Subjects in the experimental evaluative sample gave a mean rating of 2.45 when placing their communication's position on the favorable-unfavorable line. The standard deviation was 2.65. Subjects in the experimental dynamism sample rated their communication's position on the probable-improbable line at a mean position of 2.41 with a standard deviation of 2.35. These figures suggest that the attempted equal placement of the communications in their respective dimensions was successful.

For the control sample, it was expected that the subjects would rate their communication's position on both lines as essentially neutral with respect to censorship of movies. Again referring to Table 8, it can be seen that the subjects gave a mean rating of 4.93 on the favorable-unfavorable line with a standard deviation of 1.57. On the probable-improbable line they gave a mean rating of 4.89 with a standard deviation of 2.81. These figures also suggest that the desired neutral flavor of the control communication with respect to both probability and favorability was achieved.

The other data reported in Table 8 were collected in the last part of the questionnaire employed. The actual questions used are found in Appendix D of the present dissertation. As was mentioned in the chapter on method, the subjects were asked to rate on descriptively labeled five point scales how pleased or displeased they were with the communication, how biased or unbiased it was, and whether they felt the communication

Table 8

N's, Means, and Standard Deviations for Ratings of Favorable, Probable, Pleased, Biased, Propaganda, and Objective Rating for Samples One, Two, and Three

Sample	Measure	N	Mean	Std. Dev.
1	Favorable	45	2.45	2.65
	Probable	45	5.18	1.75
	Pleased	45	2.89	.72
	Biased	45	2.22	.92
	Propaganda	45	2.84	.95
	Obj. Rating	45	2.02	1.35
2	Favorable	44	2.82	2.81
	Probable	44	2.41	2.35
	Pleased	45	3.15	.72
	Biased	45	2.60	.89
	Propaganda	45	3.31	.82
	Obj. Rating	45	2.56	1.22
3	Favorable	41	4.93	1.57
	Probable	41	4.89	2.81
	Pleased	40	3.80	.82
	Biased	40	2.55	.87
	Propaganda	40	3.27	.90
	Obj. Rating	41	4.43	1.01

was propaganda or fact. In scoring these questions a score of five was assigned to the most extreme rating of pleased, unbiased, and fact with values of one assigned to the other pole of the particular rating scale. The numbers one, two and three in the table designate the evaluative, dynamism, and control samples. No rating for each of the questions is given over all samples because of its essential lack of meaning since the subjects were only rating their feelings about the different communications.

The final item in Table 8 is entitled "objective rating." This refers to the question which required subjects to circle the letter of the statement on the nine statement scale for censorship of movies which they felt best represented the position of the communication they had read. The response A was the most favorable toward censorship in movies and was scored as 1 with the response of I being scored as nine and other responses receiving numerical values between these extremes. The objective ratings indicated that both experimental samples placed their communications' positions between two and three as was intended by the experimenter.

In the next chapter, several possible interpretations of the data reported in this chapter are discussed. The writer will briefly review some of the hypotheses introduced in the initial chapter of the dissertation, and the extent of confirmation of the hypotheses advanced will be considered.

CHAPTER IV

DISCUSSION

The principal purpose of the present study was to make a series of comparisons of the effectiveness in changing attitudes of communications intended to represent what Osgood, Suci, and Tannenbaum (1957) have named the evaluative dimension of meaning and what they have classified as the dynamism dimension of meaning (the latter being a combination of potency and activity). The inspiration for the present study was the fact that, in spite of the recent interest in topics such as persuasive communication (Cf. Rosnow & Robinson, 1967; Bettinghaus, 1968) and the experimental investigation of meaning (Creelman, 1966), there has not been a previously documented attempt to assess the effects of statements or communications representing primarily a single dimension of meaning on individual attitudes. Although there is no certain evidence that the communications constructed for this study do in fact represent primarily single dimensions of meaning, one can definitely adduce cogent arguments in that direction.

The fact that both communications utilized large numbers of bipolar adjective scales that have in past factor analytic studies reported by Osgood and his associates been found to cluster together as

representative of the designated dimensions suggests that the communications employing scales from one dimension of meaning are probably principally representative of that dimension. Further, the emphasis upon the desirability of the end results (censorship of movies), which was the dominant tonal quality of the experimental communication intended to represent the evaluative dimension, distinguishes that communication by its essential concern with questions of goodness and badness. The basic evaluative flavor of this communication was emphasized by the headline chosen for the fictitious newspaper article, "Leading Social Scientists Favor Censorship of Violence in Movies." The verb, favor, in the headline was deliberately chosen because of its evaluative quality.

The experimental dynamism communication, on the other hand, was constructed by using a combination of scales that had been found to have high factor loadings (Cf. Harman, 1967) on either potency or activity dimensions. In addition, the quality of power was emphasized by stressing the probability or possibility of the outcome (censorship of violence in movies). This time the headline, "Leading Social Scientists Predict Censorship of Violence in Movies," was chosen in order to emphasize the quality of power and action associated with movement in the predicted direction. Whereas the experimental evaluative communication stressed the desirability of the end result, the experimental dynamism communication stressed the inevitability of the end result.

Both of these communications used the same fictitious authorities

and attributed approximately equal numbers of quotations to these "leading social scientists." Both communications also employed approximately the same number of the bipolar adjectives with roughly equal numbers of positive and negative polarity in each communication. Probably the most conservative course of action the experimenter could take would be to say that the study compared the differential effectiveness of communications emphasizing desirability of change with those emphasizing inevitability of change. However, because of the reasons given above, it seems reasonable to state that the experiment compared what it was intended to compare. It should be noted that the issue of censorship of violence in movies was deliberately chosen because it was regarded as more likely to shift subjects' attitudes toward the general issue than would some other approach. It was felt that a general argument in favor of censorship would be rejected by college students because of their possible fears that general censorship would result in censorship of sex in movies. Because this approach was chosen, it is probable that other forms of arguments would not result in replication of the results obtained in the present study.

The most meaningful order of interpretation of the results appears to be the same as that in which they were treated in the preceding chapter. Thus the discussion of the present chapter will briefly summarize, and proffer a few possible interpretations of the results obtained.

The first series of statistical tests reported in the results chapter was the 15 t tests for dependent measures consisting of five dependent t

tests for each sample. Considering only the results for this one type of analysis, one would be forced to conclude that the experimental evaluative communication was extremely efficacious in effecting attitude change. Contrary to the expectations based on Sherifian theory expressed in the initial chapter, the subjects exposed to this communication did change their own positions significantly (.001 level) toward the position advocated in the communication. The original prediction was based upon two premises. The first was the Sherifian notion that the own position, acting as the major anchor for judgment, would be rather resistant to change. This idea is expressed in both Sherif and Sherif (1956) and later by Sherif, Sherif, and Nebergall (1965). The second premise upon which the prediction of no change was based was the expectation by the experimenter that the distribution of own positions would be highly skewed against any type of censorship. This assumption was rooted in the experimenter's own feelings regarding the effects of the educational process, and the assumption was not appropriate for the data obtained from the present samples.

Rather than the skewed nature expected for the issue of censorship of movies, the subjects in the sample exposed to the evaluative communication actually had a mean pretest most acceptable position of 4.93. This essentially neutral mean own position implies that the communication which was intended to fall at position two or three was probably not too divergent from the subject's initial position to allow assimilation. From the available research on assimilation and contrast

effects (see Sherif & Hovland, 1961) the above seems a very compelling possibility. Finally, it should be remembered from the introductory chapter that earlier research by the writer (Jones, 1967) demonstrated that statements which subjects judged most acceptable on the Sherif-Hovland instrument tend to have rather high factor loadings on the evaluative dimension of meaning. Further, the evaluative dimension accounts for a sizeable percentage of the total variance for the statements deemed most acceptable. By a rather hazardous type of logic it was suggested that the most acceptable position might be most easily shifted by evaluative arguments since this seemed to be the most important dimension of meaning involved in the own position.

The evaluative communication was also effective in changing the sizes of subjects' latitudes of acceptance. This result was in line with the expectations outlined in the initial chapter. The evaluative communication was predicted to have a significant effect on the size of this latitude, but no prediction was made regarding the direction of that effect. It seems possible that the significant increase in the size of this latitude (again at the .001 level) might be attributed partially to the initial neutrality of many of the subjects.

Again considering the results of the t tests for dependent measures, the evaluative communication resulted in significant shifts in the most objectionable position away from the advocated position and in significant increases in the size of the latitude of rejection. A final significant result from this communication was the predicted decrease

in the mean size of the latitude of noncommitment after exposure to the communication. In general, one would be forced to conclude from the results of these tests which use the subjects as their own control that the evaluative communication was very effective in changing subjects' attitudes. A more important comparison of subjects from the evaluative sample is that with subjects not so exposed, and this comparison will be discussed after consideration of the results of the dependent t tests for the other two samples.

Employing the dependent t tests for the sample exposed to the dynamism communication yields three out of five results indicating statistically significant changes. As did the subjects exposed to the evaluative communication, the subjects from the dynamism sample significantly increased the sizes of their latitudes of acceptance. This result, which did not fit with the experimenter's expectations, did fit rather nicely with predictions from any of several balance models of attitude formation and change. The models treated by Rosenberg et al. (1960) and other models such as Festinger's dissonance theory (Festinger, 1957) would all predict that subjects confronted with the knowledge that change opposed to their own preferences was inevitable would attempt some type of accommodative reaction to reduce the imbalance. From the basic Sherifian approach, one would assume that the size of the various latitudes would be less resistant to change than would either major anchor (own position or most objectionable position).

The experimental dynamism communication also significantly

increased the size of the latitude of rejection, and, as predicted, decreased the size of the latitude of noncommitment. The dynamism article was not effective in changing either the most acceptable or most objectionable positions of subjects. The lack of change in the most objectionable position was rather surprising, since the most objectionable position was successfully shifted by the evaluative communication. The research in Appendix A indicated that the potency dimension was an important factor in the meaning of most objectionable, and it was felt that a communication containing an important element of potency might be effective in inducing some type of shift in most objectionable.

