

A FIELD THEORY APPROACH TO BEHAVIOR PREDICTION:  
A FIELD EXPERIMENT EMPLOYING PERSONAL  
AND SOCIAL FACTORS

By

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A dissertation submitted in partial fulfillment of  
the requirements for the degree of

DOCTOR OF PHILOSOPHY

WASHINGTON STATE UNIVERSITY  
Department of Sociology

1976

To the Faculty of Washington State University:

The members of the Committee appointed to examine the dissertation of GERALD WALTER WILLIAMS find it satisfactory and recommend that it be accepted.

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## ACKNOWLEDGMENTS

The author gratefully acknowledges the personal encouragement by Melvin L. DeFleur, James F. Short, Jr., William F. Riffe, and William Meulemans. The research experience with Milton Rokeach was invaluable for this project. Acknowledgments are also due to the "team" of Theodore Greenstein, Richard Bennett and Michael Sullivan. These people are but a small portion of those who have pushed, encouraged, and criticized this project.

Special appreciation is extended to Lewis F. Carter, who knew the results before the analysis. Special thanks is also expressed to Joe, Billy Jo and Anne as they preserved sanity. The author wishes to single out one person, Cathy, who made everything worthwhile.

The city of Ashland, Oregon and Southern Oregon State College deserve special credit as they provided the opportunity for this research and many reasons to evaluate the Palouse country.

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ABSTRACT

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Washington State University, 1976

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Field theory is the approach that provides the theoretical orientation for this study. The behavioral focus was voting in a gubernatorial election. A composite model was developed that utilized variables drawn from three moderately successful attitude-behavior prediction models. Questionnaires from 400 subjects were employed to assess the composite model. A within group randomization technique was used to investigate possible demand characteristics. Several multiple-partial regression equations comprised the primary statistical analyses for the composite model.

The field theoretical approach is comprised of a personal factor and a social situation factor. These two components are assumed to interact theoretically and statistically. The interaction assumption (hypothesis) was confirmed. The social situation factor explained more of the variation ( $R^2 = .513$ ) in the dependent variable than the personal factor ( $R^2 = .136$ ). When both factors were combined the composite model explained 53.6% of the variation in voting behavior.

The variables that comprise each of the factors were drawn from three previously successful models. These models derive from the works

of DeFleur, Rokeach, and Fishbein. The components of the three models are comprised of attitudes (ranging from general to very situation specific) and other variables concerning particular reference groups. These variables were gathered into a larger composite model and separated into the personal and social situation factors. The attitudinal variables were considerably better predictors ( $R^2$  values ranging from .06 to .45) than were the variables concerned with the reference groups ( $R^2$  values at .01 or lower). Demand characteristics resulting from different types of survey questionnaires (experimental and control) were shown to be statistically insignificant.

Four types of data transformations were employed for the regression analyses with four different multiple regression solutions resulting. The highest  $R^2$  solutions were obtained when using the quartile (first and fourth) type, followed closely by the use of continuous data. The mean and median transformations resulted in considerably lower regression solutions than either the quartile or continuous types.

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## CHAPTER 1

### INTRODUCTION

Field theory, the theoretical emphasis for this research, is a social psychological approach to understanding behavior that utilizes both psychological and sociological measures for explaining and predicting behavioral actions. While field theory has origins early in the present century, it continues to be a viable framework for contemporary research. A general field theory framework has been espoused by Milton Yinger that would "make it possible to apprehend psychological and sociological facts simultaneously" (Yinger, 1965:39). The combination of these two categories is necessary in order to understand the complex interactions between the personality structure (of the socialized individual) and the variability found in social situations (where the person encounters social objects).

The present study concerns the applicability of this type of general field theory approach to behavior prediction using attitudes and various situational variables. It focuses upon two broad categories of variables--psychological and sociological. These categories are designated as the "personal frame of reference" (psychological variables) and the "social situation" (sociological variables).

The basic assumption underlying this study is that all individuals construct a personal frame of reference that influences their action choices. This frame of reference results from socialization and self preferences. All persons in society organize their frames of reference differently.

People bring certain cognitive frame, of reference indicators (attitudes, beliefs, opinions, norms, affiliations, and others) into a social situation that may predispose them to act in specified ways. The social setting in which the action takes place, including individual perceptions of the situation, will act as a mediating factor in determining the particular manner in which people will behave, given their personal frames of reference. Neither personal nor social factors determine action alone. By definition, they interact with one another, although each component may vary in momentary emphasis upon the person and the environment. Yinger suggests that:

In explaining behavior, the researcher does better to add the influence of two factors than to leave one out; yet the final aim must be, not to add influences from two systems, but to bring them into one logically coherent system in order to measure their mutual influence (1965:10).

It should be noted that the two principal factors of the field theory approach are broad categories of numerous component variables. One purpose of this study is to assess the predictive contributions of the component variables that comprise each major factor. The strategy used to identify the potentially important variables of each factor consists of reviewing prior studies which have been reasonably successful in predicting behavior using cognitive type personal and social situational variables.

Three types of studies directed toward this goal have appeared in the recent literature. The "DeFleur model" (Acock and DeFleur, 1972) uses a composite attitude and various peer group perceived positions. The "Rokeach model" (Rokeach, 1968a and Rokeach and Kliejunas, 1972) employs an attitude-toward-situation and an attitude-toward-object. The "Fishbein model" (Fishbein, 1970 and Ajzen and Fishbein, 1970 and 1973) utilizes behavioral intentions, normative beliefs, motivation to comply, and attitude-toward-the-act. The strategy of the present research is to: (1) identify the

variables in the three models that will be indicative of the personal frame of reference and social situation factors; (2) combine these models into a single composite model; (3) apply this new composite model to a research situation where people make decisions resulting in measurable behavior; and (4) evaluate this model and its constituent parts.

## CHAPTER 2

## BRIEF DISCUSSION OF GENERAL FIELD THEORY

A great deal of social psychology has been influenced by the assumption that an individual does not act in a personal or social vacuum. Both personal and social environments have to be adequately accounted for when trying to understand why and how people act. Allport (1968), in his overview of social psychology, believes that social psychology uses this assumption as its most basic premise. It is, then, not surprising that many contemporary social psychologists study both individual and social factors. However, this was not necessarily the case when interest in social psychology was beginning around the late 19th and early 20th centuries.

The systematic use of both individual and social variables for research in social psychology started after the turn of this century. The first research oriented social psychologists to utilize both individual and social phenomenon in field research were Thomas and Znaniecki (1918) in their classic study, The Polish Peasant in Europe and America. These authors noted that "the cause of a social or individual phenomenon is never another social or individual phenomenon alone, but always a combination of a social and an individual phenomenon"(1927:44). This study began a long tradition of research that still affects social psychology today.

The discussion that follows will employ a restricted view of field theory. This discussion limits itself to several general features of field theory as an approach to understanding behavior. "Field theory is certainly

not true in some ultimate sense. It is a parsimonious way of organizing much of what is known about behavior . . ." (Yinger, 1965:47). Thus, many of the specific constructs of the field theorists' writings mentioned herein will not be analyzed in detail. The field theory approach employed in the present research is a general theoretical framework which specifically allows operationalization of component factors. It also suggests methodological and statistical designs.

#### Kurt Lewin's Field Perspective

During the first two decades of the present century, as Gestalt theory was under development, Kurt Lewin was a student of it's founders. The Gestalt psychology of Wertheimer, Kohler, and Koffka had a profound effect on Lewin. However, he was not as interested in perceptual organization as he was in other basic areas of social psychology. Shaw and Costanzo (1970) remind us that the "Gestalt School was concerned primarily with perceptual phenomena, whereas Lewin soon became interested in problems of personality and social psychology" (p.117). Central to Lewin's interests was the idea that the environment interacts with the person and behavioral actions can result from such interactions.

Lewin's writings became the foundation of what we know today as field theory. He died in 1947, but his last major written work, which was edited by Dorwin Cartwright, appeared in 1951. In that work one finds that even Lewin was not entirely convinced that field "theory" was a theory:

Field theory, therefore, can hardly be called correct or incorrect in the same way as a theory in the usual sense of the term. Field theory is probably best characterized as a method: namely a method of analyzing causal relations and of building scientific constructs (1951:45).

Deutsch (1968) concludes in his overview of field theory that none of Lewin's "specific theoretical constructs, his structural and dynamic concepts, are central to research now being carried on in social psychology" (p. 478). Lewin has, however, had a great impact upon his students (Heider, Newcomb, and especially Festinger) and also upon psychology and social psychology. Deutsch believes that this impact is evidenced by Lewin's influencing social psychological research towards:

. . . central processes in the life space (distal perception, cognition, motivation, goal-directed behavior) . . . ; that psychological events must be studied in their interrelations with one another; that the individual must be studied in his interrelations with the group to which he belongs; . . . and that important social-psychological phenomena can be studied experimentally. . . (1968:478).

Lewin's emphasis on cognitive orientation requires amplification in order to understand his particular field theoretical approach. Lewin was primarily concerned with the "life space" of any given individual. Lewin defined life space as ". . . the totality of facts which determine the behavior of an individual at a certain moment" (1936:12). Lewin's conception of the totality of possible events means ". . . then 'things' that enter the situation, especially the person himself and psychological 'objects,' have to be characterized by their relationship to possible events" (1936:16). Lewin does note that the environment (situation) can be psychologically different for every person and may be different for the same person at another time.

Lewin realized the need to account for several dimensions of the human mind. He stated that ". . . experimental investigation . . . cannot be carried out without taking into account the characteristics of the person, his momentary state, and his psychological environment" (Lewin, 1936:5).

The researcher will encounter difficulty when trying to operationalize these factors.

Various measures of "personality" (attitudes, values, or opinions) are available to researchers, but the exact moment of decision is difficult to focus upon and measure (this will be discussed in a later section). The "characteristics of the person" include ". . . certain expectations, wishes, fears, daydreams for his future" (Lewin, 1951:53). He also included "particular goals," "stimuli," "needs," "social relations." Lewin's use of the term "psychological environment" was to urge the use of the perceived environment rather than the actual environment (physical or social).

From this discussion, it appears that Lewin's conception of field theory is based on the assumption that personal and social factors are interrelated with one another and with behavior. Lewin believed that in principle most social scientists have accepted that ". . . behavior (B) is a function of the person (P) and the environment (E),  $B = f(P, E)$ , and that P and E in this formula are interdependent variables" (1951:25). Thus P and E are not independent of each other but are mutually dependent upon one another. Lewin characterized this interdependence as somewhat different from the idea of Gestalt. This interdependence has implications for statistical design for analyzing a field theoretical approach.

Even relatively recently (in the early Gestalt psychology) the statement was frequently made that 'the whole is more than the sum of its parts.' Today 1939 such a formulation can be considered hardly adequate. The whole is not 'more' than the sum of its parts, but it has different properties. The statement should be: 'The whole is different from the sum of its parts' (Lewin, 1951:146).

The person (P) is best understood as a complex of variables. Such variables can include various personality traits, expectations, predisposition, wishes, goals, stimuli, needs, emotions, perceived social relations,

attitudes, values, self-conceptions, self-esteem, self-identity, and many other variables. These personal characteristics need to be organized in order to have a model which is parsimonious, creates understanding, explains individual actions, and enhances prediction of behavioral outcomes. One such method will be discussed in a following section.

The environment (E) can also be understood as a complex of variables. Lewin notes that the ". . . properties of the psychological environment (E) depend among other things, upon the state of the person (P) involved" (1935:257). Environment is conceived as a perceived version of reality by the individual which is comprised of a number of component parts:  $E = f(P, X, Y, . . .)$ . Lewin also believed that the reverse was also true, that "the state of the person depends upon his environment,  $P = f(E)$ " (1951:239). The environmental characteristics also need to be organized and this research will present one method of doing this (in a later section).

The behavior (B), although not addressed specifically by Lewin, can be characterized as overt actions. Behavior is assumed to be causally related to both P and E and the relationship is assumed to be complex. Lewin did not discuss various forms or types of behavior such as overt or covert, manifest or latent, measurable or unmeasurable, personally or socially significant, or any other types of variations. Thus, it remains somewhat unclear for research as to any specific methodology for recording behavior or whether to obtain a subjective report from the subject or to rely upon more objective criteria. Implications for this project will be discussed in a later section.

### Walter Coutu's Field Perspective

Coutu, a much neglected field theorist, has written on field theory from a somewhat different perspective than Lewin. Coutu's principal emphasis is upon the situation, whereas Lewin's emphasis is mainly upon the psychological environment. Neither theorist neglects the other's perspective, but the academic training of each shows in his writings: Lewin with the strong Gestalt psychology background and Coutu with a strong sociological symbolic interaction background.

Coutu, as did Lewin and Mey (1972), believed that he was writing from a Galilean tradition which is very similar to the field approach. The Galilean perspective, as opposed to the Aristotelian perspective, is the essence of social psychological field theory. Coutu emphasized this point as he said:

The Aristotelian tradition holds that all behavior of all things is determined by their nature. The Galilean tradition holds that the behavior of all things is determined by the conditions under which it occurs. This book is a social psychology in the Galilean tradition (1949:ix).

Thus, for Coutu the Aristotelian perspective is a weak explanation of behavior because of the reliance upon various traits and attributes. The Galilean perspective which relies on dynamic processes and is situation oriented is the essence of Coutu's field theoretical approach.

Coutu places great emphasis upon the individual's perception of the situation in the same manner as Thomas' "definition of the situation." Thus Coutu believes that ". . . man always behaves in accordance with what the situation means to him" (1949:x). This emphasis upon the perceived situation is brought forward when he notes that:

To the people operating in a given social field situation, the field is what they think it is; for each person in a field, the field is what he thinks it is. . . .To say that a field is what a person thinks it is

does not mean that every person in the field thinks of it differently; certainly not to a degree that makes a difference (Coutu, 1949:200).

