RESPECIFICATION OF FACTORS AFFECTING VOTE
TURNOUT: A TEST OF THREE
COMPETING MODELS

DISSERTATION

Presented to the Graduate Council of the North Texas State University in Partial Fulfillment of the Requirements

For the Degree of

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By

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This study tests hypothesized causal relationships between predictor variables and voter turnout. Attention is focused on the psychological and attitudinal dimensions of turnout.

Using data from the 1980 National Election Study of the Center for Political Studies, recursive and nonrecursive causal models are constructed to test the effects of election specific factors, social psychological factors, and rational choice based factors on voter turnout. Self-reported turnout is used as the primary dependent variable in all models. Validity tests support use, despite acknowledged limitations.

Path coefficients for the models are estimated using ordinary least squares regression and two-stage least squares regression for the recursive and nonrecursive models, respectively. All direct variable linkages to the dependent variable are estimated using discriminant analysis and logistic regression.
The social psychological model confirms the overriding importance of one's sense of civic duty, "external" political efficacy, and the degree of party identification intensity. The role of political trust is enhanced through linkages with external political efficacy and government performance measurements.

The election specific model confirms the dominant influence of campaign interest on voter turnout and high levels of media usage for campaign information. Personal and societal economic concerns appear to have minimal effects on turnout.

Lastly, the rational choice based model substantiates the reciprocal relationships between partisan identification intensity, comparative policy differences, and comparative candidate evaluations. Posited in this causal manner, both partisan identification intensity and comparative policy differences are moderately and positively related to turnout while higher candidate evaluation differences exhibit an unusual, slightly negative relationship. Overall, the election specific model explains the most variance in voter turnout.
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CHAPTER I

INTRODUCTION

The Nature of The Study

This research proposes to identify and evaluate competing attitudinal determinants affecting voter turnout in presidential elections in the United States. In the voluminous literature on elections, the "American voter" is depicted almost exclusively as a presidential voter. That is, the emphasis on factors leading to party voting, issue voting, candidate orientation voting, and political participation in general has focused on presidential contests. In part, this is due to the availability of mass survey data on presidential elections as opposed to other electoral contests. In addition, the citizenry and the national media have usually attached greater importance to this election level.\(^1\) Therefore, the 1980 presidential election is used as a "heuristic device" for analysis of three causal models that attempt to identify and assess the importance of certain theoretical constructs.\(^2\) Concepts are used which have been

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\(^2\)The words theory and theoretical constructs are
identified in prior research as playing meaningful roles in people’s decisions on whether to participate in or abstain from the voting process.

Political scientists have devoted much attention to voting research in the past 30 years. Researchers have an immense body of knowledge upon which they may draw testable hypotheses. The direction of past investigations have been targeted toward both structural and attitudinal explanations. Indeed, present research emphasizes the importance of both dimensions in filtering out the various explanations for nonvoting. The structural, or legal, explanations for declining turnout have been documented with much greater clarity than the attitudinal explanations. In their often cited work, Wolfinger and Rosenstone have empirically demonstrated the potential impact of various voting registration reforms, including factors that could lead to greater voting convenience. Other scholars have reached similar conclusions. In short, these studies not used in the formal sense of the word. No absolute theory resembling scientific laws may be said to exist in the study of voting behavior. What we have are related generalizations based upon testable propositions aimed at predicting events and processes. In general, voting behavior theories assume that individual voter preferences are complete, fixed, transitive, and highly structured.

Raymond E. Wolfinger and Steven J. Rosenstone, *Who Votes?* (New Haven, 1980), pp. 61-88. While earlier studies investigated the impact of changes in state voter registration laws, the Wolfinger and Rosenstone study is based upon the most inclusive sampling frame and the largest sample to date, and incorporates the sweeping
suggest that relatively easy registration procedures create higher registration and turnout than do relatively difficult procedures.

This inquiry is directed toward the attitudinal components of the voting decision process which stresses the qualities of the individual voter, as it is an area plagued with controversy and differing conclusions. This component of the voting process is much more difficult to analyze, however, since findings are often based upon survey questions that may or may not adequately measure the attitudes under investigation. Voting studies investigating the structural dimensions of the voting process, it is argued, usually have more reliable and "hard" data from which to choose more stable measurements.

The Importance of The Study

Why should we be interested in studying elections and electoral turnout specifically? A number of reasons may be

offered. First, voting is an important contributor to the development of one's allegiance to his/her political system and to the structural arrangements of that system. The voting act builds a set of internal beliefs that reinforce a sense of contribution to and control over the democratic society of which one is a member. Second, voting is the political participatory act most accessible to the largest number of citizens. This is especially true due to the relaxation of legal barriers known to suppress turnout among particular social groups and the expansion of suffrage to women and those between the ages of eighteen and twenty-one. Voting is the political act in which more citizens engage in than any other. As measured by responses to survey questions since the 1950s, the percentage reporting having voted has always been disproportionately larger than any other participatory modes. Moreover, voting is reported to be the only form of participation for the majority of respondents. Third, not only is voting the most commonly used means of political participation in the United States, but it is also the only means of influence on government policy that many citizens feel is

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4See Sidney Verba and Norman H. Nie, Participation in America: Political Democracy and Social Equality (New York, 1972). Survey data from the 1952-1980 SRC/CPS (Survey Research Center/Center for Political Studies) consistently support this conclusion as well. The percentage reporting other types of participatory acts in the 1980 survey was customarily low.
available to them. Fourth, while the voting act itself may be an ineffective way for the individual citizen to express specific policy demands, it nevertheless remains a powerful aggregate force giving general direction to public policy and delineating its boundaries.

Hence, the phenomenon of nonvoting is important to anyone interested in the stable existence of democratic societies and the relative power of social groups within those societies. In the United States, voter turnout has consistently declined in presidential elections by almost 2.2 percentage points per election since 1960. As many have noted, this is somewhat ironical given the expectations of increased participation as a result of many

5Donald J. Devine, The Political Culture of the United States: The Influence of Member Values on Regime Maintenance (Boston, 1972), p. 42. The same argument is made by Paul Kleppner, Who Voted? The Dynamics of Electoral Turnout, 1870-1980 (New York, 1982), p. 5. Kleppner's conclusions are based upon responses to CPS/SRC survey questions from 1952 to 1980. Interestingly, Kleppner finds this to be somewhat consistent over time for middle and lower income groups; however, higher income groups apparently have become aware of and utilized alternate modes of participation in greater numbers.