Two results which are rather difficult to account for are the changes evidenced in the sizes of the latitudes of acceptance and noncommitment by control subjects. These subjects were exposed to a communication which the experimenter had considered neutral with respect to censorship of movies, and which the subjects themselves had rated as neutral regarding the issue. Nevertheless, they did significantly increase the size of their latitude of acceptance after reading the control article, and significantly decreased the size of their latitude of noncommitment after reading the same neutral communication. These changes may be due to simple regression effects (Campbell & Stanley, 1963) or due to the subjects giving more thought to the basic issue involved after the pretest evaluation. At any rate, this is one reason that the next comparison of experimental samples with the control is probably more meaningful than the use of each subject as his own control

as is done in the dependent t tests.

Theoretically, the most important analyses performed were those which employed the series of independent t tests to directly compare the effects of the experimental evaluative sample and the experimental dynamism sample with each other and with the control sample. The five independent t tests comparing the evaluative and dynamism samples revealed no significant differences in their effects on any of the five measures of the Sherif-Hovland instrument. Considering the results of the dependent t tests just discussed this seems hardly surprising. The evaluative communication resulted in changes in all five of the measures from pretest to posttest and the dynamism communication resulted in changes in three of the five measures, all in the same direction. Therefore, it would require rather striking changes in one or more of the measures for one of the samples in order to reach statistical significance.

In contrast with the above results, the comparison of the effects of the experimental evaluative communication with the neutral control communication revealed four out of five statistically significant changes. The evaluative communication resulted in a significantly greater change in the most acceptable position than did the control communication (.001 level), and the change was in the direction advocated in the communication. Furthermore, the evaluative communication significantly increased the size of the latitude of acceptance (.05 level) and the size of the latitude of rejection (.01 level) when compared with the control

communication. Finally, the predicted decrease in the size of the latitude of noncommitment of the evaluative sample when compared with the control sample did indeed occur (. 01 level). This result may be due to the arguments adduced in the evaluative communication providing subjects in that condition with a wider range of alternatives to accept or reject or to an increase in ego involvement (Sherif et al., 1965, p. 65). It may on the other hand be due to some type of "task involvement" or simple increase in the salience of the issue among the subjects in the evaluative sample. By any reasonable judgment, it must be concluded that the evaluative communication was effective in changing subjects' attitudes, with four out of five measures changing and the other trending in the right direction ($t = 1.96$ with 2.00 required for the .05 level of significance).

The five independent t tests comparing the dynamism sample and the control sample resulted in the dynamism sample evidencing significantly greater change than the control sample for two of the measures. Both the change in the size of the latitude of rejection and the decrease in the size of the latitude of noncommitment were statistically significant at the .01 level. The decrease in the size of the latitude of noncommitment was predicted, and some change (no direction specified) was also expected in the latitude of rejection of the dynamism sample when it was compared with the control sample. An overall evaluation of the dynamism communication would require one to conclude that it was not very effective in changing subjects'

attitudes. An individual who had, for example, a pecuniary interest in having people change their attitudes toward an issue probably would not be satisfied for them simply to increase the number of positions that they found objectionable with no movement in the direction advocated.

Probably the best overall evaluation of the two experimental communications would be that the evaluative communication was the more effective of the two when using this issue and this instrument for attitude assessment. Although direct comparison of the samples exposed to these two communications revealed no significant differences in the amount of attitude change, the two differed considerably in their effects compared with a control sample. It would definitely be advisable to have further investigation of the relative effectiveness of communications representing these two dimensions of meaning using other issues. It is possible that the results found in the present study are specific to a particular class of issues, with dynamism being more effective in evoking change for some other type of issue. There is a further need for research in the same area employing other means of attitude assessment or modifications of the Sherif-Hovland technique. Diab (1965) has employed one such promising modification of the Sherif-Hovland instrument by having constructed nine statement scales for both essential-detrimental and possible-impossible poles in his investigations of attitudes toward Arab unity in Lebanon. Employing nine statement scales for both of these would require twice the number of experimental and control samples used in the present research, but it might yield valuable

additional information.

The final series of five independent t tests was between subjects who indicated a knowledge of the experiment's purpose and those who indicated no such knowledge. As noted in the previous chapter, one of the five t tests was significant at the .05 level using a two tailed test. The subjects who appeared to possess some knowledge of the purpose of the experiment showed statistically significant increases in the sizes of their latitudes of rejection when compared with subjects who lacked any knowledge of the purpose of the experiment. A closer inspection of the data fails to reveal any reason for the change.

The descriptive data reported in the results chapter seem a valuable aid in interpretation of the overall results of the study. The subjects' ratings of the communications on the nine centimeter lines lend support to the contention that the difference in effectiveness was a result of the different dimensions of meaning. Both the evaluative and the dynamism communications were intended to fall at positions two or three on a nine point scale. The fact that the subjects in the evaluative sample rated their communication at a mean position of 2.45 on the favorable line, and the subjects in the dynamism sample rated their communication at a mean position of 2.41 indicates support for the intended equal placement of the communications.

One final result which was not discussed in the preceding chapter because of the uniformity of the subjects' responses was the reply to the question regarding any suspected trickery or deception in the

experiment. This question was scored by distributing the responses into three categories. The first category of responses consisted of subjects answering an unequivocal "no" to the question regarding suspected deceit. Eighty-seven of the 131 subjects (one subject failed to reply) fell into this category. The second category consisted of subjects making longer statements, but still obviously possessing no knowledge of the deception involved. Forty-three subjects fell into this category. Finally, one subject may possibly have suspected the actual deceit involved regarding the fake newspaper article. This one subject answered no to the question regarding suspected deception, but regarding the purpose of the experiment, he answered in part by saying, "To see if and (sic) article ostensibly by authorities could change ones mind . . . . " The above overall results very strongly support the view that the stated source of the article was credible.

CHAPTER V

SUMMARY

The present study represented an attempt to compare the relative effectiveness in changing attitudes toward censorship in movies of communications intended to represent the evaluative and dynamism dimensions of meaning (Osgood et al., 1957). The experimental design was a variation on the pretest-posttest control group design treated by Campbell and Stanley (1963, see design four). The variation from the basic design consisted of adding an extra experimental sample and presenting the control sample with an article which was neutral with respect to the issue of censorship in movies.

One hundred and thirty-two subjects from three lower division psychology classes participated in the study. The subjects responded to a questionnaire containing a Sherif-Hovland nine statement attitude instrument (Sherif et al., 1965) for the issue of censorship of movies, an experimental evaluative, experimental dynamism or control communication depending on which sample they had been randomly assigned to, and a repetition of the Sherif-Hovland instrument. The questionnaire also obtained information on the subjects' academic classification and sex, their judgments of how favorable the communication was toward

censorship of movies, how probable the communication stated censorship of movies was, and how pleased or irritated they were with the communication. They also indicated whether they felt the communication was biased or unbiased and whether they felt it was propaganda or fact. Next, they circled the letter of the single statement on the Sherif-Hovland scale that they felt best represented the position of the article they had read. Finally, they provided information concerning the demand characteristics of the study (Orne, 1962).

The communications read by each of the samples were constructed by the experimenter, and were made to appear as though they had been clipped from a recent issue of a metropolitan newspaper and had subsequently been Xeroxed. All authorities used were fictitious. The experimental evaluative communication employed bipolar adjective scales which had been found to load highly on the evaluative dimension in past factor analytic studies, and the experimental dynamism article used scales from both the potency and activity dimensions of meaning. Further, the evaluative communication emphasized the desirability of the end results of censorship of violence in movies, and the dynamism communication emphasized the inevitability of censorship of violence in movies. Both articles were intended to fall at position two or three (one equals most favorable or probable) on a nine point scale concerned with censorship of movies.

Initial analysis of the data was performed by 15 t tests for dependent measures (Walker & Lev, 1953, p. 153), five for each of the experimental

and control samples. This analysis revealed that the evaluative communication significantly changed all five measures on the Sherif-Hovland scale. The subjects in this sample shifted their own positions in the direction advocated, increased their latitudes of acceptance, shifted their most objectionable positions away from the advocated position, increased their latitudes of rejection, and decreased their latitudes of noncommitment. Subjects exposed to the dynamism article significantly changed three of these same measures. They, also, increased their latitudes of acceptance and rejection and decreased their latitudes of noncommitment. Also, employing this same mode of statistical analysis, it was found that the subjects reading the non-attitude-relevant control communication significantly increased the sizes of their latitudes of acceptance and decreased the sizes of their latitudes of noncommitment.

A more meaningful method of analysis employed a series of t tests for independent samples (Walker & Lev, 1953, p. 156-7) to compare the experimental samples with one another and with the control sample. There were no significant changes in the five measures when the experimental samples were directly compared. However, the comparison of the evaluative communication's effects with the control communication's effects showed that the evaluative article was more effective for four out of the five measures, with no difference in the two conditions for changes in the latitude of rejection. The dynamism article was more effective than the control condition in changing the

latitude of rejection (increase) and in decreasing the size of the latitude of noncommitment. It was concluded that the evaluative communication was generally quite effective as a method of attitude change, whereas the dynamism communication was considerably less effective. It was suggested that there was a need for further research to see if these results were specific to a particular class of issues.

The data on demand characteristics revealed that virtually no one suspected the nature of the deceit involved in the study, but many of the subjects were aware that they were involved in some type of attempt to change their attitudes. It was found that subjects who had knowledge of the purpose of the study significantly increased the sizes of their latitudes of rejection in comparison with nonknowledgeable subjects. No other significant differences were found when the data were dichotomized on this basis.

Finally, the examination of data treated descriptively showed that the subjects in the experimental evaluative sample rated their communication's position on a nine centimeter line marked "very unfavorable toward censorship in movies" on one end and "very favorable toward censorship in movies" at the other at a mean placement of 2.45 with 1.00 being "very favorable." The subjects in the dynamism sample placed their communication's position on a similar line marked by the extremes "very improbable censorship in movies will occur" and "very probable censorship in movies will occur" at a mean value of 2.41 with 1.00 being "very probable." These data indicate that the intended

equal placement was achieved, and any difference in effects of the two communications should probably be attributed to a difference in their dimensions of meaning.

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APPENDIX A

PRE-PUBLICATION MANUSCRIPT

The Meanings of Most Acceptable and Most Objectionable

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A. PROBLEM

In the past several years one technique which has enjoyed much favor in social psychology for the measurement of attitudes is the Sherif-Hovland nine statement scale (11, 12, 13). This technique presents the respondent with a set of nine ordered statements, ranging from extremely favorable to the issue being judged to extremely unfavorable to the issue, and requires the respondent to indicate the one position which he finds most acceptable and the one which he finds most objectionable. The individual is also requested to indicate any other statements which he finds acceptable and any others which he considers objectionable.