Coutu invented the term "tinsit" to expand his situational field approach. Tinsit is defined as ". . . a probable behavior in a given situation or a behavior of a given probability under stated conditions" (Coutu, 1949:18). This probable behavior is also known as a "tendency" and "tinsit" is actually a contraction of "tendency-in-situation." These "tendencies" are characterized by such variables as "habits" or "impulse" (Coutu, 1949). However, these tendencies do not "exist" by themselves but occur only as probabilistic behavior that is contingent upon appropriate or specified conditional situations. With tendency defined as a probable behavior, it must not be thought of as cause of behavior, but rather "tendency is the behavior." DeFleur and Westie have a similar definition for attitude, which they call "probability conception" (1963).

The strong situational emphasis that Coutu places on his field orientation is somewhat overplayed. Coutu believes that personal variables cannot be separated from situational variables because ". . . field theory as a system of thought cannot conceptualize any two such separate phenomena" (1949:192). Yet separation of these variables is possible conceptually and operationally as this research will show.

#### Milton Yinger's Field Perspective

Milton Yinger's works can be viewed as bridging the gap between the two previously mentioned different conceptions of field theory. Yinger essentially takes the middle ground by maintaining that both the psychological environment and the sociological environment have to be accounted for adequately in field theory. He notes that ". . . only rarely do we find

social psychological research designed to handle simultaneously the variables that derive from inner tendencies and those that stem from the influences of the social situation" (Yinger, 1963:581).

Yinger has used Lewin's design of field theory as a starting point in his own description of the field perspective. Mey, in a recent book on field theory, discusses Yinger's approach:

. . . Yinger concentrates substantially on a special part of Lewin's field-theory, namely the way he combines psychological and external behavioral-determinants when he constructs the life-span or 'field at a given time' (1972:232).

Field theory, for Yinger, makes it possible then to "apprehend psychological and sociological facts simultaneously" (1965:39).

Yinger believed that Lewin did not adequately incorporate situational (sociological) variables into field theory. Lewin even notes that ". . . in the description of the child's psychological environment one may not take as a basis the immediately objective social forces and relations as the sociologist or jurist, for example, would list them" (1935:75). Yinger mentioned that this kind of psychological perception basically:

. . . overlooks the fact that a person's perceptions are a function not only of his sensitivities but also of available stimuli, many of them derived from culture and social structure. Priority in determining behavior can be assigned neither to the sensitivities of the person nor to the facilitating forces in the environment, because both are always involved in the equation (1965:47).

#### Implications of a Field Theoretical Approach for Research

A number of general principles can be drawn from the previous discussion of field theory. First, field theory should not be thought of as a fully mathematical-axiomatic formulation. Second, field theory should be considered an approach for organizing many known facts about behavior. Third, the field theoretical approach is concerned with the perceptions of people.

Fourth, this approach has separated two distinct factors (personal and social) that influence the perceptions of individuals. Fifth, these factors do not directly affect behavior independently, but they act through each other to mutually affect behavior. Lastly, variables have been specified as belonging to the two interacting factors.

## CHAPTER 3

### IMPORTANT VARIABLES IN THE FIELD THEORETICAL APPROACH

The field theoretical approach has, as one of its general implications for research the ability to organize known facts into a logical framework. This approach will be utilized to organize several different models of behavior prediction into a composite model. This field theoretical model incorporates attitudes and other variables as indicators of the frame of reference and social situational factors that comprise the field theoretical approach.

#### Attitudes

The variables for this research are found in the attitude literature of social psychology. This literature points out that there is not a simple universally held definition for the term "attitude." Allport (1935) attempted to consolidate the known definitions of his time into a single definition, but today numerous divergences suggest that Allport was not entirely successful. As each writer has attempted to refine and define this slippery concept further, the result has often led to a confused audience (Blumer, 1955). The multitude of definitions appears to have been caused by a concern for a clearer conceptual and operational understanding, yet the overall result has been the opposite. The plethora of concepts, often contradictory, has led DeFleur and Westie to conclude that:

A concept of attitude so widely employed merits the closest possible attention as long as there remain disagreements, debates, and controversies concerning definition, measurement, theoretical utility, and its behavioral referents (1963:18).

Thomas and Znaniecki (1918) were among the first social psychologists to utilize social attitudes in the study of social groups. Their writings helped turn social psychology away from its philosophical upbringing and into a stage of intensive research and investigation. The use of attitudes proliferated to such an extent that Allport (1935) considered the concept of attitude the "primary" concern of social psychology. This increase in attention, as LaPiere (1938) describes, was a result of a vacuum created by the demise of the instinct concept as a major factor in human behavior.

Yet even as the concept of attitude was coming into vogue, there were some critics who were not convinced that attitude should hold such a central place in social psychology. Writers such as Bain (1928) and Bogardus (1931) argued that the social scientists should not place a great emphasis on attitudes as they are not the central variables in behavior. More recently several authors have cast doubt upon the attitude concept as being relevant to behavior explanation and prediction. Attitude has been referred to as a "make-shift concept" (Doob, 1947), "seriously deficient" (Blumer, 1955), "obsolete" (Turner, 1968), and not in touch with "reality" (Abelson, 1972), especially in the area of behavior prediction.

The attitude concept, even with its criticisms, will probably continue to concern social psychologists in the future. The fact that attitudes have held a primary focus for social psychology for many years has been documented by Allport (1935) and DeFleur and Westie (1963). The increasingly prolific nature of the attitude and attitude-behavior literature which has occurred in recent years, continues to testify to the concept's popularity. Thus, as Rokeach (1967) has observed, the attitude concept is "here to stay."

### Attitudes as Predictors of Behavior

One of the principal controversies historically associated with attitudes concerns an assumption of a direct predictive linkage between attitudes and overt behavior (DeFleur and Westie, 1963). This assumption, often tacit, has caused a great deal of consternation among social psychologists as empirical evidence has accumulated showing that attitudes do not reliably predict behavior. Thus the assumed relationship between attitudes and behavior has been shown to be nonexistent, weak, or moderate at best.

The fact that attitudes do not necessarily predict behavioral actions has been well documented in the literature. The classic study of La Piere (1934) was the first research which reported distinct differences between verbally expressed attitudes and overt behavior. A relatively unknown study by Corey (1937) also reached the same conclusion. Since that time research by Kutner, Wilkins, and Yarrow (1952), Lohman and Reitzes (1954), Minard (1952), DeFleur and Westie (1958), Westie and DeFleur (1959), and numerous others has shown that attitudes should at most be considered weak predictors of behavior.

Allan Wicker, in an extensive review of the attitude-behavior literature (1969), noted that ". . . only rarely can as much as 10% of the variance in overt behavior measures be accounted for by attitudinal data" (p. 65). His review of research studies has shown that by knowing only simple attitudinal responses, one cannot predict, to any significant extent, behavioral actions.

A variety of positions concerning the inconsistency between attitudes and behavior have appeared in the literature. The two major positions are: first, that there is very little, if any, relationship between attitudes and behavior (Doob, 1947; Blumer, 1955; Abelson, 1972; and Wicker, 1971) and

second, that at least some moderate relationship between attitudes and behavior (DeFleur and Westie, 1958 and 1963; Westie and DeFleur, 1959; Fendrich, 1967; Rokeach, 1968 and 1973; and Rokeach and Kliejunas, 1972). The latter explanation seems, at least recently, to have a great deal of merit, although it should be pointed out that most of these researchers have found that certain other variables are as important, or even more important, in the prediction of behavior. This controversy is a significant one in that it has shown that researchers should be moving beyond simple attitude measures and be concerned with other social situational and personal variables, including multiple attitudinal measures.

A number of researchers believe that further research efforts for behavior prediction should focus on multiple attitude measures, rather than a single attitude (Acock and DeFleur, 1972; Rokeach and Kliejunas, 1972; Kelman, 1974; Calder and Ross, 1973; Lauer, 1971; and Rokeach, 1968a,b). This still does not solve the problem of whether the attitudes measured should be general or specific. DeFleur and his associates have tended toward general attitudinal measures (Acock, 1971; Acock and DeFleur, 1972; Kamal, 1970; Warner and DeFleur, 1969), while other researchers have argued for more specific measures (Calder and Ross, 1973; Weigel, Verhon, and Tognacci, 1974; Kelman, 1974; Ajzen and Fishbein, 1970; Fishbein, 1967, 1972; Wicker and Pomazal, 1971; and Crespi, 1971). The generality-specificity issue is far from being resolved in either direction. This matter requires increased research attention in order to make any type of definitive statement.

#### Other Variables as Predictors of Behavior

The other variable (or multiple variable) approach attempts to explain and predict behavior utilizing many concepts other than attitudes.

The primary assumption of the other variable approach is that given knowledge of the certain personal aspects of an individual or that person's perception of the situation, then individual behavior will be highly predictable. The listing of these "other" variables would include: "situational differences" (Lohman and Reitzes, 1954), "situational thresholds" (Campbell, 1963), "social involvement" (DeFleur and Westie, 1958), "environment" (Weissberg, 1965), and "normative beliefs" (Fishbein, 1967), to mention a few. Other types of variables that have not been extensively utilized in these studies are such concepts as: self-conceptions, values, self-esteem, or self-identity. Any list is as potentially endless as the combinations of possible personal and situational factors that could affect behavior.

These studies clearly point out that a single attitude should not, by itself, be expected to predict behavior unless combined with other variables (Warner and DeFleur, 1958; DeFleur and Westie, 1963; Acock and DeFleur, 1972; Rokeach, 1967; Rokeach and Kliejunas, 1972; Ajzen and Fishbein, 1974; Calder and Ross, 1973; Wicker, 1969, 1971; Liska, 1974; and Kelman, 1974). As a result of this proliferation of studies, several other variables have gained a great deal of promise for the prediction of behavior when combined with attitudes. These "other variables" have attempted to account for situational and personal influences, such as social control, peer groups, normative beliefs, motivation to comply, and behavioral intentions (Acock and DeFleur, 1972 and Ajzen and Fishbein, 1974).

The most fundamental problem with this line of research is that the relative importance of these other variables are typically found after the research has been concluded. Thus, a researcher could continue to specify suspected components of behavior to the point of diminishing returns. In the interest of parsimony and theoretical development it is possible to incorporate

a logical framework around existing models and explanations. The logical framework for this research is a field theoretical approach that allows the predictive qualities of existing studies of behavior prediction to remain unique. The field theoretical approach has been employed by Frideres (1967, 1970) and Acock and DeFleur (1972) to organize attitude and other variables into a successful framework for behavior prediction.

The problem for the present research becomes the specification of relevant variables, including attitudes, that are to be categorized into the two theoretically distinct factors. These variables will be identified in the following sections and operationally defined in the next chapter.

### Three Recent Models of Behavior Prediction

The last ten years have brought about a minor revolution in the prediction of behavior through the use of cognitively oriented variables. Several groups of researchers have, for the first time, been able to explain large amounts of variance in behavior. These researchers have employed various multiple attitude measures and a variety of other variables in their successful efforts for predicting behavior. These researchers, and their associates, can be divided into three fundamentally distinct groupings: DeFleur and associates; Rokeach and associate, and Fishbein and associates.

These three research groups have had a substantial effect upon the nature of continuing research on prediction of behavior. Each has conceived the problem of behavior prediction in three theoretically distinct ways. The discussion that follows will use the term "model" to mean the type of theoretical, conceptual, and operational components that each of the three research groups espouse. Although these three models have not utilized the same type of behavior, they are quite similar and complementary in many

instances. Several researchers have discussed the complementary aspects of these same three models, as well as their distinctive components (Liska, 1974; Kelman, 1974; Alwin and Otto, 1974; and Carpenter, 1973).

As stated previously, the intent of this research is to specify the component variables of the field theoretical approach. The three above mentioned models (DeFleur, Rokeach, and Fishbein) have embodied within their respective orientations a number of important variables that can be employed in this larger field theoretical framework. The purpose of the discussion that follows will be to juxtapose the variables from their parent models, so that they can be evaluated for subsequent inclusion into the larger field theoretical framework.

#### The Configurational Approach; The DeFleur Model

The most recent study that has been published by DeFleur and his associates is the article by Acock and DeFleur (1972). This article is the latest in a series of studies that has resulted in a large body of knowledge accumulating on the ability of attitudes and selected sociological variables to predict behavior. Other research deriving from the DeFleur group consists of studies by: Acock (1971), Kamal (1970), Albrecht (1970), DeFleur and Westie (1958), Warner and DeFleur (1969), DeFleur (1968), DeFleur and Westie (1963), DeFrieze and Ford (1968), Frideres (1970), and Westie and DeFleur (1959).

The Acock and DeFleur (1972) article is probably the best statement of this long series of research studies. Embodied within this article is a strong orientation toward a field theoretical approach to behavior prediction. Acock and DeFleur report that:

Overall, the present research . . . is based on an old idea (field theory), and it proposes a previously untried model--a systematic way for studying the relationship between attitudes, situational variables and overt behavior (1972:725).

Three types of variables were employed in their study. A sixteen item Likert multiple attitude scale was used to measure attitudes toward the legalization of marijuana. The attitude items ranged from very general to very specific questions regarding the marijuana issue (see Acock, 1971 for the actual scale employed). A five point rating scale of perceived family position toward legalization of marijuana was used as one "other" variable. Another five point rating scale of perceived peer position was used as the second "other" variable. The authors consider the attitude measures as personal variables, while the perceived peer and family positions are sociological variables involving personal perceptions.

The DeFleur model may be expressed theoretically as:

$$B = f (AI, SI)$$

The DeFleur model employs AI (attitude influence) and SI (social influence) in their model. Interaction between the two variables is assumed to occur yielding a greater predictive power than either variable alone. The AI variable is comprised of a variety of attitude items (16) and the SI variable derives from a five item reference group scale. However, only two reference groups (family and peers) were utilized in analyses of the model (Acock, 1971; Acock and DeFleur, 1972).