6V. O. Key, Jr., The Responsible Electorate (Cambridge, Mass, 1966); Gerald M. Pomper and Susan Lederman, Elections in America: Control and Influence in De Politics, Second Edition (New York, 1989), pp. 212-216. For discussion on political officeholders' concern over voter sanctions, see David Mayhew, Congress: The Electoral Connection (New Haven, 1974); Richard F. Fenno, Jr., Homestyle: House Members in Their Districts (Boston, 1978)

legal and structural barriers being relaxed and the overall rise in the level of education for the average American citizen. This has occurred, it should be mentioned, despite the rather healthy state of electoral participation in other Western democracies.\footnote{Between 1977 and 1980, the average turnout in national elections in other Western democracies was above 80 percent. However, when making such comparisons, one must consider the existence of compulsory voting and/or registration laws in some of these countries. In addition, the turnout figures are not computed in a uniform manner. See Richard Rose, Electoral Behavior: A Comparative Handbook (New York, 1974), p. 694.} While it is true that a larger number of Americans are voting in comparison to the past, the size of the eligible electorate has also grown, causing the voting percentages to be lower. Hence, the nonvoting phenomenon raises traditional questions about responsible citizen control over the government, the growing disparity in political power between those groups that tend to vote and those that do not, and the weakening of the foundations of mass political participation necessary for a vital democratic process. Furthermore, it raises concern over factors which lead to the decline in voting. Are these factors systemic, cultural, structural, attitudinal, or personal in nature? Or, is the potential voter cross-pressured by combinations of these components?

In assessing the importance of the nonvoting phenomenon, researchers are investigating at least two important...
perspectives. If conclusions indicate that nonvoting is primarily the result of political alienation or rejection of the political system, then an increase in the already high levels of nonvoting may be indicative of an ensuing systemic crisis. On the other hand, if nonvoting is basically a reflection of indifference, an equally disturbing problem may exist. As Warren E. Miller notes, this may create a "pool of nonparticipants" who are inexperienced in the activities believed to be essential in the administration of a democratic form of government. While the existence of such a group might be expected in relatively benign periods of political activity, in the long run it can create problems for democracies when sudden crises emerge. This is not to say that political analysts should be totally concerned with actual voting numbers or percentages; rather, investigations into this phenomenon should

be directed toward an analysis of the underlying roots or causes of such behavior. Such investigations are extremely challenging, and some argue that the electoral turnout itself is not the best indicator of the health of the polity in question. For instance, it is little wonder that most of the empirical research on elections in this country has focused upon voter choice as opposed to voter turnout. Political researchers have had much more success in uncovering the factors leading to the eventual candidate choice than they have explaining why people vote in the first place. Indeed, from a different perspective, one might wonder why as many people vote in our national elections as do so, given the paucity of firm rational reasons cited for voting. While higher turnout among the better educated and politically interested segments of the population might be expected, the level of participation among those at the opposite end of these spectrums is understandably lower, but perhaps better than one would expect. The sheer size and complexity of the factors that are presumed

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10 For instance, it is not uncommon to find multivariate regression analyses explaining above 70 percent of the variance in vote choices (i.e., candidate selection). By contrast, few voter turnout studies explain more that 15 to 20 percent of the variance in electoral turnout decisions, regardless whether reported or official voting data is used. Of course, the amount of explained variance (R-squared) is not perhaps the most critical measure of a model's theoretical contribution. It is a statistical indicator which must be given substantive interpretation. Furthermore, R-squared can be inflated by the mere addition of more predictor variables.
to affect turnout, therefore, has often led to probing multivariate analyses attempting to sort out the relevant and nonrelevant agents. The importance of scholarly research is not so much to discover pertinent influences, but to demonstrate their causal linkages to the eventual electoral decision. It is at this stage that current research efforts have been slow in producing substantive insights.

Perhaps more than any other field within political science, voting behavior studies have made the greatest progress in the generation of an empirically based, cumulative body of knowledge. Research in this area has been largely characterized by careful elaboration of theoretical approaches, a great amount of attention given to crucial conceptual and variable operational questions, concerns over measurement problems, and detailed statistical analysis of data, often using highly sophisticated techniques.

Despite admirable advances in voting behavior research, the field remains embroiled in scholarly controversy. Ongoing debates persist about appropriate models and modeling techniques, the conceptualization and measurement of key concepts, the respecification of long established models, and the analytical strategies used to study core phenomena.
Without question, the field of electoral behavior has moved sharply in the direction of constructing and estimating explicit causal models, especially in the area of voter choice. Recent researchers have demonstrated the need to posit causal relationships in these models in non-recursive terms. By reexamining and retesting assumed relationships, underlying causal processes have become better defined and specified with greater precision and clarity.

For instance, it is quite plausible that factors affecting voter choice might also impinge upon the decision to vote or not. Many researchers have argued that voting choice decisions are based upon short-term or election-specific factors such as interest, issues, and candidates, while the voting act itself is influenced by more long-term, stable forces. Yet, even the landmark voting study, *The American Voter*, described voting as primarily an exercise in taking "party cues" for the more partisan and an exercise in character and style judgment for the less interested.11 Thus, empirical investigation has shown that short-term factors can play important roles in vote decisions. This study analyzes several approaches and tests them for underlying causal dimensions linked to the theoretical assumptions of decisional processes used for

electoral participation.

Research Goals

This study is not a descriptive summary of the factors that are related to high and low levels of political participation. Such groundwork has more than adequately been demonstrated in the extensive literature on voting behavior. Indeed more analysis has provided the "who, what, when and how" of the voting process than the underlying "why?". That is, can the descriptive results be fitted together into a cognitive map that depicts a voting turnout decisional scheme? Such a task is important to the development of theory, yet it faces strict barriers due to the sheer number of factors that affect on the vote decision.¹²

Specifically, this study proposes certain hypothesized relationships between three different sets of variables identified in the voting behavior research as determinants of voter turnout. As such, it builds upon previous works and attempts to synthesize empirical findings. One model

¹²Richard A. Brody, "The Puzzle of Participation in America," in Anthony King, editor, The New American Political System (Washington, D.C., 1978), p. 314. As Brody states, "Since virtually every element of the decision situation is different in a presidential election year -- with the probable exception of the body of legal restrictions affecting elections for national office, and the possible exception of the set of socialized political values -- disciplined investigation of even small packages of explanatory variables will be difficult to carry out."
is constructed based upon findings related to long-term social psychological attitudes relating to electoral activity. A second model is molded from conclusions stemming from investigations into more short-term, or election specific, factors believed to impinge upon the decision to participate in electoral politics. Finally, a third model is proposed based upon the character of the choice situation and is rooted in the "rational actor" concept of voting behavior. Each model is tested individually using data from the 1980 presidential election with results compared across models to evaluate the importance of each. Hence, this study seeks to provide clarification of past research findings and to incorporate these findings into a more specific causal process aimed at determining both direct and indirect impacts.

To recapitulate, the following research questions will be addressed in the study:

(1.) How effective are scaled multiple indicators in representing complex attitudinal processes found in past research to be correlated with differing levels of voter turnout in past research?

(2.) Does the traditional problem of inaccuracy in self-reported voting turnout data create serious errors for estimating the relative impact of predictor variables?

(3.) Do long-term, psychological attitudes related to political behavior continue to exert significant influence
on the decision to cast a ballot in a presidential election?