The above operations serve to define, in addition to the subject's "own position" and his most objectionable position, the now accepted concepts of the "latitude of acceptance," "latitude of rejection," and "latitude of noncommitment." The heuristic value of this alternative to punctiform measurement is evident in the large number and variety of recent studies using some variant of these concepts, or specifically

investigating the nature of the latitudes and their roles in attitude change. Sherif (12) and Sherif and Hovland (13) have investigated the relation between extremity of own position and the size of the latitude of rejection. Studies in these two works have also concentrated on elucidating the relation between the sizes of subjects' latitudes of acceptance and latitudes of rejection. In another recent work, Diab (3) focused on these same questions with slightly differing results.

A more recent study by Powell (10) compared theoretical similarities between the concepts adduced by Sherif and Hovland and some of Rokeach on belief-disbelief systems. Powell claims at least partial support for an hypothesized similarity between the concepts of latitudes of acceptance and rejection and the belief-disbelief system. Still another study (1) focuses its sole attention upon the concept of latitude of acceptance.

One item which the writer finds lacking in most of the research completed to date is any detailed information concerning the subjects' responses to particular ones of the nine statements presented in this type of instrument. The only notable exception to this criticism may be found in the work of Diab (4, 5). In the first of the two studies just cited, Diab required that the subjects indicate, in addition to the usual information obtained by the Sherif-Hovland technique, their intensity of feeling (3 point scale) with regard to each position that they had checked as either acceptable or objectionable in some degree. Diab collected this information in order to help differentiate between individuals who

superficially seemed to hold similarly extreme stands but who differed in their responses to other of the nine positions in ways Diab regarded as salient. In the second of these two investigations Diab had subjects rate the general concept of "Arab Unity" on a number of semantic differential scales, in addition to having them reply to the standard nine statement instrument concerned with the same topic.

The present research seeks to remedy what the writer regards as a deficiency in information concerning what certain of the responses to the nine statement instrument might mean to subjects. The focus of this investigation is upon some differentiation between the subjects' feelings toward statements which they label most acceptable and those which they deem most objectionable. According to Sherif, Sherif, and Nebergall (11), the position judged most acceptable has the important effect of serving as a major anchor for judgment of attitude relevant items. They say "Experimental evidence demonstrates that attitude-relevant items are ordered, or ranked, within the bounds of what is acceptable and what is objectionable in terms of the individual's own stand" (11, p. 7).

The present writer feels that the importance of the most acceptable position as a major anchor for judgment justifies far more research into its nature than is currently available in psychological literature. To date the majority of the work done in this area has been indirect in nature, consisting primarily of testing the effects of own position as an anchor by presenting communications varying in distance from this position (Cf. 14).

In contrast to the importance ascribed to the most acceptable position as a major anchor, little attention has been devoted to that single statement which the subject judges most objectionable. Thus, it is not known whether the most objectionable position is in some sense the simple antithesis of the own position, or if it is perhaps responded to within some different framework. Part of the purpose of the study outlined herein is to clarify the framework of meaning within which subjects judge a statement as either most acceptable or most objectionable.

In order to clarify this framework of meaning--perhaps what Osgood, Suci, and Tannenbaum (9) allude to as the semantic structure--the writer decided to employ a variant of the semantic differential. Referring to the wide variety of concepts which may be the object of judgment when employing the semantic differential, Osgood et al. state, "We use the term 'concept' in a very general sense to refer to the 'stimulus' to which the subject's checking operation is a terminal 'response.' What may function as a concept in this broad sense is practically infinite . . ." (9, p. 77). Taking a cue from this passage, the semantic differential was chosen as a tool to garner information on subjects' most acceptable and most objectionable positions in the standard Sherif-Hovland instrument. The particular method used requires subjects to respond by rating statements which they have deemed most acceptable and most objectionable on a series of bipolar adjectival scales of the type that comprise the semantic differential.

Because the rating of complete sentence statements is an unusual

variation for the semantic differential and because the investigator is interested in the principal components of meaning which are employed by subjects in rating statements as either most acceptable or most objectionable, the semantic differential data are factor analyzed in order to determine if the major dimensions of meaning for the two positions are the same. Although Osgood et al. (9) note that three dimensions--evaluation, potency, and activity--frequently appear in the judgment of most concepts, they also note that the potency and activity dimensions may fuse to form what has been labeled "dynamism" when subjects are judging concepts of a political nature, for example. Furthermore, other less salient dimensions may assume importance in the judgment of other classes of concepts. For these reasons, it appears prudent to factor analyze the semantic differential data before making statistical tests of significance, even if one is only interested in the differences in the way in which subjects feel about different concepts.

In addition to comparing and contrasting the similarities and differences between the gross semantic structures used in judging statements representing the two salient positions, comparisons are made between most acceptable and most objectionable positions through the use of orthodox statistical tests of significance performed on factor scores derived for each of the dimensions of meaning common to both positions. The term factor scores as here used is in keeping with that employed by Osgood et al. (9) rather than following the usage of factor analysts (Cf. 6, 3). Finally, statistical comparisons will be made

between the two positions with regard to certain scales that were selected for either their interpretive value or as a check on the subjects' overall responses to the Sherif-Hovland instrument.

B. METHOD

1. Subjects

One hundred and fifty-three subjects, sixty-one males and ninety-two females, were obtained by requesting volunteers from the total populations within three upper division undergraduate psychology classes at the University of Oklahoma. All of the subjects responded during regular class time, and usable subjects represented eighty-four per cent of the students present in the classes at the times of administration. Of the sixteen per cent of the total students present who are not included in the analyses for this paper, six per cent had completed all but the last two pages of a nineteen page questionnaire when the experimenter was required to halt the administration because of the expiration of the allotted class time. The remaining ten per cent of the students who were not effective respondents either made no marks at all on the form, failed to follow instructions correctly, or responded in a desultory manner to a few pages before quitting. Forty per cent of the subjects were juniors, and the remainder were almost equally divided between seniors and sophomores, with less than four per cent of either freshman or unclassified status.

2. Materials and Procedure

The questionnaire used in this study employed Sherif-Hovland nine statement instruments for two different issues, the effectiveness of grades as indicators of learning and the effect of intercollegiate athletics on a college campus. Both of the instruments were developed in accord with the design provided by Sherif, Sherif, and Nebergall (11), and both issues had been used in recent Master's theses at Oklahoma University. The middle and extreme statements for both issues are reproduced below:

A. Grades are absolutely successful as indicators of learning.
E. It is hard to decide whether grades are indicators of learning or not.
I. Grades are absolutely unsuccessful as indicators of learning.

A. Intercollegiate athletics are an absolutely essential influence on a college campus.
E. It is very difficult to decide whether or not intercollegiate athletics are a valuable or a detrimental influence on a college campus.
I. Intercollegiate athletics are absolutely detrimental to a college campus.

The issue of grades was chosen because of its probable interest to many, if not most, college students. The issue of athletics was chosen partly because it represented an issue that on an a priori basis might be expected to differ in importance from the former issue, while at the same time representing a topic that has been widely associated with student recreational activities. Finally, because of the necessity of securing volunteers during class time, it was important to select issues with a minimum of polemical characteristics.

The cover sheet for the questionnaire presented the study as a part of a graduate research project, assured the subjects that it was

not a test but rather an attempt to see how people feel about issues, and guaranteed the subjects' anonymity. Data were also collected on the subjects' academic classification and sex.

The subjects first responded to the Sherif-Hovland instrument for one of the issues. The issue was presented in the usual manner (Cf. 3, 11). The complete list of nine statements was dittoed on each of four sheets of paper with instructions to indicate the most acceptable statement on the first page, the other acceptable statements on the next page, the most objectionable statement on the third page, and any other objectionable statements on the fourth page.

After they had marked all of their choices for one of the nine statement instruments, the subjects were instructed on the following pages of the questionnaire on the proper method of responding to the semantic differential. These instructions almost exactly parallel the general instructions suggested by Osgood et al. (9, p. 82). Appropriate modifications were made to allow for the fact that the subjects would be rating whole sentences, rather than the more common short phrase types of concepts.

Following the instructions on the semantic differential was a page with specific instructions for that page, three blank lines, and eighteen pairs of semantic differential scales immediately below the three blank lines. The subjects were instructed to look back to the page of the questionnaire on which they had indicated their most acceptable position and write the statement they found there on the three blank lines. They

were then required to rate the statement which they had written on each of the eighteen pairs of scales. On the next page the subjects performed an equivalent operation for the statement which they had judged most objectionable.

Fifteen pairs of the scales are among those employed in the Thesaurus analysis done by Osgood et al. (9). These pairs of scales were: valuable-worthless, hard-soft, hot-cold, fast-slow, positive-negative, tenacious-yielding, strong-weak, good-bad, active-passive, temperate-intemperate, wise-foolish, optimistic-pessimistic, motivated-aimless, heavy-light, and severe-lenient. In addition, the investigator chose the following pairs of scales: correct-incorrect, accept-reject, and important-unimportant. The scales were used in two orders, one for most acceptable statements and one for most objectionable statements. The order of the scales was random except that the same scale did not appear first on both lists and that the accept-reject scale appeared in the last half of each list. The polarity of the scales was also chosen randomly.

At this point in the questionnaire, the experimenter had obtained complete information regarding the subjects' three latitudes, their most acceptable and objectionable positions, and an extensive amount of information on these two positions in the form of semantic differential ratings of these two positions for one of the issues. The subjects were then required to provide the same information for the other issue.

C. RESULTS

1. Factor Analyses

In coding the semantic differential data, the investigator assigned a numerical value of seven to that one of the scale pair which had appeared in earlier factor analytic studies as the positive pole, and a value of one to the other pole. The positive pole has for many concepts been found (9) to be the good side of an evaluative pair, the potent or strong end of the potency pairs, and the fast or active ends of the activity scales.

The purpose of the mode of analysis followed in this section is to determine whether the semantic structures for positions judged most acceptable appear similar to or different from the semantic structures for positions judged most objectionable. In order to satisfy the above goal, the researcher performed two separate factor analyses.

The first analysis compared scales against scales, and in so doing collapsed across both subjects and all possible most acceptable positions for both issues. The initial steps of this analysis resulted in an eighteen by eighteen correlation matrix of every scale correlated with every other scale. Since the analysis collapsed across all possible nine positions that the subjects could potentially choose and also across both issues, the total number of scores going into each of the correlations was 306 (or the total number of subjects taken twice). This mode of analysis satisfies the general criteria of R-technique of factor analysis (2).