The results of the Acock and DeFleur study show the effects of statistical interaction on selected variables. Among those whose personal attitudes favored legalization of marijuana and who perceived that (1) their peers favored legalization and (2) their family felt the same, the interactions led to an  $R^2$  over .94. The independent effects of each variable

were less than the interactions of all three variables. Acock and DeFleur concluded that these interaction effects support their hypotheses and consequently the configurational approach. They summarize the situation in the following terms:

An important hypothesis that is suggested by the present analysis is that situational influences, alone or in their own configuration, do not adequately predict overt behavior. Only when coupled with attitude do these variables have solid predictive capacity (Acock and DeFleur, 1972:724).

#### The Two Attitude Theory; The Rokeach Model

A recent article by Rokeach and Kliejunas (1972) serves as one experimental validation of Rokeach's "two-attitude theory of behavior." The conception of attitude upon which the formulations is based has been delineated in Rokeach (1968a,b). The basic premise is that attitudes, in order to predict behavior effectively, must be comprised of two major attitude types: attitude-toward-object and attitude-toward-situation. Rokeach and Kliejunas (1972) suggest that:

When these two kinds of attitudes are taken into account, an individual's behavior should be predicted to an extent that is considerably better than is generally believed to be the case by social psychologists (p.194).

The Rokeach model, as indicated, postulates that behavior is a function of the person's attitude toward the object and attitude toward the situation in which the object is encountered. Behavior is more exactly that "behavior-with-respect-to-an-object-within-a-situation" ( $B_{OS}$ ). Attitude-toward-object ( $A_O$ ) is attitude "across situations" and attitude-toward-situation ( $A_S$ ) is attitude "across objects" (Rokeach and Kliejunas, 1972).  $A_O$  is then a general attitude measure, theoretically, that can be included as a component in the personal frame of reference factor of the field

theoretical approach.  $A_S$  is a general attitude measure, theoretically, that can be included as a component in the social situation factor of this field theoretical approach.

Theoretically this model is expressed as:

$$B_{OS} = f(A_O A_S)$$

The Rokeach model, along with the DeFleur model, stresses an interactive nature of the  $A_O$  and the  $A_S$ . Rokeach believes that both  $A_O$  and  $A_S$  need to be combined so that his model ". . . becomes more truly social psychological in nature rather than remaining merely personological or situational in nature" (Rokeach and Kliejunas, 1972:199).

#### Behavioral Intentions; The Fishbein Model

Martin Fishbein and his associates have over the past 10 years produced a great amount of research dealing with the attitude-behavior relationship (Fishbein, 1963, 1965, 1967, 1972, 1973; Fishbein and Ajzen, 1972, 1974, 1975; Ajzen, 1971; and Ajzen and Fishbein, 1970, 1972, 1973, 1974). The Fishbein model, as indicated below, postulates that behavioral intentions are the primary prediction component and that behavioral intentions are assumed to have a one-to-one relationship with actual behavior.

Algebraically, the model is expressed as:

$$B \approx BI = A\text{-act } w_0 + [(NBs)(MCs)]w_1$$

The components of the Fishbein model clearly indicate that attitudes alone are not the sole predictors of behavioral intentions. Fishbein and Ajzen (1974) put forth a rather simple word description of their model:

According to the model, intentions are the immediate antecedents of behavior, and are determined by the individual's attitude towards performing the behavior, his normative beliefs about performing the behavior, and his motivation to comply with these perceived norms (p.60).

The notion that the behavioral intention is the same or equal to behavior has been argued mainly by Fishbein and his associates. Behavioral intention (BI) could be thought of as a "conative attitude" and thus should not be considered "behavior." A controversy has developed around this issue as other writers indicate that a conative attitude or "property" should not be considered an attitude, but rather one form of behavior (Insko and Schopler, 1967; Calder and Ross, 1973a,b). This argument cannot be easily resolved except that Fishbein and associates have noted that the correlation between BI and B is not 1.00 and the  $r$  ranges between .211 and .970 (Ajzen and Fishbein, 1973). However, Fishbein and his followers persist in continued usage of behavioral intentions as though they were the same or similar to actual behavior. The present does not use behavioral intentions but concerns itself with the prediction of actual conduct in a nonlaboratory situation.

The Fishbein model is also comprised of one general attitude measure and two other variable measures, all of which can be incorporated into the field theoretical approach. The attitude-toward-action ( $A_a$ ) is theoretically known as the "individual's attitude towards performing the behavior in a given situation." The  $A_a$  variable is then a very specific attitude measure that is a component of the social situation factor in the field theoretical model.

Normative beliefs about performing the behavior (NB), from Ajzen and Fishbein (1973), indicate that NB is specifically social situation bound and therefore is a component measure of the social situational factor. The motivation to comply with the perceived norms (MC) is a general component of the personal frame of reference factor, as discussed in Ajzen and Fishbein (1973).

### The Major Components of the Three Models

The principal components of the DeFleur, Rokeach, and Fishbein models of behavior prediction fall into two categories. First is that of attitude measures. All three models have at least one attitude measure, the DeFleur model employing one attitude, the Rokeach model using two attitudes ( $A_o$  and  $A_s$ ), and the Fishbein model utilizing one attitude ( $A_a$ ). The second major category is concerned with other variables as predictors. The DeFleur model uses a perceived reference group position (RG), while the Fishbein model relies upon motivation to comply (MC) and normative beliefs (NB).

These variables (components) can be categorized as part of either the personal frame of reference or social situational factors. The DeFleur model has one attitude measure that can be separated into two distinct attitude sub-measures. One concerns attitudes that are very general (GA) while the other measures attitudes that are more situationally specific (SA). The general attitudes (GA) can be classified as part of the personal frame of reference factor and the situational attitudes (SA) are part of the social situational factor. DeFleur's perceived reference group position can be classified as part of the personal factor. The Rokeach model, theoretically, employs one attitude measure into each of the two factors,  $A_s$  in the social situation factor and  $A_o$  in the personal frame of reference factor. The Fishbein model theoretically positions the  $A_a$  measure in the social situation. Fishbein's MC is an indicator of the situational factor.

Field theory has the ability to organize known facts into a logical framework for understanding behavior. The three models, juxtaposed in the above discussion, can be reorganized into a single approach utilizing the important component variables from each as the principle indicators of

new field theoretical model.<sup>1</sup> This model is discussed in detail in the next chapter.

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<sup>1</sup>Alwin and Otto (1974) also believe that these same components can be gathered together into a more general model, except their version does not attempt to separate the components theoretically. Rather, it simply adds these variables into a larger model (see also Kelman, 1974 for a similar additive model).

It is possible to integrate these distinct features into a general model for estimating the attitudinal and non-attitudinal determinants of behavioral responses. Such a model is useful not only as a succinct summary of the current state of knowledge but also as a basis upon which future research can build (Alwin and Otto, 1974:11).

## CHAPTER 4

## THE COMPOSITE MODEL

It is now necessary to set forth formally the nature of the field theoretical approach of the present study. There is also a need to discuss the operational form for each variable. Finally, the hypotheses concerning each variable, factor, and the total model need to be discussed in a formal sense.

Major Components of the Model

The previous discussion of the field theoretical approach requires clarification. In order to do this it is necessary to propose a composite model, based upon field theory but which will draw components from the three formulations discussed in Chapter 2. In its simplest form, this model states that behavior in a given specific situation ( $B_{OS}$ ) is a function of two interacting factors. The first factor is the personal frame of reference (P). The second factor is the social situation (S).

$$B_{OS} = f(P, S) \quad (1)$$

The similarity between this formulation and Lewin's notion of P (personal) and E (environmental) is intended. The P in the present formulation means the personal frame of reference that an individual maintains about certain objects or issues. The S means the perceptions about the immediate or future social situation.

The discussion in the previous chapter has brought out the fact that this field theoretical approach to predicting behavior from attitudes and

other variables relies extensively upon the idea of theoretical and statistical interaction. In most cases, such statistical interaction involves the simplest form (additive interaction), rather than more complex types. Most important is that the field theoretical approach reminds the researcher to build interactive terms into the statistical design, such that interactive results will be expected and can therefore be evaluated in light of the theoretical assumptions.

#### A General Field Linear Model

The composite model defined in equation (1) implies several linear models that need to be described prior to statistical analysis. These models will be analyzed in a later chapter. However, their description at this point will allow an understanding of the progressive construction of the composite model and the meanings that are linked to each of the terms utilized in the model that will be tested with empirical data.

The most general linear model that expresses the personal frame of reference factor may be written as follows:

$$P = w_1 p_1, w_2 p_2, \dots, w_n p_n \quad (2)$$

A parallel form for the social situation factor would be:

$$S = w_{n+1} s_1, w_{n+2} s_2, \dots, w_{n+m} s_m \quad (3)$$

where:

P = personal frame of reference factor

S = social situation factor

Thus, the general field theoretical model from equation (1) can be expressed as:

$$B_{os} = W_1 (w_1 p_1, w_2 p_2, \dots, w_n p_n), W_2 (w_{n+1} s_1, w_{n+2} s_2, \dots, w_{n+m} s_m) \quad (4)$$

where:

$B_{os}$  = behavior in a given specific situation

$s_1$  to  $s_m$  = the variables that are components of the social situation

$p_1$  to  $p_n$  = the variables that are components of the personal frame of reference

$W_1$  and  $W_2$  = weights for the component variables in combination (factor)

$w_1$  to  $w_{n+m}$  = weights for the component variables

It should be noted that the linear model specified above in (4) does not indicate the number of variables that could or should be included as components of the two factors nor does it specify the statistical relationships between the independent variables or their combinations (factors). The exact nature of these relationships and the particular component variables employed in the composite model will be specified next.

#### Composite Model Specification

The specific composite model that is employed in the present study has a finite number of variables in the two factors and an additive type of interaction for the total model.

The composite model may be written as follows:

$$B_{os} = W_1 (w_1 p_1 + w_2 p_2 + w_3 p_3) + W_2 (w_4 s_1 + w_5 s_2 + w_6 s_3 + w_7 s_4 + w_8 s_5) \quad (5)$$

The personal frame of reference factor is composed of:

$$P = W_1 (w_1 p_1 + w_2 p_2 + w_3 p_3) \quad (6)$$

where:

$P$  = personal frame of reference factor

$W_1$  = weight for the factor

$w_1$  to  $w_3$  = weights for the independent variables

$p_1$  to  $p_3$  = the independent (component) variables comprising the factor

The social situation factor is composed of:

$$S = W_2 ( w_4 s_1 + w_5 s_2 + w_6 s_3 + w_7 s_4 + w_8 s_5 ) \quad (7)$$

where:

S = social situation factor

$W_2$  = weight for the factor

$w_4$  to  $w_8$  = weights for the independent variables

$s_1$  to  $s_5$  = the independent (component) variables comprising this factor

The independent variables comprising each factor will now be discussed with specific reference to where each item (or composites) can be located in the experimental questionnaire (Appendix A).

#### Personal Frame of Reference Variables

Three independent variables comprise the personal frame of reference factor. The first ( $p_1$ ) is a very general attitude toward an issue, topic, or object. It is comparable to the  $A_0$  variable from the research of Rokeach and Kliejunas (1972). In the present research it is an attitude toward participation in the American democratic process. It is measured by item I (Appendix A).

The second variable ( $p_2$ ) is a composite attitude somewhat less general than  $p_1$ . It is an attitude toward an issue, topic, or object that is comparable to the general attitudes (GA), as used by Acock (1971) and Acock and DeFleur (1972). In the present study it is an attitude toward participating in the election process as part of American democracy. The items that measure this variable are G, J, O, Q, S, U, W and Y (Appendix A).

The third and last variable included in the personal factor is  $p_3$ . This is a general motivational variable that is similar to the motivation to comply (MC) as used by Ajzen and Fishbein (1973). In the present research

it is the motivation to comply with the expectations of significant reference groups. Item C (last page of the experimental questionnaire, Appendix A) measures this variable.

### Social Situation Variables

Five independent variables comprise the social situation factor. The first variable ( $s_1$ ) is a very general attitude toward an object, topic, or issue in a general situation. It is similar to the  $A_s$  variable from the research of Rokeach and Kliejunas (1972). In the present research it is an attitude toward voting in state and local elections and is measured by Item L (Appendix A).

The second variable is a less general attitude toward the situation surrounding the topic, issue, or object. This item is similar to the situational attitudes (SA) that form part of the composite attitude measure employed by Acock (1971) and Acock and DeFleur (1972). In the present research it is measured by two items that are concerned with state and local elections (Items N and X, Appendix A).

The third situational factor variable ( $s_3$ ) is the most specific measure in the questionnaire. This item is an attitude concerning specific behavior in a given situation. It is comparable to the  $A_a$  variable from the work of Ajzen and Fishbein (1973). In the present research it is an attitude toward voting in the forthcoming election and is measured by Item C (Appendix A).

The fourth situational factor variable ( $s_4$ ) is the perceived reference group position regarding a very general issue, topic, or object. This is similar to the perceived reference group position (RG) from the research of Acock and DeFleur (1972). In the present study this item is the perceived

position of significant reference groups concerning taking part in the American democratic process. This variable is measured by Item A, last page of the experimental questionnaire (Appendix A).

The last situational factor variable ( $s_5$ ) is the beliefs concerning the norms about a particular situation from the significant reference groups. This variable parallels the concept of normative beliefs (NB) as utilized by Ajzen and Fishbein (1973). In the present research it is measured by the perceived beliefs concerning the normative expectations of significant others regarding voting in the forthcoming election. This variable is found in Item B, last page of the experimental questionnaire (Appendix A).

In summary, the variables for this composite field theoretical model parallel those used in previous studies. Three variables are components of the personal frame of reference factor:  $A_o$  (attitude-toward-object); GA (less general attitude toward object); and MC (motivation to comply). Five variables are components of the situational factor:  $A_s$  (attitude-toward-situation); SA (less general attitude toward situation);  $A_a$  (specific attitude toward action); RG (perceived reference group position); and NB (normative beliefs). The interaction between variables and between factors is assumed to be additive (see equation 5 and Chapter 6 on statistical design).