(4.) Are short-term and more election-specific factors replacing traditional long-term attitudes in acting as more powerful determinants of voter turnout decisions?

(5.) How applicable are nonrecursive modeling schemes depicting "rational choice" based upon traditional measures of candidate evaluation, partisanship intensity, and issue stand comparisons in explaining electoral turnout?

(6.) What differences, if any, are found when more appropriate statistical measures for a dichotomous dependent variable are used to assess the impact of the hypothesized predictor variables on voter turnout?

Statement of Hypotheses

Following the rationale used to construct the three proposed models of decisional influences on voter turnout, the following hypotheses will be subjected to empirical testing using survey data from the 1980 presidential election:

(1.) Long-term attitudinal beliefs, such as civic duty, political efficacy, and partisan identification, continue to serve as strong predictors or voter turnout.

(2.) Short-term factors, such as interest in the election, perceived closeness of the election, and concern over the outcome of the electoral contest, can serve only
as limited predictors of voter turnout.

(3.) Concepts found to be highly indicative of rational voter choice -- partisan intensity, candidate evaluations, and policy preferences -- when specified in nonreciprocal linkages as by-products of each other, can serve as strong predictors of voter turnout.

Limitations of the Study

As with most research endeavors, this study possesses limitations that cause the findings to be treated with some caution. Most importantly, the causal models tested in this project should be viewed as heuristic tools that can provide insight for future research. This study is limited to one set of survey respondents for one particular presidential election. While the survey sample is representative of the voting population as a whole, the election process is time bound and generalizations can be made only with the utmost care. Hence, the conclusions of this study will need to be tested over time and across elections. We must have firm evidence that changes in attitudinal structures and cognitive processes used for voting decisions are not election specific. As Warren Miller states, "It is of equal importance to identify and distinguish changes that may be relatively episodic or ephemeral from those that may be of more enduring character."13

13Warren E. Miller, _op. cit._, p. 9.
Moreover, this study does not pretend to investigate all conceivable influences on voter turnout. Obviously, the inclusion of every factor found to be related to voter turnout would produce an entangled web of crisscrossing paths with little substantive linkages. Such is not the purpose of causal modeling nor the intention of this project. Instead, it isolates social-psychological factors at the individual level found to be related to turnout and seeks to causally link them together into a cognitive mapping scheme. Additional variables are added to test for their contribution to such a process, but their addition is based upon theoretical or substantive interests. In short, all causal models must assume "closure" at some point in their construction. If the model is not properly specified, that is, if pertinent variables have been excluded, then this should be uncovered not only by tests of statistical significance, but also by the discovery of significant and insignificant path estimates. This is the advantage of causal modeling techniques over multivariate regression analyses that are additive in nature. The inclusion or exclusion of variables should be made on theoretical grounds rather than purely statistical ones. In addition, causal modeling allows one to test for indirect as well as direct effects, something that is not possible in normal regression analysis.
Furthermore, this study does not address or evaluate the scholarly debate over the legitimate use of survey data in social science research. Admittedly, problems do exist, especially with the accuracy of respondent recall. Nevertheless, numerous studies have confirmed the accuracy of survey responses within boundaries that justify their continued usage as opposed to their discontinuation. Indeed even harsh critics admit the need for survey data given the absence of any viable alternative measurement devices for social science processes. The present study attempts to measure the adequacy of the operationalization of concepts, but it does not pronounce judgment on the utility of survey data collection processes. At best, researchers should admit the limitations of such methods and take steps to eliminate them where possible or display the validity and reliability of incorporated measurements. Such is the approach of this research and Chapter III addresses these concerns.

Lastly, some may question the usage of interval level statistical techniques on ordinal level and categorical data. Again, while certain risks are taken in using this level of measurement, most studies have shown the results are not significantly different nor the violations of underlying assumptions significant enough to warrant using less sophisticated and less informative non-interval
Indeed, the research design seeks to address the problem by testing the models using three different statistical testing procedures. Care has been taken to code all variables in such a manner that linear corrections may be said to exist.\textsuperscript{15}

\textsuperscript{14} Hubert M. Blalock, Causal Modeling, (Beverly Hills, 1976), pp. 64-67. Blalock argues that Monte Carlo simulations have confirmed the minimal consequences for assuming interval scales for ordinally coded data. Also see Eric A. Hanushek and John E. Jackson, Statistical Methods for Social Scientists (New York, 1977), pp. 207-210.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction: Theoretical Underpinnings

A central concern in voting behavior research has been to identify the determinants of vote choice as well as factors that are believed to enhance or depress voter turnout in elections. Most researchers have attempted to assess the relative importance of these factors and, in doing so, have incorporated a wide variety of methodological tools and statistical techniques. Underlying all of these investigations is the desire to build an empirically testable theory of voting behavior, perhaps the core problem around which the entire study of American politics is centered. The persistent interest in this topic reflects pressing questions of democratic theory about the role, competence, and performance of a democracy's citizenry. Longstanding normative concerns with voting behavior have sparked debate about the requirements for a political system as evidenced by the often cited concluding chapter of the pioneering work Voting, written some thirty years ago.¹

As explained in Chapter I, the falling level of turnout in presidential elections has become a major topic of concern among political scholars. Richard Brody, among others, has properly labeled this development a "puzzle" because recent societal changes have led to the expectation that turnout would increase rather than decline.² Among the changes believed to produce higher levels of electoral participation in recent decades has been the increase in the educational level of the American electorate as a whole, the civil rights reform movement which led to the large scale enfranchisement of the black population both inside and outside of the South, the relaxation of a myriad of complex legal requirements involving voter registration, and the enfranchisement of youths between the ages of eighteen and twenty-one.³ Since 1960, turnout has fallen steadily each presidential election year, with the 1980 turnout figure marking the lowest rate since 1948.⁴


³Nevertheless, history shows that newly enfranchised groups have never become large-scale voters once obtaining the right to vote. For example, women's suffrage in the United States produced a general drop in turnout that was not reached again until the late 1970s. See Paul Kleppner, Who Voted? The Dynamics of Electoral Turnout, 1870-1890 (New York, 1982), pp. 61-63.

⁴The documentation in decline is as follows: from 62.8 percent in 1960, to 61.9 percent in 1964, to 60.9 percent in 1968, to 55.4 percent in 1972, to 54.4 in 1976, and
Such results, while baffling, deserve special attention since the high rates of abstention raise serious questions about the balance of preferences among nonparticipants. Indeed, the number of nonvoters in recent U.S. presidential elections has exceeded those voting for the winning candidate. In close elections, such as 1968 and 1976, the impact is obvious.

Political scientists have always devoted a great deal of attention to voting, but since the arrival of survey studies of voting behavior in the late 1940s, the topic has been at the forefront of research concerns, particularly among specialists in American politics. Investigations have filled the literature and produced volumes of empirically rich observations full of factors tied to the voting process. Categorizing the approaches used to study electoral turnout is not an easy task, since many contain overlapping qualities; nevertheless, it is possible to discern at least four major theoretical approaches.