The specific factor analytic technique employed in this study is what is usually designated as either the principal components or the principal factors method (2, 6, 7). The computer program used allowed the researcher to obtain all of the correlations of scales with scales, the mean and standard deviation for each scale, a matrix of factor loadings, and a rotated solution to the matrix (using a varimax rotation).

The second factor analysis followed the same procedure as is described above but this time the focus was on statements which the subjects had deemed most objectionable. As was the case with the factor analysis of the data for the most acceptable statements, the analysis for most objectionable results in a global picture of the clustering of scales used by subjects in judging the statements. It does not present a detailed picture at any one of the nine possible positions.

Four components of variation were extracted for the most acceptable position analysis, whereas five components were extracted for the most objectionable position analysis. The four factors extracted for most acceptable accounted for the following percentages of total variance: 23.55, 19.01, 8.41, and 7.75. The five factors for most objectionable accounted for the following percentages of total variance: 15.36, 14.37, 13.16, 8.94, and 8.49. The two analyses accounted for essentially the same percentage of total variance--58.72 per cent for most acceptable and 60.32 per cent for most objectionable. These values are typical of those obtained in factor analytic studies of semantic differential data (Cf. 9).

Regarding the ascription of a set of scales as representative of a particular component of meaning, the writer followed the course of Osgood and his associates and employed the following criteria: high loadings on a factor (relative to the pattern of loadings), zero or negligible positive or negative loadings on the other factors, and some type of psychological meaningfulness that allows interpretation. In the statistical tests which follow, only those scales which most satisfactorily meet these criteria are employed.

In both analyses the first factor was represented by scales that have in past analyses been labeled evaluative. The scale pairs for this component for most acceptable were: valuable-worthless, good-bad, correct-incorrect, wise-foolish, accept-reject, and important-unimportant. These same scales, with the exception of the important-unimportant pair, also formed the first component for the most objectionable analysis.

With seven indicating the most positive response possible, the mean scale score for most acceptable statements on the six evaluative scales was 5.57. The mean standard deviation for the evaluative scales for most acceptable was 1.30.

For the responses to the five evaluative scales for most objectionable the mean scale score was 1.92. The mean standard deviation for these same scales was 1.28. The trend evident in the means for the two positions leads one to conclude that subjects see their most acceptable positions as more positive evaluatively than their most objectionable

positions. Results of statistical tests of this common sense expectation are reported later in the paper.

Examination of the adjective pairs which fulfill the relevant criteria sufficiently well to be representative of the second component reveals that the same four pairs emerged for both analyses. The four scale pairs that represented the second emergent dimension were: hard-soft, tenacious-yielding, heavy-light, and severe-lenient. Osgood and his associates (9) quite frequently found these scales emerging together in a dimension which they labeled the potency dimension.

The mean response to these potency scales for the most acceptable position was 4.44, with the mean standard deviation for the four scales 1.27. For the most objectionable statements the mean response to the same four scales was 5.42 with the mean standard deviation 1.58. Inspection of the data would lead to the conclusion that the most acceptable position is seen as neutral or slightly potent with the most objectionable position seen as more potent. Results of statistical tests of this apparent trend are also presented later in the paper.

Table 1 summarizes a number of relevant data for component one, evaluative, and component two, potency, for both analyses. Only half of the scale pair is given in this table under the label variable. Also presented are the rotated factor loadings for the scales on that particular component and the communalities, h^2.

Insert Table 1 about here

For the third component extracted this correspondence between results for most acceptable positions and most objectionable positions is no longer evident. The third component for most acceptable accounted for approximately eight and one half per cent of the total variance, and only one scale pair could be found that adequately fulfilled the criterion of relatively high factor loadings. In this case the scale pair, optimistic-pessimistic, had a high negative loading on component three.

In contrast, the third component for the most objectionable analysis accounted for roughly 13 per cent of the total variance, and there were four scales that appeared representative, all having high negative loadings. The four scale pairs were strong-weak, active-passive, motivated-aimless, and important-unimportant.

For the fourth and final component extracted for the analysis of the most acceptable positions, only the adjective pair intemperate-temperate loaded highly on but the one component. This component accounted for 7.75 per cent of the total variance and the scale had high negative loadings. For the fourth component extracted for the most objectionable analysis there were two pairs with high positive loadings, positive-negative and optimistic-pessimistic. This component accounted for 8.94 per cent of the total variance.

The fifth and final component extracted for the most objectionable positions accounted for eight and one-half per cent of the total variance. The two pairs hot-cold and fast-slow loaded highly on this component.

Interpretation of the foregoing data for the two factor analyses

and direct comparison of the semantic structures that arise from such analyses represent, at the present state of knowledge in this area, a course of action which yields results that are only tentative in character. Such an interpretation must be valued largely for its heuristic function, and in the discussion section the writer will undertake a tentative interpretation and consideration of the implications of these results for attitude research.

Although the more desirable overall comparisons of the semantic structures do not yet allow statistical tests of significance, certain more limited comparisons do permit the researcher to make these relatively more precise statements. The section immediately below briefly details the tests employed in this portion of the data analysis, the particular items tested, and the results obtained. Interpretation of the results will be attempted in the following section.

2. Statistical Tests

In making statistical tests on items involving semantic differential data, two different methods have frequently been employed. One of these methods involved either a direct comparison of the difference in the ratings of two different concepts on a single semantic differential scale, or a comparison of the rating of the same concept by two different groups, again based on data from a single scale.

This mode of analysis was followed for two of the scale pairs employed in the present study. The pair accept-reject was tested in order to check on the overall validity of the subjects' responses, with

the researcher's assumption being that if the subjects failed to check the accept end of the scale to a significantly greater extent for most acceptable than for most objectionable positions doubt should be cast on further interpretations of the other scales. This purpose dictated the employment of a one tailed test with the direction determined by the preceding considerations. A similar analysis using a two tailed test was performed for the important-unimportant pair.

In these two and all subsequent tests the technique used was the t test for dependent measures (15, p. 153). In these analyses, separate tests were done for the two issues, grades and athletics. The exact procedure was to take the subject's score on the scale for his most acceptable position and subtract his score on the same scale for his most objectionable position. In this way, a t value which was positive would indicate that the most acceptable position was rated higher on that attribute. Since the tests were run on one issue at a time, the degrees of freedom for each test totaled 152 (or the number of subjects minus one).

The second type of statistical comparison made employed factor scores (9) derived for the initial two components extracted in the analyses of most acceptable and most objectionable positions. The term, factor score, used in this sense designates either the mean or median of a number of scales, all of which load highly on a particular component. The four pairs of scales for which factor scores were computed on the first component were valuable-worthless, good-bad, correct-incorrect,

and wise-foolish. The mean of these four was computed for each subject for both his most acceptable and most objectionable position, with the latter mean subtracted from the former. The t test for dependent measures was again used to test the significance of the difference.

A second set of factor scores was computed for the second component determined in the factor analyses. The scales for this factor were hard-soft, tenacious-yielding, heavy-light, and severe-lenient. All tests on this factor score were the same as those described in the preceding paragraph. The tests run for this and the preceding factor scores were both two tailed tests.

A list of the scales and t values obtained in each of the analyses described above is provided as Table 2. This table gives separate results for the two issues.

Insert Table 2 about here

The t tests performed for each issue yielded the same general results. The one tailed t tests for the accept-reject pair were significant in the predicted direction at better than the .0005 level. The two tailed tests for the important-unimportant pair were significant at better than the .001 level, indicating that the most acceptable positions were rated significantly more important than the most objectionable positions. Equivalent two tailed tests on the factor score for the evaluative dimension were significant at better than the .001 level, indicating that the most acceptable positions were rated significantly

"better" than the most objectionable positions. The negative t values of the two tailed tests for the potency factor score indicated that the most objectionable positions were rated significantly more potent than the most acceptable positions. These were also at better than the .001 level.

D. DISCUSSION

As was noted, the first two components for each of the factor analyses appear extremely similar. The first component for each seems to represent what has traditionally been labeled an evaluative component, and as has been found in most of the factor analytic studies done previously this component accounts for the largest percentage of total and common variances for both analyses. However, the large amounts of total and common variance attributable to the second component, potency, in each analysis has implications which may surprise some who have championed the view that the evaluative component alone is sufficient to reflect individual attitudes. Perusal of the results of the present study, which obtained semantic differential data on what definitely comprises traditional attitude objects, tends to obviate acceptance of this view. The writer feels that this conclusion would not be dissonant with the work of Sherif and his associates (11, 13) since these authors have traditionally considered attitude theory in the same framework as any other judgment phenomena. The relatively high percentage of total and common variance accounted for by the second component suggests that an inadequate picture would be provided by relying on

evaluative scales alone.

In spite of the similarities of the results cited for the initial two components for most acceptable and objectionable, it appears probable to the writer that the overall semantic spaces for the two positions are not identical. The differences between the two structures become apparent upon examination of the percentages of common variance accounted for by each component in the two analyses.

The analysis of the most acceptable positions results in four factors accounting for the following percentages of common variance: component one, 39.9, component two, 32.3, component three, 14.3 and component four, 13.2. The initial two components account for 72.2 per cent of the common variance. Further, in the detailed analysis of the previous chapter it was noted that these were the only components which were readily interpretable, allowing the easy derivation of factor scores.

The percentages of common variance attributable to the five components of most objectionable are: component one, 25.4, component two, 23.8, component three, 21.8, component four, 14.8, and component five, 14.0. In this case consolidation of the totals for the initial two components would account for only 49.2 per cent of the common variance, and in order to approach the total obtained from the initial two factors of the most acceptable analysis one would have to add the percentage for the third component of most objectionable. Further, unlike the situation for most acceptable, factor scores can probably be readily

derived for the third component of most objectionable. The scale pairs involved were strong-weak, active-passive, motivated-aimless, and important-unimportant. All of these had high negative loadings.

The preceding results, while not conclusive, definitely suggest the need to employ a larger number of dimensions in mapping the semantic space for most objectionable than for most acceptable. One way to view these results is as suggestive that the semantic structure for most objectionable is in some sense more fractionated than the structure for most acceptable.