#### Presentation of Hypotheses

The hypotheses presented below rest upon three broad assumptions. First, the field theoretical approach, and more specifically the composite model expressed in equation (5), is applicable to the prediction of behavior. Second, the composite model has not masked the unique properties of each source model or of their component parts. Third, the way that the variables were operationalized did not grossly misrepresent or distort any of the

unique features of the variables or their source models. With these assumptions in mind, it is now possible to present the hypotheses in formal terms.

The hypotheses are stated at a general level. All the hypotheses are to be evaluated in terms of correlation coefficients or the coefficient of determination ( $R^2$ ). The dependent variable is voting in a state election.

The hypotheses for the present study are as follows:

Hypothesis 1. The independent variables will explain some portion of the variation in the dependent variable.

Hypothesis 2. The additive interaction (configuration) of the personal frame of reference variables as a predictor of behavior will have an  $R^2$  value greater than any of the variables alone.

Hypothesis 3. The additive interaction (configuration) of the social situation variables as a predictor of behavior will have an  $R^2$  value greater than any of the variables alone.

Hypothesis 4. The additive interaction (configuration) of the personal frame of reference and social situation variables combined as a predictor of behavior will have an  $R^2$  value greater than any of the variables or factors alone.

## CHAPTER 5

## METHODOLOGY

The specific social setting for testing the hypotheses was an election held on a statewide level in November 1974. The subjects were undergraduate students at a small state college in Oregon. These subjects made decisions regarding registration and voting without the experimenter interfering. Data on the independent variables were collected two weeks prior to the election. Experimental and control groups were employed to find out whether the data questionnaires caused any increase in voting. The respondents' voting behavior (the dependent variable) was measured after the election via two different (and overlapping) techniques: official records and self-report. The data collected from the experimental group (attitudes, other variables, and voting behavior) were then used to test the hypotheses concerning the composite model. All of these steps will be explained in greater detail in the following sections. Figure 1 presents schematically the various data-gathering procedures, analyses, and their sequences.

Behavioral Measures

As the names of the respondents were known, the measurement of the voting behavior from official records was relatively simple. The county election clerk's office in nearby Oregon counties had available for public inspection the registration lists of people registered to vote in the November election. These lists also contained information regarding whether or not the registered person voted (either in person or absentee). This behavior

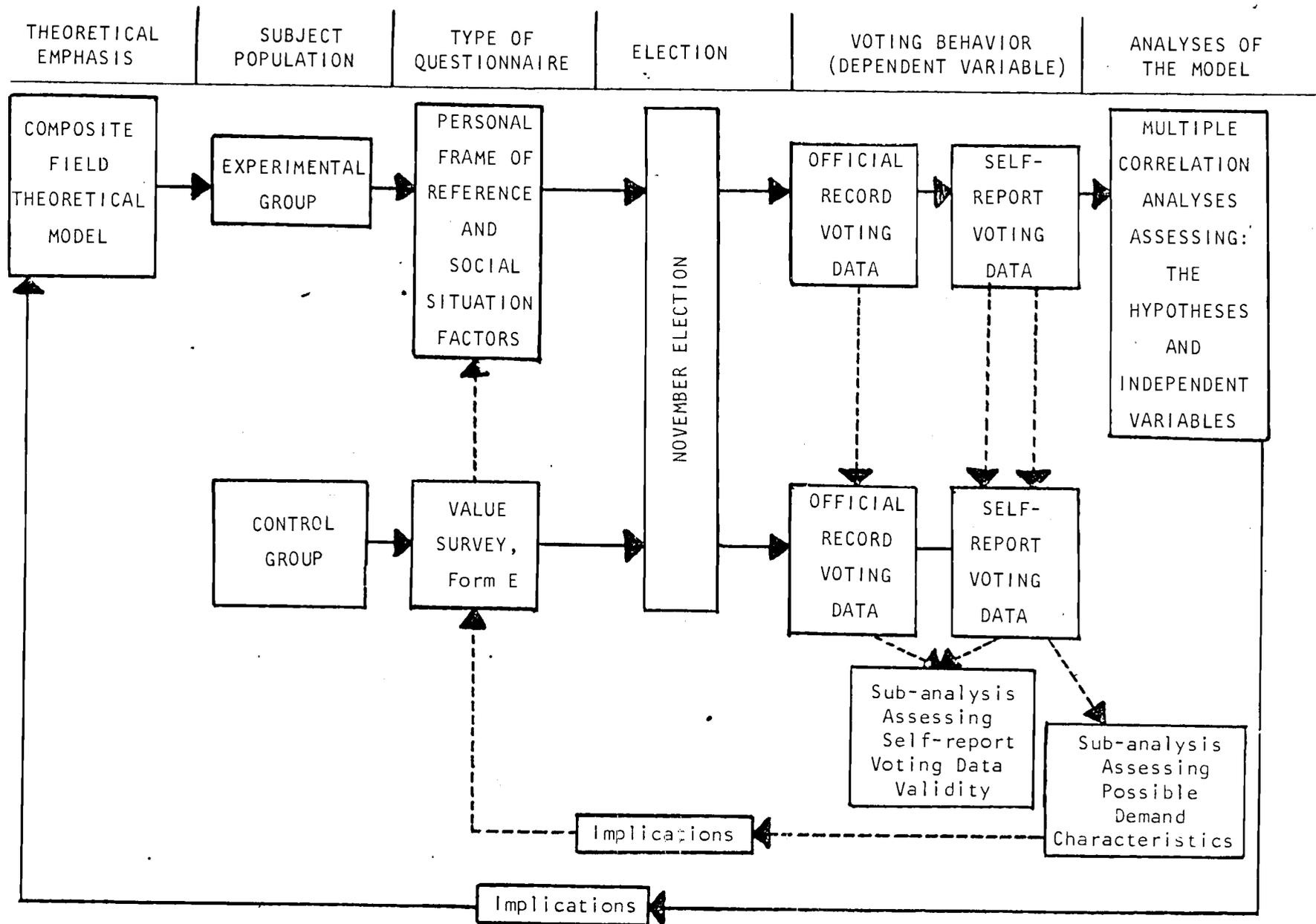


Figure 1. Procedure Diagram of the Voting Behavior Study

was measured some three to four months after the November election. The unobtrusive measurement of the subjects' actual voting behavior reduced to near zero the possibility of experimenter and instrument demand characteristics for the officially recorded behavior.

The addresses of the subjects were made available to the researcher, making it possible to employ a self-report measure of voting behavior. The self-report instruments (see Appendix D) were mailed to all subjects. Three waves of mailouts were employed. The first wave was comprised of a cover letter, a research report, and a self-report instrument (see Appendices C and D). The second and third waves had different cover letters and the same self-report instrument, but did not include the research report. There were possible demand characteristics because of the research report, however, no information was given as to their own individual responses nearly seven months prior. All the subjects received the self-report measure enabling the researcher to assess the validity of this measure as compared to the official record data.

#### Assessing Variables for the Experimental Questionnaire

The experimental group received a questionnaire (Appendix A) that was comprised of the independent variables and some "filler" questions. Variable  $A_o$  (attitude-toward-object) is found in Item I; variable GA (less general attitude) is found in Items G, H, O, Q, S, U, W and Y; variable MC (motivation to comply) is found in Item C, last page; variable  $A_s$  (attitude-toward-situation) is found in Item L; variable SA (less general situational attitude) is found in Items N and X; variable  $A_a$  (attitude-toward-action) is found in Item C; variable RG (perceived reference group position) is found in Item A, last page; and the last variable, NB (normative belief), is

found in Item B, last page. The other attitude items are "filler" questions and are located in Items A, B, D, E, F, H, K, M, P, R, T, V and Z. The filler questions were not used in data analysis.

The experimental questionnaire (Appendix A) included a cover page that mentioned where the researcher was from and how to contact him. General information was given about the voluntary nature of the subject's participation and the confidentiality that would be adhered to by the researcher. The second page consisted of background information, such as: name, student number, sex, place of residence, date of birth, race, party of registration, self-identification with political parties and interest level in Oregon politics. The next two pages consisted of 26 Likert scaled attitude items. The following page consisted of a scale for self-ranking of 12 salient reference groups. The last page provided assessments of motivation to comply (MC), normative beliefs (NB) and perceived reference group position (RG), utilizing the top five self-ranked reference groups.

The 26 Likert scaled attitude items included the attitude variables parallel to those used in the research by DeFleur, Rokeach, Fishbein and associates. A Likert scaling technique was used by Acock and DeFleur (1972) and it is similar to the Rokeach and Kliejunas (1972) technique. Fishbein and Ajzen (1974) maintain that it is a somewhat better technique than the semantic differential, which they have previously employed. The Likert scaling technique has been tested against other common scaling methods (Thurstone, Guttman, semantic differential) and has been found to have slightly better qualities in respect to behavior prediction (Tittle and Hill, 1967; Kamenetsky, Burgess, and Rowan, 1956; and Fishbein and Ajzen, 1974). The Likert scaling method, as used or implied by the above attitude researchers

and by comparison with other techniques with superior results, therefore, was employed as the attitude measurement method for the experimental questionnaire.

The other variable measures (PG, NB and MC), as employed by DeFleur and Fishbein have used Likert type scaling in their operationalizations. This Likert type scaling was maintained in order to ensure comparability with prior models and to minimize confusion in the questionnaire. DeFleur's measurements of perceived reference position about the marijuana issue was based on Likert scales (see Acock, 1971 and Acock and DeFleur, 1972). Fishbein's assessments of normative beliefs and motivation to comply also employed Likert scales (see Ajzen, 1972 and Fishbein, 1967). The scale was relatively easy to score, code and manipulate statistically. It gave interval level data making it amenable to interval level statistical designs.

#### Control Group

A control sample was used to elicit information about a topic which was not concerned with the election and voting. This control sample was employed to check possible demand characteristics coming from the experimental questionnaire (Tsukashima, 1974; Ajzen, 1971). The potential problem was that questions about the forthcoming election that were posed for the experimental group might cause an increase in voting that would not occur in the control group. While this would not invalidate comparisons of subgroups with varying attitudes or other factors in the experimental group, it would tend to make interpretations about the influence of the independent variables on the dependent variable more difficult. This would be because the influence of the questionnaire would have been introduced as an additional

independent or intervening variable with potentially unequal effects on various clusters of the independent variables under study.

A randomization technique (within the population) was employed for those subjects who received an experimental or control questionnaire. Approximately one-fourth of the students received a control survey. A within group randomization technique was used to ensure that all subjects received the same instructions. This technique minimizes differential demand characteristics potentially caused by the experimenter presenting different instructions to two physically separate groups. Therefore, the results can be interpreted clearly, as the two groups should not differ significantly from one another as to their propensity towards actual voting behavior. Should they have differed significantly, the experimental questionnaire would have been examined closely in order to investigate the exact nature of the demand characteristics.

The final form of the control questionnaire (Appendix B) consisted of the same first two pages of the experimental survey. The following two pages contained the Rokeach Value Survey, form E. This Survey asks respondents to rank order two lists of 18 values. Presumably, taking the Value Survey would not provide stimuli or motivation toward voting. However, the control group did respond to a questionnaire of some complexity. It is the act of responding to a questionnaire that is at issue as a possible demand characteristic of the experimental situation. As it turned out, almost identical proportions of the control group and experimental group did not vote. Thus, responding to a questionnaire did not differentially stimulate voting. Nor, did the focus of the experimental questionnaire on issues related to voting differentially stimulate voting.

## CHAPTER 6

## STATISTICAL DESIGN

The theoretical approach of the present study clearly indicates a need for a multivariate technique. Such a technique must allow for the analysis of the independent variables both singly and together. It must allow the unique aspects of each independent variable to be analyzed in light of the more complicated model. As several of the hypotheses call for interaction, or configuration analysis, the technique must also have the capability to perform such procedures.

The General Linear Model

The statistical design of the linear model has the capabilities mentioned above (Namboodire, et al., 1975; Blalock, 1972; and Acock, 1971). It is the most appropriate type of analysis to be used on this project, although others are used where appropriate. However, certain assumptions of the linear model present problems for the statistical design and subsequent analysis. The most problematic of these assumptions will be discussed briefly below.

The principal problematic assumption for the use of the linear model is that the data have interval or ratio characteristics. The independent variables are Likert scaled which yield interval data when transformed. The dependent variable is clearly nominal (but binary) and the betas can be interpreted as conditional probabilities rather than slopes (cf. Neter and

Maynes, 1970; Warner, 1963; Gray and Warner, 1971; Acock, 1971; Blalock, 1972; Draper and Smith, 1966; Namboodiri, et al., 1975).

Several procedures can be employed for the transformation of the data into interval or ratio characteristics (the following section discusses the procedures employed herein). Therefore, the interval or ratio level assumption has been fulfilled and the linear model can be employed to test the composite model.

#### Data Transformation Procedures

Several types of data transformation procedures are utilized in the present analysis. Four transformations (mean, median, quartile and continuous) are used for the independent variables. These changes make it possible to utilize the data in various multivariate analyses that fulfill the requirements of the general linear model.

Four different types of transformations are utilized for the independent variables. Three of these methods treat the values of the independent variables as "dummy" data where the sum of the scores are coded as present or not present (0 or 1). These three methods involve summing the variable scores for each person and then using a mean, median, or quartile range to distinguish between the attribute as being present or not present. The fourth transformation takes the unique aspects of each individual's summated score for the variable and treats this score as a continuous variable. This latter method will "lose" the least amount of data, as compared to the other transformations.

As each of these four independent variable transformations are quite different, four separate multivariate solutions will be shown for the hypotheses under test. The first solution, using the first and fourth

quartiles, is similar to the Acock (1971) multiple regression technique. The second solution, using the median split, is similar to the Rokeach and Kliejunas (1972) and Acock and DeFleur (1972) multiple regression techniques. The third solution, using the mean split, is expected to have results very close to that of the median split as the medians and means are quite close for these variables. The fourth solution, using the continuous scores, is expected to give a high  $R^2$  solution as no information is collapsed or left out as in the other solutions.