The first may be labeled "sociological" in nature and has its roots in the earliest survey studies of voting.

behavior conducted in the 1940s and early 1950s by Paul F. Lazarsfeld and Bernard Berelson. Rather than examining tabulated results, these sociologists probed sample survey respondents to obtain a better understanding of the factors influencing one's vote behavior. As such, they established empirical references to be used by future investigators to support or refute their findings by uncovering relationships between different social characteristics such as income, class, education, and most importantly, social groupings. In particular, Lazarsfeld and his associates found the voter to be "cross-pressed" by allegiances to these various groupings when it came to vote choice. In addition, they discovered through their limited sample frames that most citizens were not intensely interested in political campaigns. Following this pioneering work, political scientists have replicated many of these findings and continue to demonstrate the importance of particular sociological influences on voting behavior.

A second approach to the study of electoral behavior may be properly labeled the "social-psychological" approach and has its roots in the studies originating from a group of researchers at the University of Michigan in the 1950s.

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The crux of this approach to vote behavior is systematically explained in the seminal work, *The American Voter*. Breaking with the sociological approach, these scholars were intrigued by the application of social psychology to political science. As such, they believed that the immediate determinants of one's political behavior were more attuned with attitudes and the perceptual organization of one's environment than with social position factors. According to these scholars, the most important determinants of the voting process were to be found in variables that were closest to the voting decision itself rather than sociological or group factors which were further back in the "funnel of causality." In short, Campbell and his associates discovered that political partisanship had a definite impact not only on the eventual candidate choice in an election, but was also an important stimulant of political participation.

This partisan identification factor was grounded in deep-rooted socialization effects and served as the primary explanatory factor in predicting one's political behavior. Other psychological components were found to be related to

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electoral behavior and participation levels as well, including perceptions of candidate qualities, salience of issues to one's personal concerns, interest and awareness of political events, and one's trust, allegiance, and obligation to participate in the political system. In extensions of this research frame, Donald Stokes and Philip Converse argued for the depiction of an electorate moved mostly by considerations of partisanship and candidate personality rather than issue concerns. Despite arguing that voters were guided in their behavior by psychological dimensions shaped through cognitive and sociological influences, these researchers concluded that the vast majority of citizens in the country were politically uninformed and often made electoral decisions largely based upon irrational factors. The general finding of their efforts, however, was that intense psychological involvement in politics -- as measured through intensity of partisanship, concern of election outcomes, interest in campaigns, sense of civic duty, sense of political efficacy, and perceived closeness of elections -- led to a greater likelihood of one's participating in elections.

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A third approach to the study of electoral activity began primarily as a reaction to the findings in *The American Voter*, although one could argue that its components were also addressed by the Michigan researchers. It is concerned with the more "short-term" or "election-specific" factors influencing voting behavior. V.O. Key, for example, presented findings arguing that the typical American voter was neither constrained by social determinants nor psychological perceptions. Instead, voters were "moved by concern about central and relevant questions of public policy, of governmental performance, and of executive personality." More recent revisionists of the "Michigan model" of vote behavior have focused upon the rising importance of issues in presidential elections. Some scholars depict citizens as being intensely interested in issues that specifically relate to their own concerns during election periods, seeking out candidates with policy stands similar to their own. At the same time, researchers have discovered that disinterest in political campaigns and decline in the concern over outcomes have

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depressed turnout in presidential elections in recent years.¹⁰

One last category of voting behavior studies has been labeled the "rational choice" approach, and is grounded in the well-known work of Anthony Downs.¹¹ This "economic" model of vote behavior argues that a citizen would rather abstain from voting if he/she perceives the value of the vote to be less than the costs encountered in casting it. Hence, citizens consciously calculate a "vote value" based upon the expected utility to be gained by voting for a particular candidate or party discounted by the citizen's probability of affecting the electoral outcome.¹² Citizens are depicted as "utility-maximizers" who engage in electoral activities only when some specific gain will outweigh the costs associated with it. Riker and Ordeshook have extended this rationale so as to include the citizen's perception of the closeness of the election in the voting calculus as well as the inexplicable satisfaction that certain people obtain from the voting act, irrespective of the hope that it will bring about any specific desired


¹² Ibid., pp. 260-276.
Socio-economic and Demographic Factors and Turnout

The fact that certain demographic characteristics are related to vote turnout has been well established by prior research. Personal characteristics such as age, education, income, and gender were examined by the authors of *The American Voter* and *Voting* with many of their findings, with minor variations, still validated today. Among these factors, education has usually been found to be the demographic variable most strongly correlated with vote turnout. As one's level of education rises, so does the rate of political participation. It is generally assumed that increased levels of education facilitates political participation.

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learning and instills skills that enable an individual to effectively participate in the political system.\textsuperscript{15}

While income and occupation are related to turnout in a manner similar to education, their impact has been found to diminish once education is controlled for in the analysis.\textsuperscript{16} Wolfinger and Rosenstone also discover a "threshold" impact level for income; that is, extremely low income groups turn out far less than other income groups, but once income levels reach a modest amount, income fails to distinguish satisfactorily between voters and nonvoters.

Age and turnout have produced rather consistent findings, with most researchers discovering lower turnout rates among the young and elderly citizens, and higher rates for middle-aged citizens. Many have argued that the overall decline in turnout can be attributed to the growing numbers of young and old in our society who have lower participation rates. Yet Cavanagh suggests that only about one-third of the 10 percent decline in turnout since 1964

\textsuperscript{15}As Wolfinger and Rosenstone note, better education increases one's capacity to deal with complex and abstract subjects that are often a part of politics. In addition, it heightens one's interest in politics due to exposure and helps to cut the "costs" of voting decisions. See Wolfinger and Rosenstone, op. cit., pp. 17-18.

\textsuperscript{16}Ibid., pp. 24-25; Brody, op. cit., pp. 295-296. Milbrath and Goel, op. cit., pp. 97-98, find a somewhat stronger relationship between income and vote than do others, but their analysis also demonstrates its decline once one controls for educational level.
can be traced to the changes in the age composition of the electorate. Moreover, Wolfinger and Rosenstone demonstrate that the combined effects of education, sex and marital status depress voter turnout among the young, and especially the elderly. In summary, education is considered to be the most powerful of the demographic determinants relating to vote turnout. Indeed, Brody and Sniderman argue that such background attributes really have no direct impact on turnout but rather act through their effect upon the individual's level of political involvement and the regularity with which the person has voted in the past.

Furthermore, numerous studies have demonstrated the inability of sex and regional differences to significantly differentiate between turnout levels in recent years. Holding income, education, and occupation constant, Wolfinger and Rosenstone show that the gap between men and women in electoral turnout was less than five percent by

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18 Wolfinger and Rosenstone, op. cit., pp. 37-60.