The second type of analysis performed in the present study utilized a series of t tests. As would be expected with the subjects responding in a serious manner, the most acceptable positions received significantly higher ratings on the accept-reject pair than did the most objectionable position. The results of this test lend credence to the view that there were no serious problems involved in accepting the subjects' responses at face value.

It was also found that the subjects rated their most acceptable positions as significantly more important on the important-unimportant scale than they did their most objectionable positions. The writer feels less confident of any interpretation for this scale because of the fact that it loaded highly on different dimensions for most acceptable and most objectionable analyses.

Examination of the tests performed on factor scores for the evaluative component reveals that for both issues the subjects rated their

most acceptable position significantly higher than their most objectionable position. This result along with those of the preceding paragraphs indicates that subjects not only accept their most acceptable position and reject their most objectionable, but they also consider their own position as more important in some sense and as "better."

The results of the comparison between most acceptable and objectionable positions on the potency dimension are in contrast with those above. In this case for both issues the most objectionable positions were rated significantly higher than the own positions. Thus, although the subjects see their most objectionable positions as "bad," they do not regard them as weak, but rather as higher in potency than the positions they selected as most acceptable. This result in combination with results regarding the dimensionality of the semantic space for most objectionable suggests to the writer that any view of the two positions as simply antithetical to one another is probably inadequate.

The writer feels that it will eventually be necessary to employ other scales in future analyses in order to clarify the meanings of most acceptable and most objectionable. One method of achieving further definition of the exact meaning of the potency dimension in the judgment of own position and most objectionable position would be to include a larger number of scales which have in past analyses clustered under some component labeled potency and see if they all cluster together as one component. One result that appears possible is the splitting into some type of benevolent potency, or simple strength, on which the most

acceptable position would rate higher and a type of threatening potency on which the most objectionable position would rate higher. This is admittedly simply speculation, but the character of the scales that did define the potency dimension in the present analysis appears to lend itself to such speculation. In addition, a recent study by Komorita and Bass (8) has found Osgood's evaluative scales not to be unidimensional for the judgment of two social issues. A finding of such fractionation of scales for the evaluative dimension might indicate the possibility of a similar fractionation for the potency scales.

E. SUMMARY

The present study was an attempt to explore in depth apposite characteristics defining the meaning of most acceptable and most objectionable positions on the Sherif-Hovland nine statement scale (11, 12, 13). The study was prompted by the lack of previous direct investigation into the nature of these two salient positions.

One hundred and fifty-three subjects from upper division psychology classes responded to a questionnaire containing Sherif-Hovland scales for two issues, the effectiveness of grades as indicators of learning and the effect of intercollegiate athletics on a college campus. After responding to one of these issues, the subjects rated their most acceptable and objectionable statements on 18 semantic differential scales. The same procedure was followed for the second issue.

The data were analyzed by two factor analyses of the semantic differential data, one for most acceptable positions and second for most

objectionable positions. Both factor analyses collapsed across both issues. Next, statistical tests of significance were performed on the single scales accept-reject and important-unimportant and on factor scores (9) for the first two components extracted in each factor analysis. These tests compared the subjects' ratings of their most acceptable and objectionable positions, and separate tests were run for each issue.

Although the first two (evaluation and potency) of the four components extracted for most acceptable and five extracted for most objectionable were the same, the patterns of percentages of common variance indicated that the two semantic structures were probably not identical. The results of all the statistical tests were highly significant for each issue. The study showed that (a) own position was rated higher on the accept side of the accept-reject scale (included as a check on validity of responses to the Sherif-Hovland instrument) than the most objectionable position, (b) own position was rated more important than the most objectionable position, (c) own position was rated higher on the evaluative factor than the most objectionable position, and (d) the most objectionable position was rated higher on the potency dimension than the most acceptable position.

It was concluded that the two positions are probably not simply antithetical. There exists a need for further research using more and different scales in order to define more clearly the meaning of most acceptable and most objectionable.

Table 1

Factor Loadings and Communalities for Components I and II of Most Acceptable Analysis and Most Objectionable Analysis

Most Acceptable Analysis

Component I			Component II		
Variable	Factor Loading	h^2	Variable	Factor Loading	h^2
Valuable	.696	.550	Hard	.703	.536
Good	.694	.629	Tenacious	.672	.455
Correct	.801	.652	Heavy	.624	.448
Wise	.789	.646	Severe	.736	.589
Accept	.687	.535			
Important	.660	.679			

Most Objectionable Analysis

Component I			Component II		
Variable	Factor Loading	h^2	Variable	Factor Loading	h^2
Valuable	.652	.610	Hard	.725	.603
Good	.711	.541	Tenacious	.734	.562
Correct	.791	.646	Heavy	.718	.587
Wise	.732	.586	Severe	.708	.595
Accept	.693	.517			

Table 2

Obtained t Values for Single Scales and Factor Scores for Grades and Athletics Issues

Grades		Athletics	
Scales	t	Scales	t
Accept	27.10[a]	Accept	27.07[a]
Important	7.74[b]	Important	8.86[b]
Valuable		Valuable	
Good		Good	
Correct		Correct	
Wise	27.25[b]	Wise	29.04[b]
Hard		Hard	
Tenacious		Tenacious	
Heavy		Heavy	
Severe	-8.47[b]	Severe	-10.02[b]

a $t_{.0005} = 3.291$ (one tailed test). df = 152

b $t_{.001} = +3.291$ or -3.291 (two tailed test). df = 152

Footnote

1. This research was completed as a part of the writer's Master's thesis under the direction of Professor William R. Hood, Director of the Institute of Group Relations. Thanks are extended to Dr. Hood for his advice and critical reading of the manuscript, and to my wife Susan for providing her professional services as a computer programmer and for her editorial assistance.

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APPENDIX B

COMMUNICATIONS

On the following three pages are the three communications presented to the subjects. The first communication, headlined "Leading Social Scientists Favor Censorship of Violence in Movies," is the experimental evaluative communication. The second communication, headlined "Leading Social Scientists Predict Censorship of Violence in Movies," is the experimental dynamism communication. The last communication, headlined "Senior Citizens Working to Change American Image" is the control communication. (The page numbers, of course, did not appear on the communications in the questionnaires.)

CHICAGO TRIBUNE, SATURDAY, JUNE 1, 1968

Leading Social Scientists Favor Censorship of Violence in Movies

By George Haskins

CHICAGO — In recent interviews of leading social scientists in the U.S. a possible link was established between violence in movies and the rising national crime rate. The interviews were conducted by the National Institute for Social Research (NISR). The scientists interviewed also expressed concern about other aspects of social behavior in the U.S. which they felt were due partially to violence in movies.

Dr. Robert K. Simpson, a sociologist at the New School for Social Research in New York City who is an expert on criminology, stated, "There has been a definite trend toward an unhealthy display of meaningless violence in movies shown to the American public." He felt that the halting of this trend may be extremely essential for society at large.

Like many other social scientists interviewed, Dr. Simpson cites the steadily rising rates of violent crime reported by the FBI as one possible consequence of ". . . society's foolish acceptance of such distasteful displays of violence." Commenting on other areas of American social life Dr. Simpson states, "It does appear extremely probable that the unwarranted violence in our contemporary motion pictures is an excessively dangerous influence toward unsociable behavior on the part of children, adolescents and even for some unstable adults."

Because it is virtually impossible to prevent large numbers of people in these categories from being exposed to this influence which Dr. Simpson feels is harmful, he proposed ". . . the creation of compulsory uniform standards to control or prevent the morbid showing of unjustified violence."

Other authorities interviewed share many of Dr. Simpson's feelings toward both the problems incurred by violence in movies and toward the appropriate solution to the problem. Among these are Dr. John G. Morse, Director of Clinical Psychology Training at Johns Hopkins University and Dr. Clifford Case Dawson, a social psychologist at the University of Washington whose dominant interest is in studying social movements. Both were extremely pessimistic regarding anything other than bad effects from showing violence in movie theaters. These experts agree that it is only logical that the immoderate display of various crimes against the person in motion pictures should lead to an increasing acceptance of violence as an appropriate solution to problems confronting the individual.

With regard to Dr. Simpson's proposal of uniform standards to control or prevent the showing of unjustified violence, Dr. Morse stated, "It is obvious that voluntary censorship by producers of objectionable violent scenes in motion pictures has been an utter failure. Because irresponsible and selfish motion picture producers have taken insufficient precautions to protect the public interest, it appears desirable to formulate some binding code of permissible behaviors that may be displayed in motion pictures." Dr. Morse goes on to say, "These uniform prescriptions would eliminate the harmful effects of exposure to violence, and would at the same time present a workable alternative to haphazard local censorship. It is definitely necessary to have some such form of uniform censorship of violence displayed in movies in order to protect the general public."

Dr. Dawson, in addition, notes the increasing tendency of pressure groups in American society to use violent means of obtaining gratification of their demands. Dr. Dawson said, "This tendency toward violent protest has grown simultaneously with the growth of violence in movies." He continues, "It is extremely essential that we have some limited form of censorship of movies in order to promote the harmonious growth of our society and in order to protect the public from the painful effects of the antisocial behavior of easily influenced individuals."

Another expert interviewed was Dr. Theodore M. Sanford, a psychiatrist at the University of Texas Medical School. Dr. Sanford feels that, "The currently popular approving portrayal of the merciless hero in motion pictures is extremely detrimental for the public interest." He also stated that "Voluntary censorship by producers has proved an inadequate control to safeguard our society. It is hopeless and sad to expect motion picture producers to relinquish profits for the public interest." In agreement with many other authorities interviewed he feels that it would be ". . . wise to establish some type of standardized control over what is shown in our theaters." Dr. Sanford continues, "There can clearly be censorship in the public interest, especially with respect to the violence portrayed in movies."

The social scientists quoted, who mirror the views of many of their colleagues and the concerns of many other Americans, are all deeply disturbed by the possible harmful effects of displaying violence in our local theaters. Many of the experts interviewed are also all extremely skeptical regarding the possibility of voluntary changes instigated by movie producers. For these reasons, the authorities cited all approve of ". . . some wise type of compulsory control or binding code regulating what is shown in movies."

Dr. Sanford summarizes the views of the social scientists interviewed by NISR when he says, "There is no doubt that it is a superior course of action to prudently regulate in the public interest some specific types of content in our movies, rather than have the continuing personal and property damage attributable to this undesirable influence."