The independent variable transformation procedures rely upon the assumption that one total score can be given for each person depending upon the unique ranking of each independent variable. A problem arises in that each of the independent variables is comprised of several items, each with a different score. A single composite score is needed for each independent variable in this analysis and will be obtained in the following manner: every item that comprises the independent variables can be considered (after correcting for positive direction on those items that have negative scores for positive attitude) to have a score of one to five. These scores can be summated to give a composite score, although technically ordinal items cannot be added. The composite scores are used as the values for the independent variables under study and can be employed, through the various transformations noted earlier, in the linear model.

### Multiple Regression Analysis

The beginning of this chapter mentioned that an appropriate linear statistical procedure for the present analyses has to have several capabilities. First, the technique should account for the independent nature of the variables. Second, this technique should be able to handle the additive

nature of the variables. Third, it should also allow for interaction terms. Finally, the technique should consider clusters of multiple indicator variables. The multiple-partial technique has such capabilities (Blalock, 1972; Namboodiri, et al., 1975). This statistical procedure gives the independent variables and clusters of such variables an opportunity to show their separate and combined uniqueness for each of the hypotheses under test. The multiple-partial procedure has the advantages of multiple correlation and partial correlation with the added capability of considering clusters of independent variables.

The multiple-partial procedure allows the additive and interaction properties of the independent variables and clusters of such variables to be evaluated separately and in combination. The interaction terms in the equations need to be specified in advance, as numerous interactions are possible, but only one is theoretically important for the field theoretical approach at this stage of development.

The full and restricted models are used to test whether a variable, variables, or clusters are related to the dependent variable. Essentially the full model specifies that all the variables will be given an opportunity to explain the variation in the dependent variable, while the restricted model will use the same variables except for the particular variable, variables, or clusters under test. The restricted model then allows the other variables to explain all the variation in the dependent variable without the effect of the variable under test. The restricted model tests the relationships of various combinations of independent variables against the full model where all the variables and interaction terms are specified. The restricted models for this research are testing the various limits of the

$R^2$  value rather than simply asking whether the variable or variables have different beta weights.

Multiple regression equations are used with the four hypotheses. However, the full and restricted regression models will be employed only for hypotheses 2, 3 and 4. The statistical analysis used in hypothesis 1 is simply the multiple regression of all eight independent variables with the dependent variable (voting). The resulting correlation coefficient matrix comprises the test of this hypothesis. The remaining three hypotheses require selective use of the full and restricted models in order to establish the total effect of each simple interaction cluster upon the dependent variable.

#### Other Statistical Analysis

Comparisons between the experimental and control groups require a separate and different statistical analysis. The two groups were analyzed separately as the experimental versus control group comparison is important for continuation of the project (see discussion below).

This analysis intends to reveal whether certain demand characteristics are present. The hypothesis is that there is no significant difference between the experimental and control groups in relation to their actual voting behavior. Several statistical analyses are appropriate for such comparisons.

The Chi-square test compares the differences between observed and expected cell frequencies. The results of this test can be transposed into a probability of occurrence figure, with the .05 level of significance being considered satisfactory to accept or reject the hypothesis. A somewhat different test that also gives a probability outcome, but utilizes a

comparison between the proportions (percentages) that actually voted, is called the difference of proportions test (Blalock, 1972). This procedure is generally considered to provide a more conservative test of the hypothesis than the Chi-square technique. Should the results of these analyses show any statistically significant differences between the experimental and control groups, then discussion of the differences is necessary.

A proportional reduction of error (PRE) type of analysis between the experimental and control groups, that is not based on significance levels, will be utilized to investigate further the nature of experimental demand characteristics. PRE measures, such as those advocated by Costner (1965), are appropriate for the type of analysis of possible demand characteristics. The PRE measure will yield a result that is similar to the interpretation of the coefficient of determination ( $R^2$ ). This interpretation can be stated as: the proportional reduction of error in the dependent variable (voting) resulting from knowledge of the independent variables (experimental and control groups).

## CHAPTER 7

### RESULTS

#### The Subjects

The subjects for this research are a convenience sample of students who were enrolled Fall term 1974 at Southern Oregon State College in either Sociology or Political Sciences courses. Permissions from the instructors in each class were obtained, with the understanding that all subjects were volunteers and that a debriefing or feedback of information would be provided for all participants.

A total of 417 subjects participated. However, 17 questionnaires had no name or student number, leaving 400 identifiable subjects in the total sample. Since this is not a random sample, generalizations cannot be made to any larger population, only implications back to the composite model.

A total of 402 subjects answered the sex typing question, with exactly 201 males responses and 201 female responses. The race questions had 414 responses with 94.2% of these students being white. Slightly under 25% of the sample were not registered to vote in Oregon. Over 45% were registered Democrats, over 18% were registered Republicans, and about 10% were registered Independents. The largest category of self-identification with political parties was that of Independents (39.8%), followed closely by Democrats (36.7%), trailed by Republicans (14.7%), "don't know" (8.6%) and "other, minor party" (0.2%). Almost 50% were "moderately interested" (34.3%), "very interested" (13.1%), and "not at all interested" (3.4%).

A total of 321 subjects filled out the experimental survey with 96 in the control group. Official registration records produced a total of 184 registered subjects from the total sample, with 150 subjects in the experimental group and 34 in the control group. Of these subjects who were registered, 71.2% ( $N = 131$ ) voted in November.

The self-report behavioral measure (see Appendices C and D) had a total response rate of 90.4%. The response rate was computed by dividing the number of responses mailed back by the total mailed sample ( $N = 372$ ) minus the number ( $N = 27$ ) of unlocatable people (Dillman, 1972). The response rate of the known voting and registration group ( $N = 175$ ) was 91.3%. The response rate of the unknown registration and voting group ( $N = 197$ ) was 89.7%.

Self-report errors, from the known registration ( $N = 10$ ) and voting ( $N = 7$ ) groups were low. Not one person made both registration and voting errors. Registration errors (6.8%) were of only one type: they reported being not registered when they actually were registered. All registration error people reported with missing data or no vote for the self-reporting voting behavior. Voting errors (4.8%) were of two types. Five people (3.5%) self-report voting when they actually did not vote and two people (1.4%) self-report not voting when they actually voted.

As the total voting error by self-report was less than 5% this type of data on voting will be used in conjunction with the official record data for evidence of overt behavior. This increased the total sample for analysis from 184 to 333, as self-reported voting data was available for an additional 149 respondents from the unknown voting group. The experimental and control group became 262 and 71 respectively, as voting data (official and self-report) were available for these groups.

### Hypotheses Under Test

This section is divided into four parts. The first part contains hypothesis 1 and is concerned with the relative contribution of each of the independent variables in explaining some portion of the variation in the dependent variable (voting in a state election). The second part is interested in the second hypothesis concerning the social situation factor. The third part deals with hypothesis 3 concerning the personal frame of reference factor. The last part discusses hypothesis 4 which is the test of the total composite model.

As noted in the previous chapter, the testing of the four hypotheses is accomplished in terms of correlational analysis. These analyses are accompanied by four additional sub-analyses that examine the differences between the four different methodological data transformations mentioned in Chapter 5.

#### Hypothesis 1: The Independent Variables

Hypothesis 1. The independent variables will explain some portion of the variation in the dependent variable.

This hypothesis was analyzed using a multiple regression program. Sub-analyses were also performed on the eight independent variables. The correlation matrix for the quartile data transformation employing all eight variables and the dependent variable (voting) is presented in Table 1. Tables 2, 3 and 4 show the correlation coefficient matrices for the alternative data transformation procedures (continuous, mean and median). Table 3 (mean data transformation) has only seven variables. The variables RG (perceived reference group position) and MC (motivation to comply) have a multicollinearity problem. That is, these two independent variables are

Table 1. Correlation Coefficient Matrix Using Quartile (0,1) Data

Variable	Dependent (Voting)	GA	A <sub>O</sub>	MC	RG	NB	SA	A <sub>a</sub>	A <sub>s</sub>
Dependent (Voting)	1.000	.243	.364	.106	.066	-.100	.312	.675	.448
GA		1.000	.563	.248	-.007	-.152	.682	.513	.426
A <sub>O</sub>			1.000	.152	-.102	.128	.691	.502	.473
MC				1.000	-.357	-.228	.146	.135	.129
RG					1.000	-.260	-.022	.155	.056
NB						1.000	.118	-.154	-.095
SA							1.000	.683	.615
A <sub>a</sub>								1.000	.652
A <sub>s</sub>									1.000

Note: GA = General Attitudes; A<sub>O</sub> = Attitude-toward-object; MC = Motivation to Comply; RG = Perceived Reference Group Position; NB = Normative Beliefs; SA = Social Situational Attitudes; A<sub>a</sub> = Attitude-toward-action; and A<sub>s</sub> = Attitude-toward-situation.

Table 2. Correlation Coefficient Matrix Using Continuous Data

Variable	Dependent (Voting)	GA	A <sub>O</sub>	MC	RG	NB	SA	A <sub>a</sub>	A <sub>s</sub>
Dependent (Voting)	1.000	.227	.284	-.049	.075	.040	.291	.564	.418
GA		1.000	.427	.229	.155	.272	.549	.327	.423
A <sub>O</sub>			1.000	.117	.019	.061	.538	.314	.465
MC				1.000	.871	.952	.067	-.031	.032
RG					1.000	.896	.063	.011	.035
NB						1.000	.095	.001	.029
SA							1.000	.498	.561
A <sub>a</sub>								1.000	.535
A <sub>s</sub>									1.000

Note: GA = General Attitudes; A<sub>O</sub> = Attitude-toward-object; MC = Motivation to Comply; RG = Perceived Reference Group Position; NB = Normative Beliefs; SA = Social Situational Attitudes; A<sub>a</sub> = Attitude-toward-action; and A<sub>s</sub> = Attitude-toward-situation.

Table 3. Correlation Coefficient Matrix Using Mean (0,1) Data

Variable	Dependent (Voting)	GA	A <sub>O</sub>	MC	RG	NB	SA	A <sub>a</sub>	A <sub>s</sub>
Dependent (Voting)	1.000	.183	.253	.005	.035	---	.220	.464	.428
GA		1.000	.255	.101	.133	---	.353	.376	.265
A <sub>O</sub>			1.000	.135	.039	---	.252	.252	.289
MC				1.000	.773	---	.093	.098	.085
RG					1.000	---	.037	.041	.054
NB						1.000	---	---	---
SA							1.000	.473	.379
A <sub>a</sub>								1.000	.501
A <sub>s</sub>									1.000

Note: GA = General Attitudes; A<sub>O</sub> - Attitude-toward-object; MC = Motivation to Comply; RG = Perceived Reference Group Position; NB = Normative Beliefs; SA = Social Situational Attitudes; A<sub>a</sub> = Attitude-toward-action; and A<sub>s</sub> = Attitude-toward-situation.

Table 4. Correlation Coefficient Matrix Using Median (0,1) Data

Variable	Dependent (Voting)	GA	A <sub>o</sub>	MC	RG	NB	SA	A <sub>a</sub>	A <sub>s</sub>
Dependent (Voting)	1.000	.183	.253	.045	.015	-.076	.220	.464	.428
GA		1.000	.255	.103	-.057	.133	.353	.376	.265
A <sub>o</sub>			1.000	.161	.071	.138	.252	.253	.289
MC				1.000	-.288	-.053	.071	.091	.040
RG					1.000	-.248	-.021	.078	.155
NB						1.000	.105	-.032	-.036
SA							1.000	.473	.379
A <sub>a</sub>								1.000	.501
A <sub>s</sub>									1.000

Note: GA = General Attitudes; A<sub>o</sub> = Attitude-toward-object; MC = Motivation to Comply; RG = Perceived Reference Group Position; NB = Normative Beliefs; SA = Social Situational Attitudes; A<sub>a</sub> = Attitude-toward-action; and A<sub>s</sub> = Attitude-toward-situation.

highly or perfectly correlated with each other. The problem was resolved by excluding the NB variable from subsequent analyses with the mean data transformation. This variable also contained the smallest number of cases of all the independent variables under test.

Hypothesis 1 is supported from the data summarized in Table 5. All the independent variables do explain some of the variation in the dependent variable (voting). The amount of explained variation ( $R^2$ ) ranges between 0.0% and 45.6%, depending upon which variable or data transformation is utilized. The quartile transformation yields  $R^2$  values ranging between .004 and .456 depending on the particular variable. Variable  $A_a$  has the highest value (.456) while the other variables are lower ( $A_s = .201$ ;  $A_o = .132$ ;  $SA = .097$ ;  $GA = .060$ ;  $MC = .011$ ;  $NB = .010$ ; and  $RG = .004$ ). The continuous data transformation  $R^2$  values fall between .002 and .318 depending on the independent variable. Variable  $A_a$  has the highest value (.318) while the others are somewhat lower ( $A_s = .175$ ;  $SA = .085$ ;  $A_o = .081$ ;  $GA = .052$ ;  $RG = .006$ ; where  $MC$  and  $NB$  have .002). The mean transformation values are even lower, as they fall between .000 and .215. The highest figure for any of the variables belongs to  $A_a$  (.215), while the other variables are not as high ( $A_s = .183$ ;  $A_o = .064$ ;  $SA = .048$ ;  $GA = .034$ ;  $RG = .001$ ; and  $MC = .000$ ). The median data transformation is identical (in terms of  $R^2$  values), except that  $MC = .002$ ,  $NB = .006$  and  $RG = .000$ .