19 Richard A. Brody and Paul M. Sniderman, "From Life Space to Polling Place: The Relevance of Personal Concerns for Voting Behavior," British Journal of Political Science, 7 (1977), 344-349. Brody also notes that "... no factor is more closely tied to how politically involved an individual is than the extent of his or her education."
In fact, the turnout rate is almost identical among men and women until one reaches the age of forty. Even so, their analysis leads them to conclude that "Nearly all the differences in turnout between older men and women is accounted for by differences in other demographic variables."21

Turnout among Southerners has traditionally been lower than that for the rest of the country, but figures since the 1960s reveal a reversal of that trend. Indeed, turnout among citizens in the South is increasing while turnout among residents in other states is on the decline. Moreover, with increased migration and rising educational levels in the South, one can only predict that turnout will further improve in the region.22 In summary, an investigation of most demographic factors believed to be

20 Wolfinger and Rosenstone, op. cit., pp. 41-43.

21 Ibid., Similar conclusions are reached by Hill and Luttbeg using SRC/CPS data from the 1972 and 1976 election studies. Brody argues that even the small differences found to exist among elderly men and women will no doubt dissipate in the future given the more homogenous educational levels among retirees today.

22 Brody, op. cit., p. 294. No doubt, federal laws have expanded the number of registered black voters in the South, which can help explain for the somewhat deviant rise in turnout figures. Black participation nationwide still slightly lingers behind that of Anglos, but within similar educational and income levels it is remarkably near equal. The reforms in registration laws in the South, slow in coming in comparison to other parts of the country, can also help to explain this anomaly.
strongly related to vote turnout leads one to the inevitable conclusion that education has the greatest significant direct impact on varying rates of electoral behavior. Changes that have occurred among other such factors lead one to conclude that turnout levels should be higher than what they currently are. Hence, we must look to other variables in seeking an explanation of varying levels of turnout in presidential elections.

Long-Term Attitudinal Factors and Turnout Rates

Long-term attitudinal explanations of voting turnout were initially introduced by Angus Campbell and his associates in voting studies conducted in the 1950s.23 These researchers, introducing the social-psychological approach to the study of electoral behavior, found monotonic relationships between several attitudinal measures and the propensity to vote. Specifically, they investigated one's sense of civic duty and political efficacy. These norms and dispositions believed to be stable components of the cultural value system of individuals in American society. The sense of civic duty refers to the civic responsibility and obligation to vote. Political efficacy basically refers to the belief that it is worthwhile to perform this civic duty.

and that social and political change can be brought about through individual participation in politics.\textsuperscript{24}

Campbell and his associates measured these two attitudinal components by scaling responses to two different sets of questions shown to be reliable indicators of the underlying concepts.\textsuperscript{25}

Since these initial studies in the 1950s, scholars investigating the civic duty dimension have found it to have a consistent and positive effect on vote turnout. Brody, for example, concluded from his analysis of civic duty scores among respondents in CPS surveys from 1952 to 1876 that little decline has occurred in the public's sense of voting obligations.\textsuperscript{26} Despite declines in trust and efficacy over these years, the American public consistently expresses the belief that people should vote, even if they believe it will not affect the outcome. Cassel and Hill reach a similar conclusion, finding that the sense of civic duty did not cause any appreciable decline in vote turnout.

\textsuperscript{24}Campbell, et al., \textit{The Voter Decides}, pp. 187.

\textsuperscript{25}The construction of the civic duty and political efficacy scales was based upon responses to two different sets of questions, each containing four items. For a listing of the actual questions and the method used to construct the scales, see Campbell, et al, \textit{The Voter Decides}, pp. 187-199.

between 1960 and 1976. Katosh and Traugott compared effects of social-psychological and short-term convenience factors on both voting and registration. Among long-term attitudinal components examined, they found citizen duty to be the most significant explanatory variable for voting in the 1976 presidential election. In short, almost all empirical studies of voting behavior conducted in the last 30 years have concluded that civic duty exerts a strong, positive effect on voting behavior.

Political efficacy has also received a wide amount of attention in the voting behavior literature. As Craig explains, the concept was initially introduced by Campbell and his associates as a partial explanation for political participation, but it has since become one of the most important theoretical components in all studies.

27 Carol A. Cassel and David Hill, op. cit.


investigating the consequences of attitudinal constructs on the political system. Currently, a debate exists among political scholars over the adequacy of the original measurement of this concept. A number of studies in political journals in recent years have addressed the methodological and conceptual problems encountered in trying to ascertain the actual components of one's sense of political efficacy. Converse, for example, has argued that the traditional CPS/SRC measures used to tap this attitudinal dimension uncover a personal as well as institutional components. Balch has conducted an in-depth analysis on political efficacy which led him to argue that the traditional scale actually breaks down into two dimensions, neither of which is related to the other. His analysis indicated that two of the questions used in the CPS/SRC scale tap beliefs about personal political effectiveness, or "internal" political efficacy, whereas the remaining items measure beliefs about government respon-


32 George I. Balch, "Multiple Indicators in Survey Research: The Concept 'Sense of Political Efficacy,'" Political Methodology, 1 (Spring 1974), 1-43.
siveness to citizens' demands, or "external" political efficacy. Abramson and Aldrich concur with Balch's conclusions and discovered that the "external" dimension is a primary explanatory factor for declining turnout levels in presidential elections since 1960. Such conclusions have been subsequently supported by Miller, as his analysis revealed that the more personal dimension of political efficacy does not appear to account for any significant decline in political participation. Asher's analysis, while drawing into question the reliability of the efficacy questions altogether, also confirmed the dual dimensionality of the concept. Due to the soundness of these conclusions, subsequent analyses should pay heed to the complexity of this attitude and test for separate effects. Clearly, any studies that continue to combine these dimensions could fall prey to faulty conclusions.

Political trust is another attitudinal concept that has received a great amount of attention in studies examining electoral participation. Using measures included


in the CPS/SRC surveys, scholars have noted the consistent decline in positive levels of trust in government, often concluding that it plays an important role in overall systems support. However, it is not clear whether the faltering levels of trust are aimed at the governmental system as a whole or targeted more specifically toward incumbent political leaders. Indeed, as Abramson and Finifter have concluded, political trust is not an attitudinal measure that lends itself to clear and precise measurement. Using measures of trust which incorporated responses aimed at more specific political objects (i.e., "President Carter" as opposed to "the presidency"), they demonstrate that levels of trust toward the governmental system may be more stable than trust toward specific political actors. Of course, distrust of particular political leaders can be more easily remedied through removal in the electoral process. On the other hand, systemic political trust is thought to be a primary factor leading to acute levels of political alienation. Citrin argues, for example, that "The meaning of recent increases in the level of political cynicism remains ambiguous, and to decisively conclude that there exists widespread support for radical political change or pervasive alienation from the political system is

premature if not misleading." Thus, while the decline in political trust has been widely documented, its direct effect on levels of turnout has been found to be somewhat minuscule. Given the theoretical and substantive importance of this concept to the foundations of political behavior, its proper specification in the web of factors affecting electoral behavior is in need of further investigation.