REPUBLIC GARAGES
...We Build Our Future Into Every Garage

CHICAGO TRIBUNE, SATURDAY, JUNE 1, 1968

Leading Social Scientists Predict Censorship of Violence in Movies

By George Haskins

CHICAGO — In recent interviews of leading social scientists in the U.S. many predicted that displays of violence in movies would probably soon be curtailed. The interviews were conducted by the National Institute for Social Research (NISR). The scientists interviewed were also asked about their feelings concerning similarities between the current U.S. trend and present controls in European motion pictures.

Dr. Robert K. Simpson, a sociologist at the New School for Social Research in New York City who is an expert on criminology stated, "There is currently a definite trend in American Society that is in vigorous opposition to the permissive display of violence in movies shown to the American public." He felt that "The serious intentions of the people in these movements makes it extremely probable that some curtailment of such violence will occur."

Like many other social scientists interviewed, Dr. Simpson cites the steadily growing numbers of ". . . powerful and active groups which are attempting to halt society's passive acceptance of such lenient displays of violence." Although he recognizes that "The existence of complex and energetic forces working for the elimination of violence in movies does not absolutely prove that censorship of violence will occur" Dr. Simpson goes on to say, "It does appear extremely probable that the potent forces currently favoring censorship of violence in motion pictures will triumph over the weak and largely unorganized collection of individuals favoring the status quo." Noting the feelings of a large number of groups, Dr. Simpson has predicted, ". . . the inevitable creation of uniform standards to control or prevent the showing of violence in movies."

Other authorities interviewed share many of Dr. Simpson's feelings toward both the fast moving trends against violence in movies and toward the probable solution to the problem. Among these are Dr. John G. Morse, Director of Clinical Psychology Training at Johns Hopkins University, and Dr. Clifford Case Dawson, a social psychologist at the University of Washington whose dominant interest is in studying social movements. Both felt that intentional actions on the part of motivated individuals and groups are extremely likely to result in a definite reduction of the amount of violence portrayed in movies. These experts agree that it is only logical that the steadily increasing amount of violence displayed in motion pictures should result in an extremely severe and strong reaction against such displays.

With regard to Dr. Simpson's predictions of uniform standards to control or prevent the showing of violence, Dr. Morse stated, "In both France and the Scandinavian countries, it has for years been standard practice to ban the free display of violence in movies. It appears extremely probable that an equally prohibitive approach will be instituted in the foreseeable future throughout the U.S."

Dr. Dawson, in addition, notes the weak efforts of those opposed to censorship of violence in motion pictures and the yielding tendencies of these same groups of people with respect to this issue. Dr. Dawson said, "The few people committed to the continued showing of violence in movies are largely passive, unemotional about the issue, and aimless in intentions." He continues, "It is extremely likely that the impotent quality and moderate tone of the opposition to censorship of violence in motion pictures will result in some limited form of censorship of movies with respect to violence."

Another expert interviewed was Dr. Theodore M. Sanford, a psychiatrist at the University of Texas Medical School. Dr. Sanford feels that "It is extremely possible that the currently popular approval of the merciless hero in motion pictures represents a short term trend that will soon be extinguished." He also stated that "Lax censorship by producers has proved itself sterile with respect to societal needs." In agreement with many other authorities interviewed he feels that it would be ". . . relatively easy to establish some type of standardized control over what is shown in our theaters." Dr. Sanford continues, "There will inevitably be censorship in the public interest, especially with respect to the violence portrayed in movies."

The social scientists quoted, who mirror the views of many of their colleagues and the concerns of many other Americans, are all strongly convinced that the well-organized groups opposing the displaying of violence in our local theaters will be effective in achieving their goals. Many of the experts are also convinced of the shallowness of possible changes instigated by movie producers. For these reasons, the authorities cited all predict ". . . some type of strict constraints or binding code regulating what is shown in movies."

Dr. Sanford summarizes the views of the social scientists interviewed by NISR when he says, "There is no doubt that the forces desiring violence in movies are relatively small and powerless. It is extremely probable that we will soon follow the European trend away from displaying violence in movies and instigate a limited form of censorship in motion pictures."

CHICAGO'S ENTHUSIASTIC ORNITHOLOGIST

His name was Oscar Neumann and he was already an old man when he arrived here. But the work he did, and his enthusiasm, belied his age. Read the fascinating story in the June 9 Chicago Tribune Sunday Magazine.

REPUBLIC GARAGES
... We Build Our Future Into Every Garage

CHICAGO TRIBUNE, SATURDAY, JUNE 1, 1968

Senior Citizens Working to Change American Image

By George Haskins

CHICAGO — Ugly Americanism, a commodity that Chairman Mao and General de Gaulle would like the rest of the world to believe is the chief export of the United States, is taking a beating all over the world, thanks to a dedicated group of senior citizens who combine youthful enthusiasm with experience. They comprise the International Cooperative Service Association.

The ICSA, a nonprofit organization, offers the senior citizens the opportunity to become some of the nation's most valuable exports in the foreign aid program. The idea has been quite well-accepted.

According to Charles Montgomery, a 52-year-old former vice president of a Chicago insurance agency. "Most of our people come in when they get bored with golf or they decide to get out of their wife's hair. In my case, I felt I could be useful in selling the free enterprise system. If you're successful in business you believe in the system and want to sell it."

Montgomery, who works as an ICSA recruiter, recently returned from Nicaragua, where he helped one of that country's largest firms get established in the direct mail advertising business.

This is the idea behind the ICSA: A company in a developing country submits a problem to ICSA. If the organization approves, a volunteer is chosen from a pool (about 2,000 men at present). Not every project is approved, however, and if the ICSA doesn't happen to have an expert on hand who can deal with the specific problem, they recruit a qualified person. They usually get their man.

The senior citizen chosen receives no salary but does get a living allowance (which averages about $700 a month and is paid by the company to whom he is assigned), in addition to round-trip air transportation for the individual and his wife, if he gives in to her request to "Take me along." Most projects last less than three months.

So far the ICSA has worked in more than 43 countries and took on 300 projects in 1967. George Lowell, vice president in charge of public relations, feels that 500 projects a year should be the limit.

"At that rate," says Lowell, "we can maintain high quality and if there's one thing the man in charge here wants it's quality." The man in charge in this case is Tom Franklin, and he is the ideal man to run the organization. Says one of Franklin's staffers: "The best way to describe Tom is to say he is generally dynamic."

ICSA came into being in 1965 with two basic objectives: To aid in the task of economic development in growing business abroad while providing an opportunity for retired senior citizens to work where it could do the most good. Those goals remain the same today as ICSA men work in Latin America, the Middle East, Africa and the Far East.

In addition to support from industry, individuals and foundations, ICSA receives money through government grants. Don Taylor, a 66-year-old metallurgist with 41 years experience, is typical of the type of man attracted to the organization. Taylor, who recently returned from Nigeria, spent two months on his project acting as an industrial adviser and part-time psychologist.

"I cleared up the technical problems for the country I was assigned to in no time at all," recalls Taylor, "but I found that the real problem stemmed from the fact that the man who was running things lacked confidence in his own ability. He proved to be an excellent businessman, one of the best I've ever seen, but he'd just taken over the company after the death of the former president."

"The deceased man owned about 60 per cent of the business and was the type who insisted that he make every decision, no matter how minute. As a result, the man who took over after his death had reached a point where he hadn't made a decision in years and felt that he was incapable of making one. My biggest job was building up his confidence and showing him how good he was. After that, everything came easy."

"Mr. Taylor's experience is quite typical," says Franklin, "and it's the reason why we seek out well-rounded individuals for our program. Our men are specialists in their own fields, but they're adaptable enough to handle almost anything that might come up. They have to be sure what the real problem will be until our man arrives on the scene. And then it's too late to decide we sent the wrong person."

Prominent government officials have cited the contribution of the ICSA to the United States image abroad. The senior citizens profit from the experience in that they gain a wider range of interests and knowledge, and the developing countries gain from working with experienced people.

"We've had very few examples of Ugly Americanism,' says Franklin, "despite the fact that a lot of people told us we'd run into it. Our people have helped stimulate the economies of underdeveloped nations, increased America's prestige abroad and learned something in the process. They seem to feel that beats riding a rocking chair."

CHICAGO'S ENTHUSIASTIC ORNITHOLOGIST

His name was Oscar Neumann and he was already an old man when he arrived here. But the work he did, and his enthusiasm, belied his age. Read the fascinating story in the June 9 Chicago Tribune Sunday Magazine.

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APPENDIX C

SHERIF-HOVLAND INSTRUMENT

Below are some statements expressing various positions on the issue of censorship of movies.

1. Please read all the statements carefully first before making any marks on this page.

2. Now that you have carefully read all the statements underline that one statement that comes closest to your stand on this matter.

A. Censorship of movies is absolutely essential for the best interests of the public.

B. Censorship of movies is extremely essential for the best interests of the public.

C. Censorship of movies is definitely a more valuable influence than a detrimental influence for the best interests of the public.

D. Censorship of movies is probably more of a valuable influence for the best interests of the public.

E. It is very difficult to decide whether or not censorship of movies is a valuable or a detrimental influence for the best interests of the public.

F. Censorship of movies is probably more of a detrimental influence for the best interests of the public.

G. Censorship of movies is definitely a more detrimental influence than a valuable influence for the best interests of the public.

H. Censorship of movies is extremely detrimental for the best interests of the public.

I. Censorship of movies is absolutely detrimental for the best interests of the public.

The statements below are the same as the ones on the preceding page. Please go through the statements and circle the letter in front of any others that you also find acceptable or not objectionable.

A. Censorship of movies is absolutely essential for the best interests of the public.

B. Censorship of movies is extremely essential for the best interests of the public.

C. Censorship of movies is definitely a more valuable influence than a detrimental influence for the best interests of the public.

D. Censorship of movies is probably more of a valuable influence for the best interests of the public.

E. It is very difficult to decide whether or not censorship of movies is a valuable or a detrimental influence for the best interests of the public.

F. Censorship of movies is probably more of a detrimental influence for the best interests of the public.

G. Censorship of movies is definitely a more detrimental influence than a valuable influence for the best interests of the public.

H. Censorship of movies is extremely detrimental for the best interests of the public.

I. Censorship of movies is absolutely detrimental for the best interests of the public.

The statements below are the same as those on the preceding pages.

1. Please read all the statements again before making any marks on this page.

2. Now that you have read the statements again, cross out that one statement which is most objectionable from your point of view.