The eight independent variables all support the hypothesis. Overall the variables concerned with the reference group orientations ( $RG$ ,  $MC$  and  $NB$ ) fared poorly. Generally the attitude variables were much better predictors for this voting behavior, with the most specific attitude ( $A_a$ ) being the best predictor accounting for almost 46% of the variation. The

Table 5. Correlation Coefficients between the Dependent Variable (Voting) and the Independent Variables for Each Data Transformation

Type of Data Transformation	GA	A <sub>O</sub>	MC	RG	NB	SA	A <sub>a</sub>	A <sub>s</sub>
Quartile (0,1)	.244 (N=130)	.364 (N=157)	.106 (N=131)	.066 (N=120)	-.100 (N=106)	.312 (N=189)	.675 (N=246)	.448 (N=233)
Continuous	.227 (N=304)	.284 (N=315)	-.049 (N=213)	.075 (N=246)	.040 (N=180)	.291 (N=314)	.564 (N=316)	.418 (N=316)
Mean (0,1)	.183 (N=304)	.253 (N=315)	.005 (N=213)	.035 (N=246)	---	.220 (N=314)	.464 (N=316)	.428 (N=316)
Median (0,1)	.183 (N=304)	.253 (N=315)	.045 (N=213)	.015 (N=246)	-.076 (N=180)	.220 (N=314)	.464 (N=316)	.428 (N=316)

Note: GA = General Attitudes; A<sub>O</sub> = Attitude-toward-object; MC = Motivation to Comply; RG = Perceived Reference Group Position; NB = Normative Beliefs; SA = Social Situational Attitudes; A<sub>a</sub> = Attitude-toward action; and A<sub>s</sub> = Attitude - toward-situation.

A<sub>a</sub> variable is a better single predictor of voting behavior than all the seven remaining variables combined!

#### Hypotheses Concerned with the Interaction Terms

The three hypotheses relating to the interaction terms were analyzed using a multiple regression program. Sub-analyses were performed involving the four types of data transformation. The hypotheses are as follows:

Hypothesis 2. The additive interaction (configuration) of the personal frame of reference variables as a predictor of behavior will have an  $R^2$  value greater than any of the variables alone.

Hypothesis 3. The additive interaction (configuration) of the social situation variables as a predictor of behavior will have an  $R^2$  value greater than any of the variables alone.

Hypothesis 4. The additive interaction (configuration) of the personal frame of reference and social situation variables combined as a predictor of behavior will have an  $R^2$  value greater than any of the variables or factors alone.

The data used to examine these hypotheses are presented in Tables 6, 7, and 8. The contribution of the independent variables (in terms of  $R^2$ ) can be established from the square of the correlation coefficients found in Table 5 and as reported in the previous section.

Hypothesis 2 is supported from the data found in Table 6. Interaction is present, adding from 3.5 - 6.2% more explained variation than any of the variables individual contribution as shown by their squared regression coefficients. The quartile transformation has the highest  $R^2$  value associated with additive interaction as it explains 13.6% of the variation in overt behavior. The other transformations range between 7.9% and 10.6% explained variation. The contribution of the additive interaction can also be assessed by using the squared correlation coefficients found in Table 5. However, the amount of increase is only 0.4% more than the contribution of the A<sub>o</sub> variable alone.

Table 6. The Overall Multiple Relationships for Hypothesis 2 (The additive interaction [configuration] of the personal frame of reference variables as a predictor of behavior will have an  $R^2$  value greater than any of the variables alone.)

Type of Data Transformation	Multiple R	$R^2$	Variable GA $R^2$	Variable $A_o$ $R^2$	Variable MC $R^2$
Quartile (0,1)	.369	.136	.059	.075	.002
Continuous	.326	.106	.052	.043	.012
Mean (0,1)	.284	.081	.034	.046	.002
Median (0,1)	.281	.079	.034	.046	.000

Note: GA = General Attitudes;  $A_o$  = Attitude-toward-object; and MC = Motivation to Comply.

Table 7. The Overall Multiple Relationships for Hypothesis 3 (The additive interaction [configuration] of the social situational variables as a predictor of behavior will have an R<sup>2</sup> value greater than any of the variables alone.)

Type of Data Transformation	Multiple R	R <sup>2</sup>	Variable A <sub>S</sub> R <sup>2</sup>	Variable RG R <sup>2</sup>	Variable NB R <sup>2</sup>	Variable SA R <sup>2</sup>	Variable A <sub>A</sub> R <sup>2</sup>
Quartile (0,1)	.716	.513	.201	.002	.002	.004	.304
Continuous	.588	.346	.175	.004	.004	.005	.158
Mean (0,1)	.518	.268	.183	.000	---	.004	.081
Median (0,1)	.525	.275	.183	.003	.006	.004	.079

Note: A<sub>S</sub> = Attitude-toward-situation; RG = Perceived Reference Group Position; NB = Normative Beliefs; SA = Social Situational Attitudes; and A<sub>A</sub> = Attitude-toward-action.

Table 8. The Overall Multiple Relationships for Hypothesis 4 (The additive interaction [configuration] of the personal frame of reference and social situation variables combined as a predictor of behavior will have an  $R^2$  value greater than any of the variables or factors alone.)

Type of Data Transformation	Multiple R	$R^2$	Variable GA $R^2$	Variable $A_o$ $R^2$	Variable MC $R^2$	Variable $A_s$ $R^2$	Variable RG $R^2$	Variable NB $R^2$	Variable SA $R^2$	Variable $A_a$ $R^2$
Quartile (0,1)	.732	.536	.003	.027	.001	.201	.008	.005	.002	.290
Continuous	.664	.440	.003	.008	.007	.175	.070	.045	.001	.132
Mean (0,1)	.539	.290	.005	.015	.003	.183	.005	---	.001	.072
Median (0,1)	.540	.292	.005	.015	.000	.183	.003	.012	.001	.072

Note: GA = General Attitudes;  $A_o$  = Attitude-toward-object; MC = Motivation to Comply; RG = Perceived Reference Group Position; NB = Normative Beliefs; SA = Social Situational Attitudes;  $A_a$  = Attitude-toward-action; and  $A_s$  = Attitude-toward-situation.

Hypothesis 3 is supported from the data found in Table 7. The  $R^2$  figures range between .268 and .513. Additive interaction is present yet the increase is different for each of the transformations, adding between 18.7 - 20.9% more explained variation than any of the squared regression coefficients. When compared against the squared correlation coefficients from Table 5, the increase is not as large (5.7 - 6.0%). In both cases the quartile transformation resulted in higher values. Also the  $A_a$  variable is the greatest single contributor to the multiple regression analysis (more than any of the variables alone or in combination).

Hypothesis 4 is supported from the data found in Table 8. The  $R^2$  values are between .190 and .536. Additive interaction is present, adding from 10.7 - 26.5% more explained variation than the highest of the squared regression coefficients. The additive interaction increase is not as high when compared against the squared correlation coefficients derived from Table 5 (7.5 - 12.2% more explained variation). However, the largest single predictor variable ( $A_a$ ) contributes 45.6% to the explained variation without the help of the additional independent variables. Also the total model (addition of both factors) contributes only 1.9% more explained variation in the dependent variable than does knowledge of just the social situation factor alone (51.3%). The personal frame of reference factor variables do not seem to increase the prediction of voting behavior significantly for this sample.

In summary, the interaction hypotheses are supported by the data but the relative increases over knowledge of one or two variables ( $A_a$  and  $A_s$ ) or the social situation factor are quite small. The gain in explained variation is statistically interesting but it also poses some interesting questions

regarding the assumed interactions between the variables. These problems will be discussed in the following chapter.

#### Experimental and Control Groups

Table 9 presents the results of the differences between the experimental and control groups in regard to official and self-reported voting behavior. The Chi Square test gives a result of .211, which is a probability value of .60, with one degree of freedom. The more conservative test of proportions results in a probability value of .32. These significance tests give probability values that would not support the contention that the two groups are different.

Two proportional reduction in error (PRE) tests were utilized. Yules Q resulted in a value of .064, which can be interpreted as meaning 6.4% of the variation in voting behavior is explained by knowledge of the experimental and control groups. Phi  $\phi^2$  resulted in a value of .001, which can be interpreted as meaning that .1% of the variation in voting behavior is explained by knowledge of the experimental and control groups.

The conclusion from both the significance and PRE measures is that the questionnaires did not have an effect upon voting behavior. The experimental and control groups are closely matched for the proportions in each groups that voted (.490 and .522 respectively).

Table 9. Voting Behavior by Experimental and Control Groups

Overt Behavior	Group		Total
	Control	Experimental	
Voting	35	128	163
Nonvoting	32	133	165
Total	67	261	328

Note: Chi square  $\chi^2 = .211$  with 1 d.f. =  $p = .60$

Phi  $\phi^2 = .001$

Yules  $Q = .064$

Test of proportions = .323

## CHAPTER 8

## DISCUSSION

The results of analyses reported in the previous chapter indicate various amount of support for the composite model derived from empirical studies using the field theoretical approach. Each of the eight variables explained some variation in overt behavior, although the amounts differ considerably. The composite model was given tentative support due to reasons that will be discussed later. Finally, the four data transformations have differential impact upon subsequent analyses and interpretation. Discussion of these results follows, along with implications for further research.

Individual Variables

Each of the eight variables explain some of the variation in the dependent variable. The amounts range from near zero to a high of 45.6%. The variables that explain the least amount of variation are: RG (DeFleur's perceived reference group position) with a maximum of 0.6%, MC (Fishbein's motivation to comply) with a maximum of 1.1%, and NB (Fishbein's normative beliefs) with a maximum of 1.0%. The results suggest that these variables, by themselves, are very poor predictors of voting behavior in this particular setting of action. These three variables did not contribute greatly to the understanding of patterns of overt behavior for this sample.

Four variables were somewhat better predictors than those listed above. Variable GA (DeFleur's general attitudes) explains a maximum of 6.0% of the variation;  $A_o$  (Rokeach's attitude-toward-object) explains a maximum

of 13.2%; SA (DeFleur's social situational attitudes) explains a maximum of 9.7%; and  $A_s$  (Rokeach's attitude-toward-situation) explains a maximum of 20.1%. The results suggest that  $A_o$  and  $A_s$  are rather good predictors of voting behavior as compared to the usual upper limit of 10% found by Wicker (1969).

One variable ( $A_a$ ) explains a maximum of 45.6% of the variation in voting behavior. This amount far exceeds the 10% that Wicker (1969) reported as the usual upper limit in his review of the attitude literature. The  $A_a$  variable corresponds to Fishbein's attitude-toward-action. This item was especially salient in this behavioral setting and indicates that it is the best single predictor of voting behavior. Obviously, the attitude-toward-action contributed greatly to the composite model presented in this project.

In view of prior research, explaining more than 45% of the variation with a single attitude scale item seems unusually high. One explanation of the power of this item is that it not only expresses a very strong and positive attitudinal position, but it could also be considered as a statement of behavioral intention. It was noted earlier (Chapter 3) that Fishbein and his associates have used behavioral intentions as a dependent variable to be predicted by attitudes and other variables. They assume that behavioral intentions (BI) and behavior are highly correlated. Empirical evidence, as noted earlier, shows correlations between behavioral intentions and behavior to range from .211 to .970 in various experiments. While in the present study, item C is used as an independent variable, and as an indicator of attitude toward action ( $A_a$ ), it could also have a behavioral intention interpretation as it considers future behavior within a specific situation.

If this alternative interpretation is given to the unusual predictive power of this particular item (question C in Appendix A), the general

conclusions of this study would have to be modified. The model with the  $A_a$  removed would be less predictive in general than it is at present. The correlation coefficients for the remaining variables with the behavior (Tables 1, 2, 3, 4, and 5) would not be changed. However, the regression coefficients, multiple correlation coefficients, and the coefficients of determination ( $R^2$ ) in Tables 6, 7, and 8 would be altered. The regression coefficients for the remaining variables would generally increase. The multiple correlation coefficients and the  $R^2$  values would be reduced. Thus, the model would account for less of the variation in voting behavior than the present model indicates.

However, the above interpretation has not been adopted in this dissertation. The grounds for rejecting the alternative interpretation are that item C, although it is in the form of a statement regarding future behavior in a specific setting, has been used in the present research as a basis for inferring attitudinal position toward voting behavior. This corresponds to the definition of  $A_a$  as used by Fishbein and Ajzen (1973):

Act is the person's attitude toward performing a particular act in a given situation with respect to a given object and not his attitude toward the object or class of objects per se. Thus, as was the case with behavioral intentions, the attitude toward an act deals with the specific behavior that is to be predicted (p.42).

#### Statistical Interaction Terms

Three additive statistical interaction terms comprise the strategy for analyzing the interaction assumptions. The personal frame of reference factor variables explained a maximum of 13.6% of the variation in voting behavior. The social situation factor variables explained a maximum of 51.3% of the variation in voting behavior. The total model comprised of both factors (all eight variables) explained a maximum of 53.6% of the variation in voting behavior.

The personal frame of reference factor explained the least variation in the dependent variable. This factor explained about 6.1% more than Rokeach's attitude-toward-object ( $A_o$ ) item. Thus, the additive interaction among the personal frame of reference factor variables does appreciably increase the explained variation beyond the contribution any of the variables taken separately.

The social situation interaction factor explained up to 51.3% of the variation in voting behavior. In other words, the social situation factor has an  $R^2$  value about 5.7% higher than the Fishbein attitude-toward-action ( $A_a$ ) variable. Thus, the additive interaction of the social situation factor variables also increases the explained variation above the contribution of the  $A_a$  item alone.

The total model, with all eight variables (both factors) explained 53.6% of the variation at the maximum. This additive interaction effect is slightly higher (8.0%) than the contributions of the attitude-toward-action variable alone. Thus, there is an additive interaction occurring between the variables and factors but it is smallest among factors (2.3%).