Partisan identification among the electorate has also been traditionally posited as an important theoretical component of electoral participation. Campbell and his associates argued strongly for the crucial role that party identification played in contributing to the psychological commitment to one's involvement in the political system. From a sociological perspective, one would


expect partisanship to play a role in explaining electoral participation due to sense of "belongingness" it instills in one's relation with the political system. Furthermore, partisanship can figure into a rational choice explanation of voting by simply providing a means for voters to reduce information costs and as a means of justifying choices in the midst of competing loyalties. Moreover, we expect partisans to be more interested in elections and to have much stronger preferences among candidates. In brief, the literature is replete with studies that have empirically demonstrated the relationship between partisanship and electoral participation.

The decline of political partisanship in American politics has been noticeable since the 1950s; indeed, the authors of *The Changing American Voter* note this decline to be one of the most pronounced developments among the American electorate in the last quarter century. Several studies have investigated the hypothesized link between the declining partisanship levels and electoral participation. The empirical results are mixed and no consensus exists among political scholars. Among those finding little relationship between eroding partisan loyal-

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ties and vote turnout are Ashenfelter and Kelley, Cassel and Hill, and Conway. Examining CPS/SRC presidential election data from 1964 to 1976, Cassel and Hill conclude that the decline in the strength of partisan identification could account for only 1.1 percent of the decline in non-Southern vote turnout. Ashenfelter and Kelley's conclusions argue strongly against a large-scale negative impact on vote turnout resulting from partisan decline. Similarly, Conway's analysis of congressional voting patterns between 1970 and 1974 leads her to the same conclusions.

Others, notably DeNardo, Hill and Luttbeg, Shaffer, and Abramson and Aldrich, have reached opposite conclusions. DeNardo finds the decline in partisanship to be one of the primary factors in explaining the predominant decline in turnout in the last twenty-five years. However, his study involves an analysis of congressional elections with aggregate data which does not lend itself to

42 Cassel and Hill, op. cit., pp. 188-189.


comparison with the majority of studies based upon individual level data. In a more comprehensive study, Hill and Luttbeg examine CPS/SRC survey data spanning the years 1952-1976, and conclude that the rise in political independents is a significant factor in explaining turnout decline. 46

To date, however, the Shaffer and Abramson and Aldrich studies are the best examples of sound, multivariate investigations that show the crucial role of partisanship in explaining significantly large percentages of decline in turnout. Shaffer's multivariate regression analysis and discriminant results indicate that the decline that has take place in vote turnout since 1960 can be attributed to decreased political efficacy, the changing age population of the electorate, decreased reliance on newspapers as a source of campaign information, and partisan independence. The decreased partisan attachments of the population, according to Shaffer's analysis, accounts for about 15 percent in turnout decline since 1960 among non-Southern whites. 47 It is obvious from reviewing these analyses that there are fewer citizens today with a strong sense of


party identification than before 1960. As Miller has demonstrated, however, this cannot be interpreted as a wholesale rejection of partisan politics. Rather, there has been a substantial increase in the proportion of citizens who think of themselves predominantly as independents. Most of this change can be attributed to either period effects or large numbers of young voters with less partisan leanings replacing older, more partisan cohorts. This replacement seems to account for the greatest change in the proportion of decline in partisanship over the last six presidential elections. In effect, studies examining factors responsible for declining levels of turnout should include this variable given the consistency of many recent findings using more refined statistical techniques.

Abramson and Aldrich reach conclusions similar to those of Shaffer's analysis. Investigating turnout levels between 1960 and 1980 with probit analysis, these researchers discover that the decline in partisan strength combined with declining "external" efficacy beliefs about

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48 Miller, op. cit., pp. 20-23.

49 Ibid., p. 22. Miller presents evidence which indicates no more than one-fifth of the net decline in partisanship between 1952 and 1978 among one-time partisans. His analysis reveals that political independents, not partisans, have displayed growing declines in presidential election turnout.
government responsiveness can account for between two-thirds and seven-tenths of the decline in turnout in presidential elections. Moreover, Abramson and Aldrich's use of multivariate probit analysis is more suitable to the data under question than discriminant analysis and presents a clearer picture of changing impacts of the predictor variables over time.

Clearly, the decline in partisan political attitudes has had a pronounced effect on turnout levels in presidential levels. The reasons for this decline have been well documented in a number of studies.

The last factor that has been suggested as relating to turnout is political ideology. Most analyses, however, have incorporated measurements of ideology into voting research to examine levels of issue consistency

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across ideological categories. Others have been interested in using ideological measures to show differences between partisanship. Theoretically, one would expect intense ideologues to be rather consistent voters due to the higher propensities to be involved and motivated toward political activity. Nevertheless, ideology has never been found to be highly related to levels of turnout. Nie, Verba and Petrocik discovered extreme conservatives to be the most active in their analysis of presidential elections from 1960 to 1976.\(^{53}\)

In addition, Shaffer confirms the absence of any ideological impact on voting turnout in a multivariate analysis covering presidential elections from 1960 to 1976.\(^{54}\) Few, if any studies have examined the impact of intensity of one's ideological beliefs as opposed to its direction. Most scholars have argued that people have become more ideological oriented, and as a result, are able to perceive greater issue differences between the candidates.\(^{55}\) This provides an opportunity to examine ideology in a

\(^{53}\)Nie, Verba and Petrocik, op. cit.


somewhat different manner than in past research.

Short-Term or Election Specific Factors
and Turnout Rates

Besides the more stable, long-term components associated with voting behavior described in the preceding section, political scholars have also acknowledged the existence of more short-term, election specific factors that may override these psychological dimensions in the voting calculus. Again, Campbell and his team of researchers initialized this interest by including in their study of the 1952 and 1956 presidential elections an analysis of two such factors: one's interest in the outcome of the election and one's concern over the election outcome.56 Campbell and his associates discover that the rate of turnout among those expressing interest in political campaigns in 1952 and 1956 was almost 30 percent above the turnout levels for those with low interest. Similarly, they discover that concern over the outcome of the election

56Campbell, et al., The American Voter, pp. 102-103. The questions used in this study, which have since been incorporated into all CPS/SRC National Election Studies, are as follows: (1.) "Some people don't pay much attention to political campaigns. How about you? Would you say that you have been very much interested, somewhat interested, or not much interested in following political campaigns so far this year?"; and (2.) "Generally speaking, would you say that you personally care a good deal about which party wins the presidential election this fall, or that you don't care very much which party wins?"
is also associated with higher levels of turnout. Furthermore, while the two variables are related, the relationship is weak enough to allow proof of the existence of two distinct orientations toward voting.

More recent studies have monitored the impact of the interest and concern factors on turnout rates in subsequent presidential elections since the 1950s.\(^\text{57}\) Brody, for example, discovered that concern over the outcome of the election varied over a narrow range from 1952 to 1976. However, the proportion claiming to care which party won the presidential contest has steadily declined since 1964.\(^\text{58}\) Similar conclusions are reached by Cassel and Hill as well as Ferejohn and Fiorina in their multivariate analyses of presidential contests since the 1950s.\(^\text{59}\) Ferejohn and Fiorina conclude that change in concern over the election outcome alone is sufficient explanation for the decline in turnout for this period.