A. Censorship of movies is absolutely essential for the best interests of the public.

B. Censorship of movies is extremely essential for the best interests of the public.

C. Censorship of movies is definitely a more valuable influence than a detrimental influence for the best interests of the public.

D. Censorship of movies is probably more of a valuable influence for the best interests of the public.

E. It is very difficult to decide whether or not censorship of movies is a valuable or a detrimental influence for the best interests of the public.

F. Censorship of movies is probably more of a detrimental influence for the best interests of the public.

G. Censorship of movies is definitely a more detrimental influence than a valuable influence for the best interests of the public.

H. Censorship of movies is extremely detrimental for the best interests of the public.

I. Censorship of movies is absolutely detrimental for the best interests of the public.

Now go through these statements and mark an X through the letter in front of any other statements that you find objectionable.

A. Censorship of movies is absolutely essential for the best interests of the public.

B. Censorship of movies is extremely essential for the best interests of the public.

C. Censorship of movies is definitely a more valuable influence than a detrimental influence for the best interests of the public.

D. Censorship of movies is probably more of a valuable influence for the best interests of the public.

E. It is very difficult to decide whether or not censorship of movies is a valuable or a detrimental influence for the best interests of the public.

F. Censorship of movies is probably more of a detrimental influence for the best interests of the public.

G. Censorship of movies is definitely a more detrimental influence than a valuable influence for the best interests of the public.

H. Censorship of movies is extremely detrimental for the best interests of the public.

I. Censorship of movies is absolutely detrimental for the best interests of the public.

APPENDIX D

QUESTIONNAIRE

The present study is a part of a graduate research project. This is not a test and there are no right and wrong answers. We are only interested in seeing how many different people feel about an issue. Do not sign your name to this questionnaire.

Your cooperation in this study is purely voluntary and you may quit at any time during the study. However, it will be appreciated if you will finish the questionnaire because an incomplete one will be of no value in the study.

Classification--circle the correct one

Fr. Soph. Jr. Sr. unclassified

Sex--circle the correct one

male female

In this study several different tasks will be required of you. At each point, appropriate instructions are included and you are asked to follow them exactly. Please do not turn back and forth through the questionnaire. Work straight through following instructions until you read instructions telling you to stop.

(Turn page and begin.)

The next four pages of the questionnaire are the Sherif-Hovland instrument of Appendix C.

On the following page is a xeroxed copy of a newspaper clipping from the Chicago Tribune of June 1, 1968. Please read the article and then continue on through the questionnaire.

Remember

1. Read the article on the following page carefully.
2. Then turn the page and follow the directions given at each point in the remainder of the questionnaire.
3. Do not turn back and forth through the form, but work straight through until you encounter directions telling you to stop.

On this page one of the three articles of Appendix B would appear depending on which experimental or control sample the subject is in.

INSTRUCTIONS

On the following four pages are four sets of statements like the ones you replied to earlier. Appropriate instructions are included on each page. Please follow the instructions exactly. Work straight through the questionnaire. Do not turn back and forth.

(Turn page and begin.)

Here again would appear the four pages of the Sherif-Hovland instrument in Appendix C.

Below are some questions about the article you read and a list of possible answers under each question. Please give your opinion on each question by checking the one answer that comes closest to your own idea.

1. For the article you read, please indicate on the line below your rating of its position in terms of its favorableness or unfavorableness to the issue of censorship in movies. The position at the extreme left hand end is most unfavorable toward censorship in movies and the position at the opposite (right hand) end is most favorable toward censorship in movies. You may check anywhere on the line between the two extremes, depending on whether you think the article was more favorable or unfavorable toward censorship of movies.

Very Unfavorable Toward Censorship in Movies _____ Very Favorable Toward Censorship in Movies

2. For the article you read, please indicate on the line below your rating of its position in terms of how probable or improbable it stated censorship of movies was.

Very Improbable Censorship in Movies Will Occur _____ Very Probable Censorship in Movies Will Occur

3. Were you pleased or irritated with the article you read?

___ Very Pleased

___ Pleased

___ Neither pleased nor displeased

___ Irritated

___ Very irritated

4. Was the article biased or unbiased in the opinions it expressed?

___ Very biased

___ Biased

___ I am not quite sure

___ Unbiased

___ Very unbiased

5. Were the arguments presented in the article propaganda or fact?

___ All propaganda

___ More propaganda than fact

___ Cannot say for sure

___ More fact than propaganda

___ All fact

Below are the statements regarding censorship in movies to which you have already responded. Think about the article you read and circle the letter in front of the single statement that best represents the views expressed in the article.

A. Censorship of movies is absolutely essential for the best interests of the public.

B. Censorship of movies is extremely essential for the best interests of the public.

C. Censorship of movies is definitely a more valuable influence than a detrimental influence for the best interests of the public.

D. Censorship of movies is probably more of a valuable influence for the best interests of the public.

E. It is very difficult to decide whether or not censorship of movies is a valuable or a detrimental influence for the best interests of the public.

F. Censorship of movies is probably more of a detrimental influence for the best interests of the public.

G. Censorship of movies is definitely a more detrimental influence than a valuable influence for the best interests of the public.

H. Censorship of movies is extremely detrimental for the best interests of the public.

I. Censorship of movies is absolutely detrimental for the best interests of the public.

We are interested in knowing what you believed to be the purpose of this experiment. What do you think the experimenter was interested in? Please write your answer in the box below.

Did you suspect any trickery; in other words did you at any point think the experimenter was trying to deceive you in any way? If so, describe. If not, just put "no."

This concludes the questionnaire. Your cooperation in this study is sincerely appreciated. Thank you.

APPENDIX E

ORIGINAL OBSERVATIONS

On the following seven pages is a computer print-out of the original observations. The first three numbers are the assigned subject number, the first digit (1, 2, or 3) indicating the class in which the subject participated in the experiment.

Column 1 indicates which sample the subject was in according to the following designations:

1. Experimental evaluation sample
2. Experimental dynamism sample
3. Control sample.

Column 2 indicates the classification of the subject according to the following designations:

1. Freshman
2. Sophomore
3. Junior
4. Senior
5. Unclassified.

Column 3 indicates the sex of the subject with 1 designating male and 2 designating female.

Columns 4-8 are the pretest scores on the Sherif-Hovland instrument in the order: MA, LA, MO, LR, LN.

Columns 9-13 are the posttest scores on the Sherif-Hovland instrument in the same order.

Column 14 is the subject's rating from 1 to 9 of how favorable he felt the communication to be toward censorship of violence in movies.

Column 15 is the subject's rating from 1 to 9 of how probable he felt the communication stated censorship in movies would be.

Columns 16, 17, and 18 are the subject's ratings from 1 to 5 of (1) how pleased or displeased he was by the article, (2) how biased or unbiased he thought the article was, and (3) how propagandistic or factual he thought the article was, respectively.

Column 19 is the subject's objective rating of the communication on the nine point scale used in the Sherif-Hovland instrument.

Columns 20 and 21 are the experimenter's ratings of the subject's responses to the final two questions in the questionnaire. Column 20 indicates how knowledgeable or nonknowledgeable the subject was with 1 designating knowledgeable and 2 designating nonknowledgeable.

Column 21 indicates whether or not the subject suspected deception in the experiment with 1 designating the answer "no" to the question, 2 designating a longer answer but one which indicated no knowledge of the deception involved and 3 designating a longer answer which indicated possible knowledge of the deception involved.

A zero in one or more of columns 14 through 21 indicates that the subject gave no response to that question.

ORIGINAL OBSERVATIONS

101	1	2	1	5	1	9	2	6	4	2	9	2	5	1	4	3	2	4	2	1	2
102	1	4	1	6	1	1	6	2	6	2	1	7	0	9	3	1	1	2	1	2	1
103	1	1	1	5	2	1	3	4	5	2	1	3	4	9	9	2	2	3	1	1	1
104	1	1	2	5	2	9	5	2	4	2	9	5	2	2	8	3	2	3	4	2	1
105	1	2	1	4	2	1	4	3	4	2	1	5	?	1	3	2	1	2	1	1	1
106	1	1	1	1	1	6	2	6	1	4	8	3	2	1	1	4	2	4	2	2	1
107	1	3	2	3	3	9	4	2	3	3	9	5	1	9	3	4	3	2	1	1	1
108	1	1	2	9	2	1	5	2	9	3	1	5	1	1	7	2	2	2	3	1	2
109	1	2	1	3	3	9	5	1	3	3	9	6	0	1	7	3	2	3	1	1	1
110	1	2	1	5	2	1	3	4	5	2	1	3	4	9	9	3	3	3	9	1	?
111	1	3	1	5	1	1	8	0	5	1	1	8	0	1	3	2	2	3	2	1	2
112	1	2	2	4	3	8	4	2	3	3	9	5	1	2	5	3	3	4	1	1	?
113	1	4	2	3	2	9	5	2	3	2	9	6	1	1	7	3	2	3	2	1	1
114	2	1	2	5	2	1	5	2	3	2	1	6	1	1	1	3	3	4	4	2	0
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116	2	1	1	5	1	1	8	0	5	1	1	8	0	8	4	3	2	2	1	1	1
117	2	3	1	7	2	1	7	0	7	?	1	7	0	?	1	2	3	5	4	2	2
118	2	5	1	5	2	1	6	1	5	2	1	6	1	2	3	3	1	2	3	2	1
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122	2	4	2	4	3	9	2	4	4	3	9	3	3	2	3	4	3	4	2	1	1
123	2	1	2	5	1	1	2	6	3	2	1	2	5	1	9	3	3	4	3	2	1
124	2	2	1	4	3	9	4	2	4	3	9	4	2	1	1	4	2	2	1	2	1

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125	2	2	1	5	2	1	7	0	5	2	1	7	0	3	4	3	3	4	3	1	1
126	3	1	1	1	2	5	1	6	1	2	5	1	6	5	5	4	4	4	4	2	2
127	3	1	2	3	2	7	5	2	3	2	7	5	2	5	5	4	2	3	5	2	2
128	3	2	2	2	4	9	5	0	1	4	9	5	0	1	1	5	4	5	1	2	2
129	3	3	1	5	2	9	5	2	5	2	9	5	2	5	5	4	2	3	5	2	1
130	3	4	2	4	2	1	6	1	4	3	1	6	0	5	5	3	2	2	3	1	1
131	3	4	1	6	1	1	8	0	6	1	1	8	0	5	5	3	2	4	5	2	2
132	3	1	2	6	2	1	3	4	6	2	1	3	4	5	5	3	4	5	4	2	2
133	3	4	1	7	2	1	2	5	7	2	1	2	5	5	5	4	2	4	6	1	1
134	3	2	1	6	1	1	3	5	6	2	1	3	4	5	5	4	2	3	5	2	2
135	3	2	2	7	2	1	4	3	7	2	1	4	3	3	3	4	2	3	5	1	2