The results of the interaction models suggest social situational variables are more important than the personal frame of reference variables in this behavioral setting. The results question the interaction assumption that is basic to the composite model. The most elementary type of interaction (additive) was shown to exist in this research, yet not in very important quantities. Any other type of interaction (multiplicative, logarithmic, or exponential) has not and was not assumed from the theoretical framework. Thus to search for such complex types of interaction would be a statistical exercise rather than one based on theoretical necessity (there are at least  $8!$  or 40,320 possible interactions). The nonspecification of the type of interaction is a limiting feature of the configuration approach.

### Data Transformation

Four data transformations, as discussed in Chapter 6, were employed with the data analysis. The differences between the solutions to the multiple regression equations are apparent when examining the tables. The previous section mentioned the maximum  $R^2$  solutions. These results were obtained from the quartile analyses. The other three transformations (continuous, mean, and median) resulted in solutions that are considerably lower.

The quartile (0,1) dummy variable analyses resulted in correlation coefficients ( $r$ ) and coefficients of determination ( $R^2$ ) that are substantially higher than the other data transformations. The continuous transformation gave the second highest. The mean (0,1) and median (0,1) transformations resulted in lower  $r$  and  $R^2$  solutions than either quartile or continuous transformations. Many of the analyses, using median and mean, were the same as the median and mean were in the same rank (thus resulting in the same solutions).

The differences in results when using any one of the transformations as opposed to another is apparent. The quartile type will result in higher  $r$  and  $R^2$  values, but the advantage is lost because of the smaller sample size and the loss of valuable data in the middle quartiles. The quartile transformation has an advantage in seeking any relationships, however, it excludes the middle quartiles (and consequently reduces the sample size) where subtleties between subjects exist. Therefore, the use of the first and fourth quartiles should be used sparingly and only as an investigative technique rather than a definitive proof.

The continuous type offers the most complete and comprehensive use of the data. The resulting values of  $r$  and  $R^2$  approach those of the quartile transformation. The added advantages are that neither a reduction of sample size nor dummy variable analysis are necessary. The procedure is obviously the preferred technique for model or theory testing.

The median (0,1) and mean (0,1) transformations have resulted in the lowest  $r$  and  $R^2$  values. These procedures retain the full sample size but they have the disadvantage of the dummy (0,1) analysis. The dummy variable analysis requires that any subtle characteristics of central and extreme responses be transformed into either-or (0,1) categories. Therefore valuable information is lost in these transformation techniques. The results of lower solutions are obvious when comparing the different tables presented herein.

Depending upon which of the data transformation procedures utilized, the problem of multicollinearity is apparent in two of the data transformations: continuous (Table 2) and mean (Table 3). The continuous transformation has three high intercorrelations between the reference group items (RG-MC = .871; NB-MC = .952; and NB-RG = .896). The mean transformation also has one high intercorrelation (1.000) between the NB-RG variables. These high intercorrelations between the independent variables indicate that multicollinearity may be present. The multicollinearity problem can only be alleviated by continued refining of the theoretical concepts and subsequent operationalization of the variables coupled with intensive testing.

#### The Interaction Problem

The composite model used in the present research, although relatively successful for predicting behavior, has not shown the same results in the area of statistical interaction as earlier research on the issue of the legalization of marijuana (see Acock and DeFleur, 1972). The assumption of interaction (theoretical and statistical) between various combinations (configurations) of independent variables needs further clarification and study. The exact nature of any statistical interaction to be anticipated in advance of a given behavior will be impossible to explain without an adequate theory. Alwin and Otto (1974) have specified the assumed nature of

the interaction terms, but they too do not have a theory to tell them which type of statistical interaction should or has to be present.

#### Specific Attitudes Versus Reference Groups

Specific attitudes were better predictors of specific behavior than were general attitudes. This result confirms a very old idea and recent reaffirmation by Crespi (1971), Calder and Ross (1973a), and Kelman (1974). As the social situation was more narrowly defined, the attitudinal responses increasingly predicted the subject's behavioral action. However, highly specific attitudes would not be useful for predicting broad classes of behavior. Also, specific attitudes have utility only for specific behaviors and are not transituational. Therefore, if more than one type of behavior is employed for research, then each behavior should be accompanied by a specific attitude item. Unfortunately, this procedure would enhance predictions but would reduce the utility of the attitude concept as a parsimonious variable.

Reference group variables, in this research setting, were very poor predictors of voting behavior. These results suggest that attitudes of individuals may be more important in the study of voting than perceptions of reference group support, beliefs, or motivations to comply to their wishes. This is not the same as stating that other variables have no influence on voting. but rather the particular other variables employed in this study were very poor predictors of this form of behavior. It remains for future research to implicate the degree of salience of these other variables for different types of behavior.

### Conclusion

Since all of the hypotheses under study were supported, we can conclude that the composite model derived from the approaches of DeFleur, Rokeach, and Fishbein has considerable promise. Also, since the model is based upon field theory assumptions, it has indirectly provided support for this general orientation.

Research of this type usually raises more questions than it answers. This is certainly the case with the present research. The measurement procedures, design, data-gathering, and analyses are not flawless. But in spite of these shortcomings, the present research did yield one important conclusion: attitudes in combination with other variables were successful in predicting a specific behavior in a nonlaboratory setting. The act under study was voting in a real life environment and is one of the more significant forms of behavior in our society.

Multiple correlations with the eight independent variables studied and the act of voting ranged from .540 to .732 depending upon the type of data transformation used. By the standards that usually prevail in behavioral science survey research these are very high coefficients. The information obtained from the control group appears to rule out the conclusion that the survey questionnaire itself stimulated voting. It appears, therefore, that to vote was an act strongly influenced by the personal and situational factors under study.

The question remains, of course, as to the unaccounted variance in voting behavior. Obviously, the composite model has not accounted for all the influences that impinge upon individuals as they decide whether or not to vote. While it may appear cliché to say that "further research is

needed," it is clearly an important conclusion that can be drawn from the present study. Further research is needed to show if the results from this field study are more than mere artifact of errors in procedure or conceptualization.

Expanded or modified versions of the composite model--incorporating better measures and applied to more adequately drawn random samples of people confronting other socially significant forms of action--need to be tested. The prior research of DeFleur, Rokeach, and Fishbein have largely been confined to the laboratory or classroom. The present field study, with an approach derived from all three previous efforts, suggests that this entire line of attitude and other variable research is on the right track. The prediction of significant forms of overt behavior is possible from a finite set of personal and situational variables whether in the laboratory or in a field setting. The notion that attitudes are not capable of predicting action needs serious reexamination, especially in the case of the "attitude toward the act."

There is a possible alternative interpretation of the role of this particular variable in the composite model. Further research will have to consider carefully both theoretical and operational distinctions between such concepts as statements of intention and statements of affective evaluation in the construction of measuring instruments. If these distinctions can be made and further refinements in measurement of attitude-related variables can be achieved, social scientists will be able to make considerably more accurate predictions of behavior.

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APPENDIX A  
EXPERIMENTAL INSTRUMENT

## STUDENT OPINION SURVEY

1974

Dear Friend:

I am turning to you for your cooperation in the first phase of a program investigating the opinions of Southern Oregon College students. I am asking for your assistance in volunteering to take part in this study.

Your responses will remain strictly confidential; under no circumstances will any personal information be used or released to anyone other than myself.

Thank you very much for your cooperation. If you have any questions concerning this study, please feel free to contact me directly.

Gerald W. Williams  
Department of Sociology  
Washington State University  
Pullman, Washington 99163  
(509) 335-2316

BACKGROUND INFORMATION

- A. Name (please print): \_\_\_\_\_
- B. Student Number: \_\_\_\_\_
- C. Sex: \_\_\_\_\_
- D. Place of Residence (city or town): \_\_\_\_\_
- E. Date of Birth: (month) \_\_\_\_\_ (day) \_\_\_\_\_ (year) \_\_\_\_\_
- F. Race:
1. White
  2. Black
  3. Indian
  4. Chicano
  5. Other (please specify): \_\_\_\_\_
- G. Are you registered, for voting purposes, in Oregon, as a:
1. Democrat
  2. Republican
  3. Independent, or no party
  4. Other, minor party
  5. Not registered to vote in Oregon
- H. Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or other?
1. Democrat
  2. Republican
  3. Independent, or no party
  4. Other, minor party
  5. Don't know
- I. In general, how interested are you in Oregon politics and state affairs?
1. Very interested
  2. Moderately interested
  3. Slightly interested
  4. Not at all interested

OPINION SURVEY

DIRECTIONS: Below you will find a number of questions which reflect many social issues. Please answer these questions carefully. Circle the answer closest to how you truly feel.

- SA = Strongly Agree  
 A = Agree  
 N = Neutral or Don't Know  
 D = Disagree  
 SD = Strongly Disagree

- A. In this complicated world of ours the only way we can know what's going on is to rely on leaders SA A N D SD or experts who can be trusted.

- B. I would secretly like to run for high political office someday. SA A N D SD
- C. I will vote in the Oregon statewide election in November. SA A N D SD
- D. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups. SA A N D SD
- E. Allowing 18, 19, and 20 year olds to vote will significantly affect the outcome of future elections. SA A N D SD
- F. The American people are being pushed too hard toward environmental protection, at the expense of American industry. SA A N D SD
- G. The most effective means of changing our government is through voting. SA A N D SD
- H. It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinions of those one respects. SA A N D SD
- I. Participation in the American democratic process, in general, is important to me. SA A N D SD
- J. We should vote in an election even though we do not know all the issues. SA A N D SD
- K. There are times when things get so bad that people have to take the law into their own hands to protect their own way of life. SA A N D SD
- L. Voting is a necessary part of my life, even in state and local elections. SA A N D SD
- M. Watergate is still an important political issue with me. SA A N D SD
- N. State elections have no meaning for me. SA A N D SD
- O. I would cast my ballot for a person who deserved to be elected to office. SA A N D SD
- P. The pardon of Nixon was ill-timed. SA A N D SD
- Q. Elections are stupid. SA A N D SD
- R. Amnesty of war resisters and deserters was a mistake for America. SA A N D SD
- S. All politicians are corrupt and immoral. SA A N D SD
- T. In order to deal effectively with the problem of crime, the police should be allowed to use more force than they are allowed to use now. SA A N D SD
- U. My vote will not count for anything. SA A N D SD

- |  |    |   |   |   |    |
|--|----|---|---|---|----|
| V. The main thing in life is for a person to want to do something important. | SA | A | N | D | SD |
| W. Convicted felons should not have a right to vote.                         | SA | A | N | D | SD |
| X. Local elections have no meaning for me.                                   | SA | A | N | D | SD |
| Y. Voting is a contribution to the American system.                          | SA | A | N | D | SD |
| Z. The use of violence is an effective way to change the American system.    | SA | A | N | D | SD |

The following is a list of groups whose opinions and approval are usually considered important to us. Select the group whose opinion and approval is most important to you and place a "1" beside it. Place a "2" beside the next most important group, and so on. The group who is least important to you should be ranked 12th.

- Family (parents, brothers, sisters, and relatives)
- Friends of the opposite sex
- Friends of the same sex
- Future employers
- Graduate teaching assistants
- Professors
- Religious leaders and religious organizations
- Roommates
- Social organizations (fraternities, sororities, and extracurricular activity groups)
- Students in this class
- Students not in this class
- University staff and administration.

Please check to make sure that you have ranked every group on the list, and that no two groups have been given the same rank. If there is some important group or individual whose evaluation of you concerns you and was not on this list, please identify it on the space below, as you will have to use the ones ranked in the top five on the next page.

DIRECTIONS:

1. From the list of groups on the previous page, place the five (5) most important groups for you (as you ranked them) in the spaces below marked "group name."
2. List the name of these groups in order of importance to you, with the most important in position 1 and the least important in position 5.
3. Now answer the questions above each section by checking the boxes that best express your judgment.

- A. How does each of your five groups feel about people taking part in the American democratic process?

Group Name	Very Favorable	Somewhat Favorable	Neutral or Don't Know	Somewhat Unfavorable	Very Unfavorable
1					
2					
3					
4					
5					

- B. How does each of your five groups feel about you voting in the coming November election in Oregon?

Group Name	Very Favorable	Somewhat Favorable	Neutral or Don't Know	Somewhat Unfavorable	Very Unfavorable
1					
2					
3					
4					
5					

- C. How do you generally feel about doing the things that each of your five groups expects you to do?

Group Name	Very Favorable	Somewhat Favorable	Neutral or Don't Know	Somewhat Unfavorable	Very Unfavorable
1					
2					
3					
4					
5					

APPENDIX B  
CONTROL INSTRUMENT

## STUDENT OPINION SURVEY

1974

Dear Friend:

I am turning to you for your cooperation in the first phase of a program investigating the opinions of Southern Oregon College students. I am asking for your assistance in volunteering to take part in this study.

Your responses will remain strictly confidential; under no circumstances will any personal information be used or released to anyone other than myself.

Thank you very much for your cooperation. If you have any questions concerning this study, please feel free to contact me directly.

Gerald W. Williams  
Department of Sociology  
Washington State University  
Pullman, Washington 99163  
(509) 335-2316

BACKGROUND INFORMATION

- A. Name (please print): \_\_\_\_\_
- B. Student Number: \_\_\_\_\_
- C. Sex: \_\_\_\_\_
- D. Place of Residence (city or town): \_\_\_\_\_
- E. Date of Birth: (month) \_\_\_\_\_ (day) \_\_\_\_\_ (year) \_\_\_\_\_
- F. Race:
1. White
  2. Black
  3. Indian
  4. Chicano
  5. Other (please specify): \_\_\_\_\_
- G. Are you registered, for voting purposes, in Oregon, as a:
1. Democrat
  2. Republican
  3. Independent, or no party
  4. Other, minor party
  5. Not registered to vote in Oregon
- H. Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or other?
1. Democrat
  2. Republican
  3. Independent, or no party
  4. Other, minor party
  5. Don't know
- I. In general, how interested are you in Oregon politics and state affairs?
1. Very interested
  2. Moderately interested
  3. Slightly interested
  4. Not at all interested

VALUE SURVEY

Below is a list of 18 values arranged in alphabetical order. Your task is to arrange them in order of their importance to YOU, as guiding principles in YOUR life.