\(^{57}\) A recent study investigating several of these factors is Shaffer, \textit{op. cit.}

\(^{58}\) Brody, \textit{op. cit.}, pp. 301-302.

Comparable conclusions have been reached on the influence of interest in the campaign. In a comparison of both local and presidential elections, King concluded that the interest factor lagged in importance in the 1960 and 1964 presidential contests behind that of many socioeconomic variables and partisanship.\textsuperscript{60} In addition, Brody’s investigation of presidential election turnout from 1952 to 1976 reveals very little change in expressed interest in the campaign from that found by Campbell and his associates.\textsuperscript{61} Miller’s study of various factors affecting turnout levels in national elections from 1952 to 1978 also reveals a rather consistent, monotonic relationship between interest and voting.\textsuperscript{62} A study conducted by Cassel and Hill on the 1964 and 1976 presidential elections using both regression and probit analysis displays the importance of campaign interest in explaining differences in turnout among particular political attitudinal and socioeconomic data.\textsuperscript{63} Nevertheless, these conclusions have been brought into question by the results of other studies. For

\begin{itemize}
\item \textsuperscript{60} James D. King, "Comparing Local and Presidential Elections," \textit{American Politics Quarterly}, 9 (July 1981), 281-287. King used discriminant analysis to test for the contributions of each predictor variable.
\item \textsuperscript{61} Brody, \textit{op. cit.}, pp. 301-303.
\item \textsuperscript{62} Miller, \textit{op. cit.}, pp. 13-17.
\item \textsuperscript{63} Cassel and Hill, \textit{op. cit.}, pp. 186-192.
\end{itemize}
example, Katosh and Traugott's study of vote turnout in the 1976 presidential election finds "that the most important predictor is the short-term value factor of interest in the campaign."64

Yet another short-term influencing factor consistently investigated in voting turnout studies is the individual's perceived closeness of the upcoming election. Campbell and his team of University of Michigan associates labeled this constraint as a "force acting on a present decision." In their seminal work, these scholars found an 18 percent shift over the three levels within the higher level of perceived closeness.65 Subsequent analyses by Reiter, Ashfelter and Kelly, Ladrich, and Cyer have found this component to have little effect on turnout rates. For instance, Reiter's discriminant analysis of numerous predictor variables believed to affect vote turnout shows the closeness factor to be weakly related to vote turnout.66 Nevertheless, his analysis does show that it is possible for this perception to change in importance from election to election. Similarly, Ashenfelter and Kelly discovered the closeness factor to be positively associated with

64 Katosh and Traugott, op. cit., p. 368.
65 Campbell, et al., The Changing American Voter, pp. 50-60.
66 Howard L. Reiter, "Why is Turnout Down?" Public Opinion Quarterly, 43 (Fall 1979), 297-311.
turnout; however, the variable was not found to be significantly significant in the two presidential elections years examined in their study.  

Aldrich and Cyr have examined the impact of the closeness factor within the context of the rational-choice model of decisional behavior. Aldrich uses a measurement of the closeness factor, which is based upon the outcome of the presidential contest within the respondent's own state as opposed to the nation as a whole. The statewide measure of the closeness factor is found to be weakly related to turnout while the national measure is totally unrelated.  

Cyr, in a re-examination of Riker and Ordeshook's rational voting scheme, again confirms the absence of any relationship between perceived closeness of the election and vote turnout. Both Cyr and Aldrich find their results to be surprising and anomalous since the "expected utility" hypothesis of the rational choice literature attaches great importance to this factor. This

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67 Ashenfelter and Kelly, op. cit.

68 Aldrich, "Some Problems in Testing Two Rational Models of Participation," pp. 728-730. In addition, the analysis raises questions about the appropriate use of sample subsets and choice of reliable and valid indicators of the concepts under investigation. Both affect measurement error which can have substantial consequences for research conclusions.

short-term component deserves further investigation.

Since the 1950s, the public has made avid use of the mass media to follow politics. Campbell, et al., discover in their analyses of the 1952 and 1956 presidential election contests that "only about one person in twenty said that the campaign had failed to reach him through any of the principal media of communication." 70

Studies since the 1950s have examined the affects of different media types and their direct effects on electoral participation. It has been generally assumed that the print medium is the most intellectually demanding information source. 71 Furthermore, newspapers and magazines devote more attention to a wider range of campaign issues and candidate qualities, and is also afforded the opportunity to discuss these in greater depth than television news. 72 While it is true that there is substantial exposure to the media, Graber has estimated that only one-

70 Campbell, et al., The Changing American Voter, p. 92. In this and subsequent CPS/SRC election studies, respondents were asked whether they had obtained information about the campaign from radio, television, newspapers, and magazines.


half to two-thirds of the adult population exposes itself to explicitly political news. Studies by Chaffee and Kessel indicate that newspaper readers retain more information than do television viewers.

Some have argued that television news is lower on informational content than once assumed, and that news programs may induce feelings of political cynicism and inefficacy. This has led some scholars, such as Shaffer, to suggest that the decreased reliance on newspapers for campaign information and subsequent replacement by television programming can be used to explain the decline in turnout. Shaffer's conclusions do indeed support such a contention, although his final analysis excludes other media sources. It is not clear, however, that

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75 Patterson and McClure, op. cit.


77 Shaffer, op. cit., p. 70.

78 Shaffer's choice is based partly upon the significant correlations he discovered between newspaper readership and turnout. In addition, newspaper readership displayed a more consistent decline among all media sources for the years he investigated.
other sources of campaign information should be excluded from turnout analysis since one would expect greater turnout among those exposed to more political stimuli regardless of source. In short, the conclusions on the effects of different media sources are mixed, lending support to a wide variety of hypothesis testing. Furthermore, as Miller has pointed out, the use of the mass media to follow politics and political campaigns has not diminished much at all during the last thirty years. Therefore, research on vote turnout should continue to monitor the effects of different forms of media in order to detect changes in trends.

Much of the recent literature on voting behavior has begun to focus upon the effects that economic conditions can have on vote choice and turnout. Indeed, a major


theoretical approach to decision-making theory in political science attempts to explain political behavior in terms of personal costs and expected benefits derived from government policies, especially economic policies. Others, such as Tufte, have argued that citizens tend to "vote their pocketbooks," further substantiating personal economic conditions as important determinants of political behavior. The current debate among scholars is over the relative impact of personal economic conditions versus the impact of aggregate, or societal, economic conditions on political behavior. Some researchers have found general economic conditions -- such as inflation, unemployment, and income -- to be significantly related to both congressional and presidential election voting. The underlying assumption behind these findings was that voters usually blamed government for economic hardships they experienced as a result of a declining economy. Hence,


"voting one's pocketbook" is voting based upon personal economic circumstances.