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201	1	4	2	6	2	1	4	3	5	2	1	6	1	1	5	1	2	2	2	1	1
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203	1	3	1	9	4	1	4	1	9	4	1	5	0	1	3	3	3	2	1	1	1
204	1	3	1	4	2	9	3	4	3	3	9	5	1	2	4	4	2	4	2	1	1
205	1	2	1	4	1	1	6	2	4	3	1	5	1	1	4	3	1	2	1	2	1
206	1	4	1	3	2	9	6	1	3	2	9	6	1	1	4	4	2	3	2	1	2
207	1	2	2	7	2	1	2	5	6	2	1	2	5	1	6	3	1	2	1	2	1
208	1	3	1	4	2	9	3	4	3	2	9	5	2	2	4	4	4	4	3	2	1
209	1	4	1	4	2	9	2	5	4	2	9	2	5	1	7	3	3	2	1	1	1
210	1	3	1	5	2	1	5	2	5	2	1	5	2	1	3	2	1	1	1	2	2
211	1	3	2	5	2	1	6	1	5	3	9	4	2	1	3	3	3	4	1	2	1
212	1	4	1	5	2	1	3	4	5	2	1	3	4	1	9	4	2	2	2	1	1
213	1	5	1	6	1	1	1	7	6	2	1	7	0	2	6	3	2	3	2	1	1
214	1	3	1	3	2	9	5	2	3	2	9	5	2	7	5	3	4	4	2	2	1
215	1	3	1	5	2	1	3	4	4	3	1	1	5	1	5	3	2	4	4	1	1
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217	1	2	2	5	2	9	2	5	5	2	9	2	5	1	5	2	2	2	2	1	1
218	2	4	2	7	3	1	3	3	4	3	1	6	0	1	1	3	1	4	2	1	2
219	2	4	1	2	2	9	4	3	2	2	9	5	2	1	1	4	3	4	2	2	2
220	2	2	2	2	4	9	5	0	2	3	9	6	0	1	2	4	4	4	2	2	2
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222	2	1	2	1	2	2	2	5	5	2	6	2	5	9	3	3	3	4	2	1	1
223	2	3	1	6	2	9	2	5	7	2	1	4	3	7	4	3	2	3	2	1	1
224	2	2	2	4	3	9	5	1	3	3	9	5	1	2	3	4	2	4	1	1	1

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225	2	2	1	1	2	9	1	6	1	2	8	2	5	1	1	4	2	3	4	2	2
226	2	3	1	5	1	1	3	5	5	1	3	8	0	3	2	3	2	3	4	1	1
227	2	1	1	1	1	4	4	4	1	1	9	4	4	4	3	3	3	3	4	2	1
228	2	1	1	1	2	8	2	5	4	4	6	4	1	1	2	4	2	2	1	2	2
229	2	4	1	3	1	8	7	1	2	3	8	6	0	1	5	4	2	3	1	2	1
230	2	2	2	5	2	8	2	5	3	4	9	4	1	7	1	4	3	4	2	2	1
231	2	3	1	5	2	1	4	3	5	2	1	4	3	1	1	3	2	2	4	1	2
232	2	3	1	6	2	1	5	2	6	2	1	5	2	3	2	3	4	4	4	1	1
233	2	1	2	4	2	1	2	5	4	2	9	2	5	1	4	4	2	3	1	2	1
234	2	4	2	2	3	9	5	1	2	4	9	5	0	2	4	4	2	3	3	1	1
235	2	2	2	6	2	1	4	3	6	4	1	5	0	1	1	3	2	3	1	1	1
236	3	1	2	5	2	8	6	1	5	2	8	7	0	5	5	3	2	4	5	1	2
237	3	3	2	4	2	1	6	1	4	2	1	7	0	6	2	4	2	3	6	2	1
238	3	1	2	5	1	4	2	6	5	1	3	2	6	1	1	2	2	2	5	1	1
239	3	2	2	1	3	5	6	0	1	3	5	6	0	3	5	2	2	4	2	1	2
240	3	3	2	3	4	5	5	0	3	4	5	5	0	3	5	5	2	2	3	2	2
241	3	3	2	5	3	9	4	2	5	3	9	5	1	5	5	3	3	3	5	1	1
242	3	1	1	6	2	9	2	5	6	2	9	2	5	6	5	3	3	4	5	2	1
243	3	1	2	3	2	9	6	1	3	2	9	6	1	5	5	4	2	4	5	2	1
244	3	3	2	3	2	9	2	5	5	2	1	2	5	6	7	3	2	4	6	2	2
245	3	1	1	4	1	9	4	4	4	2	7	4	3	5	5	5	2	4	5	1	1
246	3	1	2	5	3	9	4	2	5	3	9	4	2	6	6	5	4	3	5	1	2
247	3	2	2	5	3	9	6	0	5	2	9	6	1	3	6	4	4	4	4	1	1
248	3	3	2	6	2	1	3	4	6	2	1	4	3	5	5	4	2	4	5	2	2

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249	3	2	1	6	3	1	6	0	6	3	1	6	0	5	5	4	2	3	5	1 1
250	3	1	2	5	3	1	4	2	5	3	1	4	2	5	5	5	2	2	5	1 2
251	3	3	1	6	1	1	2	6	6	1	1	2	6	5	5	4	3	3	5	2 2
252	3	4	1	7	5	1	4	0	7	5	1	4	0	5	5	0	0	0	5	2 2

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301	1	4	2	9	4	1	5	0	9	4	1	5	0	2	3	2	2	4	2	1	1
302	1	3	1	6	3	1	3	3	5	2	1	7	0	7	9	2	3	3	5	1	1
303	1	4	1	5	3	1	3	3	5	3	1	3	3	1	9	2	3	1	1	1	1
304	1	2	2	5	1	1	7	1	5	2	1	7	0	1	7	2	2	2	1	1	1
305	1	4	2	3	2	9	4	3	3	2	9	4	3	1	6	4	3	4	2	1	2
306	1	1	1	6	2	2	2	5	3	2	8	2	5	8	2	3	3	2	3	2	1
307	1	2	1	6	2	1	3	4	6	3	1	3	3	2	6	3	4	2	1	1	2
308	1	1	2	3	3	9	5	1	3	3	9	5	1	2	4	5	1	4	1	1	1
309	1	1	2	4	1	1	7	1	4	3	5	6	0	2	6	3	4	4	2	1	1
310	1	3	2	5	2	1	6	1	5	3	1	6	0	1	6	3	1	4	1	1	2
311	1	4	1	5	2	3	4	3	4	2	9	5	2	2	3	3	2	2	1	1	1
312	1	3	2	5	2	1	2	5	4	2	1	3	4	1	7	2	2	2	4	1	1
313	1	3	2	7	1	1	6	2	6	2	9	4	3	2	4	4	4	4	2	1	1
314	1	4	1	6	2	1	6	1	6	2	1	6	1	4	3	3	1	2	2	1	1
315	1	4	1	8	3	1	4	2	8	3	1	4	2	1	7	2	1	2	1	2	1
316	2	3	1	9	2	1	6	1	9	3	1	6	0	2	2	2	2	2	3	1	3
317	2	3	2	4	2	9	6	1	4	2	9	6	1	3	1	3	4	4	2	1	1
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320	2	4	2	7	3	1	4	2	5	2	1	4	3	5	1	3	4	4	5	1	1
321	2	3	2	5	2	9	2	5	5	2	1	3	4	2	3	3	2	3	3	2	1
322	2	5	1	6	3	1	3	3	6	3	1	3	3	4	2	3	4	4	4	2	2
323	2	4	2	4	2	9	4	3	4	2	9	4	3	2	1	3	2	4	2	1	1
324	2	2	1	5	4	1	5	0	5	3	1	4	2	1	1	3	1	3	1	2	2

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325	2	4	1	4	2	6	5	2	4	3	1	5	1	0	0	3	4	3	3	1	1
326	2	3	1	5	2	1	4	3	5	2	1	4	3	5	1	3	4	4	4	2	1
327	2	4	2	3	3	9	5	1	3	3	9	4	2	1	1	4	3	3	2	1	1
328	2	5	1	6	1	1	2	6	5	3	9	5	1	4	1	3	4	4	4	1	2
329	2	1	1	5	1	1	4	4	5	2	1	7	0	3	2	2	2	2	1	1	1
330	2	3	1	5	1	1	2	6	5	1	1	2	6	4	2	3	4	3	5	1	2
331	3	2	1	4	2	9	6	1	4	2	9	6	1	5	5	5	5	5	5	2	2
332	3	2	2	3	2	9	2	5	3	2	9	2	5	9	9	3	2	3	5	2	1
333	3	4	2	3	4	9	4	1	3	4	9	5	0	9	9	4	2	4	3	1	1
334	3	4	1	6	3	1	4	2	6	4	1	3	2	5	5	5	2	3	5	2	2
335	3	3	1	7	2	3	4	3	7	2	3	4	3	5	5	3	2	2	5	1	1
336	3	3	2	4	2	1	7	0	4	3	1	6	0	5	5	4	2	4	5	1	2
337	3	3	2	3	1	9	4	4	3	2	9	4	3	4	5	5	2	3	4	2	2
338	3	4	2	4	3	1	2	4	4	3	1	2	4	7	5	3	2	2	4	1	2
339	3	3	2	2	2	8	3	4	4	2	9	3	4	5	9	3	2	3	4	2	1
340	3	5	2	7	3	1	4	2	7	3	1	4	2	3	3	4	2	3	3	2	2
341	3	2	2	4	2	9	5	2	4	2	9	5	2	5	5	4	3	4	5	2	1
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343	3	2	2	5	2	1	2	5	5	2	1	2	5	7	7	4	3	2	4	1	1
344	3	4	1	6	1	2	6	2	6	2	2	5	2	5	5	4	4	2	5	2	1
345	3	2	2	3	2	9	3	4	3	2	9	2	5	5	5	3	4	2	5	2	1