Study the list carefully. Then place a 1 next to the value which is most important for you; place a 2 next to the value which is second most important for you, and so on. The value which is less important, relative to the others, should be ranked 18.

Work slowly and think carefully. If you change your mind, feel free to change your responses. The end result should truly show how you really feel.

- \_\_\_\_\_ A COMFORTABLE LIFE (a prosperous life)
- \_\_\_\_\_ AN EXCITING LIFE (a stimulating, active life)
- \_\_\_\_\_ A SENSE OF ACCOMPLISHMENT (lasting contribution)
- \_\_\_\_\_ A WORLD AT PEACE (free of war and conflict)
- \_\_\_\_\_ A WORLD OF BEAUTY (beauty of nature and the arts)
- \_\_\_\_\_ EQUALITY (brotherhood, equal opportunity for all)
- \_\_\_\_\_ FAMILY SECURITY (taking care of loved ones)
- \_\_\_\_\_ FREEDOM (independence, free choice)
- \_\_\_\_\_ HAPPINESS (contentedness)
- \_\_\_\_\_ INNER HARMONY (freedom from inner conflict)
- \_\_\_\_\_ MATURE LOVE (sexual and spiritual intimacy)
- \_\_\_\_\_ NATIONAL SECURITY (protection from attack)
- \_\_\_\_\_ PLEASURE (an enjoyable, leisurely life)
- \_\_\_\_\_ SALVATION (saved, eternal life)
- \_\_\_\_\_ SELF-RESPECT (self-esteem)
- \_\_\_\_\_ SOCIAL RECOGNITION (respect, admiration)
- \_\_\_\_\_ TRUE FRIENDSHIP (close companionship)
- \_\_\_\_\_ WISDOM (a mature understanding of life)

Below is another list of 18 values. Rank these in order of importance to you, as guiding principles in your life, in the same way you ranked the list on the preceding page.

- \_\_\_\_\_ AMBITIOUS (hard-working, aspiring)
- \_\_\_\_\_ BROADMINDED (open-minded)
- \_\_\_\_\_ CAPABLE (competent, effective)
- \_\_\_\_\_ CHEERFUL (lighthearted, joyful)
- \_\_\_\_\_ CLEAN (neat, tidy)
- \_\_\_\_\_ COURAGEOUS (standing up for your beliefs)
- \_\_\_\_\_ FORGIVING (willing to pardon others)
- \_\_\_\_\_ HELPFUL (working for the welfare of others)
- \_\_\_\_\_ HONEST (sincere, truthful)
- \_\_\_\_\_ IMAGINATIVE (daring, creative)
- \_\_\_\_\_ INDEPENDENT (self-reliant, self-sufficient)

- \_\_\_\_\_ INTELLECTUAL (intelligent, reflective)
- \_\_\_\_\_ LOGICAL (consistent, rational)
- \_\_\_\_\_ LOVING (affectionate, tender)
- \_\_\_\_\_ OBEDIENT (dutiful, respectful)
- \_\_\_\_\_ POLITE (courteous, well-mannered)
- \_\_\_\_\_ RESPONSIBLE (dependable, reliable)
- \_\_\_\_\_ SELF-CONTROLLED (restrained, self-disciplined)

APPENDIX C

SELF-REPORT COVER LETTERS AND RESEARCH

REPORT MAILED TO SUBJECTS

Washington State University  
Pullman, Washington 99163

Department of Sociology

As you may remember, I was at Southern Oregon College in late October of last year. You volunteered to take part in my dissertation research concerning student opinions, attitudes, and values. The pages that follow summarize the results of the first phase of the study. The results from both studies (attitudes and values) are presented, even though you only filled out one of the survey types.

The second part of this study will need your cooperation for a second and last time. Since the cost of interviewing each of over 400 SOC students would be immense, I am sending a follow-up postcard to a smaller sample of students. You have been chosen in that manner.

Some of your friends may have received similar requests from me, but it is important that you complete the enclosed postcard and drop it in the mail as soon as possible. If everyone sends the postcard back, then the last part of this project will be completed. Remember, you are an important part of this study.

To ensure strict confidentiality of your responses, I ask that you do not put your name anywhere on the postcard. Each postcard has a number on it. This is my own identification number which will protect your identity and responses from anyone else. The information that you supply will be used to compute averages and totals and will not refer to specific individuals.

I would like to thank you for your cooperation in the first part of this research and thank you in advance for returning the postcard. If you have any comments concerning the study, feel free to write me a note or letter and I shall answer your comments immediately.

Sincerely yours,

Gerald W. Williams

P.S. You will probably notice that the totals (on the enclosed summary) may not add to 100.0% or that the number of people in several questions sum to less than the total sample size of 417. This results from rounding error in the case of the percentages and from people not responding to all the questions.

Washington State University  
Pullman, Washington 99163

Social Research Center

As you may know, I am currently conducting the last phase of the 1974-1975 Student Opinion Survey. This is a survey of what Southern Oregon State College students are thinking about a number of issues ranging from politics, violence, values, and groups that are important to you. So far the response has been excellent, but there are still a few people who haven't sent in their postcards yet.

I am using what is called a "multi-mailout self report" technique to encourage everyone to return the postcards. In plain talk, this means that the cooperation of every person in the sample is extremely important. Remember the postcard data, as well as the previous information, is completely confidential and no one else can get access to it.

Since some people have misplaced their postcard, I have enclosed a new copy. I'd really appreciate it if you'd take a minute to fill out the stamped self-addressed postcard and simply drop it in the nearest mailbox.

Again, thank you very much for your cooperation. Remember the number on the postcard is only for my own identification, and cannot be used by anyone else to find out your responses.

Gerald W. Williams  
Project Director

P.S. If you have already mailed in the postcard, please disregard this letter . . . . and thank you.

RESEARCH REPORT

## Sex:

- |           |             |
|-----------|-------------|
| 1. Male   | 201 (50.0%) |
| 2. Female | 201 (50.0%) |

## Race:

- |            |             |
|------------|-------------|
| 1. White   | 390 (94.5%) |
| 2. Black   | 7 ( 1.7%)   |
| 3. Indian  | 3 ( 0.7%)   |
| 4. Chicano | 1 ( 0.2%)   |
| 5. Other   | 10 ( 2.4%)  |

Are you registered, for voting purposes, in Oregon as a:

- |  |             |
|--|-------------|
| 1. Democrat                                | 189 (46.9%) |
| 2. Republican                              | 60 (17.6%)  |
| 3. Independent, or no party,               | 42 (10.4%)  |
| 4. Other, minor party                      | 0 ( 0.0%)   |
| 5. <u>Not</u> registered to vote in Oregon | 101 (25.1%) |

Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or other?

- |                             |             |
|-----------------------------|-------------|
| 1. Democrat                 | 149 (36.7%) |
| 2. Republican               | 60 (14.7%)  |
| 3. Independent, or no party | 162 (39.8%) |
| 4. Other, minor party       | 1 ( 0.2%)   |
| 5. Don't know               | 35 ( 8.6%)  |

In general, how interested are you in Oregon politics and state affairs?

- |                          |             |
|--------------------------|-------------|
| 1. Very interested       | 54 (13.1%)  |
| 2. Moderately interested | 202 (49.2%) |
| 3. Slightly interested   | 141 (34.3%) |
| 4. Not at all interested | 14 ( 3.4%)  |

-----

The rank which precedes the group name, indicates the relative ranking, based on a median (where 50% ranked it higher, and 50% ranked it lower). Sample size equals 320 students.

- |           |  |
|-----------|--|
| <u>1</u>  | Family (parents, brothers, sisters, and relatives)                                   |
| <u>3</u>  | Friends of the opposite sex  |
| <u>2</u>  | Friends of the same sex  |
| <u>6</u>  | Future employers   |
| <u>10</u> | Graduate teaching assistants   |
| <u>5</u>  | Professors   |
| <u>9</u>  | Religious leaders and religious organizations  |
| <u>4</u>  | Roommates  |
| <u>11</u> | Social organizations (fraternities, sororities, and extracurricular activity groups) |
| <u>7</u>  | Students in this class   |
| <u>8</u>  | Students not in this class   |
| <u>12</u> | University staff and administration  |

NOTE: The numbers following each question are the percentages of students that answered in each of the categories. (Rounding error may result in numbers adding to over 100.0%.)

	Strongly Agree	Agree	Neutral or Don't Know	Disagree	Strongly Disagree	Did Not Answer
A. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.	5.0	34.3	14.0	34.3	11.5	0.9
B. I would secretly like to run for high political office someday.	4.7	9.7	23.1	28.4	33.7	0.6
C. I will vote in the Oregon statewide election in November.	42.6	21.8	16.5	9.7	8.1	1.6
D. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.	1.6	13.1	14.7	29.6	39.7	1.6
E. Allowing 18, 19, and 20 year olds to vote will significantly affect the outcome of future elections.	13.1	31.5	23.4	26.5	5.0	0.6
F. The American people are being pushed <u>too hard</u> toward environmental protection at the expense of American industry.	2.5	5.9	10.6	33.7	46.4	0.9
G. The most effective means of changing our government is through voting.	15.9	37.1	17.4	23.1	5.3	1.3
H. It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinions of those one respects.	17.8	50.8	14.0	14.3	1.3	1.8
I. Participation in the American democratic process, in general, is important to me.	16.2	49.2	25.9	5.6	1.3	1.8
J. We should vote in an election even though we do not know all the issues.	3.4	24.9	18.7	35.6	16.8	0.6
K. There are times when things get so bad that people have to take the law into their own hands to protect their own way of life.	6.5	23.7	22.1	31.2	14.6	1.8
L. Voting is a necessary part of my life, even in state and local elections.	11.2	38.3	25.9	20.6	2.5	1.6
M. Watergate is still an important political issue with me.	14.0	28.3	21.2	23.1	12.8	0.6
N. State elections have no meaning for me.	1.9	3.1	15.0	50.8	27.4	1.8
O. I would cast my ballot for a person who deserved to be elected to office.	24.9	44.2	16.2	9.0	2.5	3.1

P. The pardon of Nixon was ill-timed.	32.4	29.0	19.0	12.5	5.6	1.6
Q. Elections are stupid.	0.9	2.8	7.5	36.8	51.4	0.6
R. Amnesty of war resisters and deserters was a mistake for America.	4.7	10.3	19.3	34.0	31.2	0.6
S. All politicians are corrupt and immoral.	0.6	2.8	18.4	53.6	14.0	0.6
T. In order to deal effectively with the problem of crime, the police should be allowed to use more force than they are allowed to use now.	4.4	11.2	15.6	38.9	29.0	0.9
U. My vote will not count for anything.	2.8	4.1	16.2	52.7	23.4	0.9
V. The main thing in life is for a person to want to do something important.	13.7	26.2	24.6	27.1	6.9	1.6
W. Convicted felons should not have a right to vote.	4.1	9.7	17.1	48.3	19.3	1.6
X. Local elections have no meaning for me.	1.6	4.4	16.5	52.3	24.3	0.9
Y. Voting is a contribution to the American system.	20.3	62.9	11.8	3.7	0.3	0.9
Z. The use of violence is an effective way to change the American system.	3.1	14.6	11.5	34.9	34.9	0.9

#### VALUE SURVEY RESULTS

The rank which precedes the value name, indicates the relative ranking, based on a median (where 50% ranked it higher, and 50% ranked it lower). Sample size equals 96.

15	A COMFORTABLE LIFE (a prosperous life)
13	AN EXCITING LIFE (a stimulating, active life)
11	A SENSE OF ACCOMPLISHMENT (lasting contribution)
9	A WORLD AT PEACE (free of war and conflict)
12	A WORLD OF BEAUTY (beauty of nature and the arts)
8	EQUALITY (brotherhood, equal opportunity for all)
10	FAMILY SECURITY (taking care of loved ones)
2	FREEDOM (independence, free choice)
6	HAPPINESS (contentedness)
4	INNER HARMONY (freedom from inner conflict)
7	MATURE LOVE (sexual and spiritual intimacy)
18	NATIONAL SECURITY (protection from attack)
14	PLEASURE (an enjoyable, leisurely life)
16	SALVATION (saved, eternal life)
3	SELF-RESPECT (self-esteem)
17	SOCIAL RECOGNITION (respect, admiration)
1	TRUE FRIENDSHIP (close companionship)
5	WISDOM (a mature understanding of life)

- 13 AMBITIOUS (hard-working, aspiring)
- 4 BROADMINDED (open-minded)
- 11 CAPABLE (competent, effective)
- 8 CHEERFUL (lighthearted, joyful)
- 16 CLEAN (neat, tidy)
- 10 COURAGEOUS (standing up for your beliefs)
- 3 FORGIVING (willing to pardon others)
- 7 HELPFUL (working for the welfare of others)
- 1 HONEST (sincere, truthful)
- 17 IMAGINATIVE (daring, creative)
- 6 INDEPENDENT (self-reliant, self-sufficient)
- 12 INTELLECTUAL (intelligent, reflective)
- 15 LOGICAL (consistent, rational)
- 2 LOVING (affectionate, tender)
- 18 OBEDIENT (dutiful, respectful)
- 14 POLITE (courteous, well-mannered)
- 5 RESPONSIBLE (dependable, reliable)
- 9 SELF-CONTROLLED (restrained, self-disciplined)

APPENDIX D  
SELF-REPORT INSTRUMENTS

Please mark the boxes below that are appropriate:

- I am not a U.S. citizen.
- I was not registered to vote, in any state, before the fall elections last November.
- I was registered to vote, in any state, before the fall elections last November.
- I did not vote in any state election last November.
- I voted in a state election last November.

Please check each of the boxes that apply to you:

- I was not registered to vote in the Oregon election last November.
- I was registered to vote in the Oregon election last November.
- Although I was registered, I did not vote in the Oregon election last November.
- I voted in the Oregon election last November.