Recent articles by Brody and Sniderman and Kinder and Kiewiet have called the theoretical assumptions behind much of the literature into question. Brody and Sniderman argue, for instance, that the personal impact of economic problems will have political consequences only if the individual believes that government should be helping more and that it is government's role to do so.84 Examining turnout in the 1972 presidential, Brody and Sniderman discover that those concerned about a personal economic problem (as well as any self-located problem) were much less likely to vote than common expectations would suggest.85

Kinder and Kiewiet have attacked the conventional wisdom on this topic by arguing that people's collective economic judgments, rather than the personal impact of economic hardships, can affect political behavior.86 Rejecting the notion of economic-self interest, this approach concludes that societal economic conditions become the parameters for voter reactions. This formulation is

84 Brody and Sniderman, op. cit., p. 349-351.
85 Ibid.
somewhat attuned to the strong ethic of self-reliance believed to be culturally engrained in this country. Lau and Sears, for instance, discover that most of their respondents refused to blame the President Carter for their personal economic problems.\textsuperscript{87} Thus, as Kinder and Kiewiet state, the literature in this area is "not altogether tidy," as confusion still reigns as to which economic indicators have political consequences and which do not. Moreover, most studies have focused upon the eventual vote choice of the respondents rather than examining the general question of turnout. Given the inconclusiveness of the literature and the logical relationship posited between economic conditions and voting, these measures are quite appropriate for short-term models investigating vote turnout.

\textbf{Linkages Between Vote Choice and Vote Turnout: Elements of Rational Choice}

The concepts underlying the "rational-choice" model of voting behavior have been set forth in the introduction to this chapter. To recapitulate briefly, this conceptualization of voting hypothesizes that individuals are utility maximizers who evaluate the benefits of voting against the costs involved in casting a ballot. As Anthony Downs, the

\textsuperscript{87}Lau and Sears, \textit{op. cit.}
originator of this proposition, states: "We assume that every rational man decides whether to vote just as he makes all other decisions: if the returns outweigh the costs, he votes; if not, he abstains." The costs involved in voting, as hypothesized by Downs, include (a) time to register, (b) time to discover the parties and candidates who are running, (c) time to deliberate over a voting decision, (d) time involved in getting to the polls, and (d) time spent actually casting a ballot. In short, voting is inherently portrayed as a costly act. Benefits received from voting include (a) the intensity of one's desire to see a particular candidate or party win an election (i.e. -- the "party differential" factor), (b) the degree to which the party differential factor is discounted by the perceived influence of other voters in the election, and (c) the "value" attached to the voting act itself, or "civic duty." Again, as Downs argues:

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89 A separate body of literature exists for works dealing with the effects of registration laws and voting conveniences. This research primarily investigating attitudinal dimensions rather than these structural components of vote turnout. Campbell and his associates analyzed this perspective of vote behavior in The American Voter. However, excellent treatments of the topic may be found in the following works: Raymond E. Wolfinger and Steven J. Rosenstone, Who Votes? (New Haven, 1980); Paul Kleppner, Who Voted? The Dynamics of Electoral Turnout, 1870-1980 (New York, 1982). An excellent study comparing the impacts of various structural and attitudinal components on both voting registration and vote turnout may be found in John P. Katosh and Michael W. Traugott, "Costs and Values in the
Each citizen is thus trapped in a maze of conjectural variation. The importance of his own vote depends upon how important other people think their votes are, which in turn depends on how important he thinks his vote is. He can conclude either that (1) since so many other people are going to vote, his ballot is not worth casting or (2) since most others reason this way, they will abstain and therefore he should vote. If everyone arrives at the first conclusion, no one votes; whereas if everyone arrives at the second conclusion, every citizen votes unless he is indifferent.

This model of vote choice has been the subject of much investigation in the empirical analysis of voting behavior. Even Downs himself argued that most citizens would figure their ability to affect the outcome of an election to be quite small. Thus, the vote value generally was not expected to exceed any costs associated with voting. While rational abstention could be explained by Calculus of Voting," American Journal of Political Science, 26 (May 1982), 361-376. For discussion on the impact of the number of elections put before voters each year and the subsequent impact on turnout, see Richard Boyd, "Decline of U.S. Voter Turnout," American Politics Quarterly, 9 (April 1981), 133-159.

90 Downs, op. cit., p. 267.

such a process, it left dangling the factors thought to explain widespread voting. Hence, Downs construed rather intangible benefits which citizens derive from living in a democracy. Voting is viewed as a prerequisite for democracy and democracy a reward for voting. Thus, citizens could be participating because of the "long-term participation value" associated with each election. 92

Riker and Ordeshook reconceptualized the rational voter model. They explained rational abstention or participation primarily in terms of the probability that a citizen's vote will make a difference as based upon his subjective perception of the closeness of the election. 93 Furthermore, these researchers introduce a direct utility gain (which they call "D") into the model. Therefore, the voting calculus is rational in the sense that individuals correctly or incorrectly determine the closeness of an election in combination with some postulation of "cathartic or psychic rewards." 94 Interestingly, Riker and Ordeshook's analysis discovered that the


92Downs, op. cit., p. 266.


94The terminology is borrowed from Ferejohn and Fiorina, op. cit., p. 525. The so-called "D-term" is analogous to what earlier researchers labeled "civic duty."
perceived closeness of the election (P-term) was weakly related to vote turnout, concern over which party won the election (B-term) was moderately related to turnout, and a "citizen duty" score contributed the most to the explanation of turnout. In short, their results indicate that people vote for reasons other than beliefs that their behavior will bring about desired results. As Ferejohn and Fiorina succinctly state, the results indicate that "... one votes because the psychic pleasure of pulling the lever (D) exceeds the costs (C) of doing so. Thus, one needs only to explain why some citizens get a big bang out of pulling the lever while others do not."  

This discussion highlights the controversies that exist among political scholars concerning the ability of rational choice models to adequately explain voting behavior. Indeed, more than one conceptualization of rational choice can be operationalized within the vote decisional theory framework as witnessed by the development of an entire literature on the topic. Ferejohn and Fiorina argue for the continued usage of rational-choice models in voting behavior research; however, they clearly

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95 Riker and Ordeshook, op. cit., pp. 36-38.
96 Ferejohn and Fiorina, op. cit., p. 526.
97 For works giving overviews of the varying approaches, see Tullock, op. cit.; and Riker and Ordeshook, op. cit.
demonstrate the problems with rational models of voting behavior that assume the existence of only one underlying decisional calculus.

The depiction of the rational voter as a utility maximizer, while the most commonly accepted criterion of rationality, is not the only one. For example, the "minimax regret" criterion stipulates that an individual should choose the act which minimizes his maximum regret. Regret, as used here, is commonly defined as the difference between what the decision-maker could have attained had he known the true state of nature before he chose his action and what he actually gets through his/her eventual choice. Consider the commentary provided by Ferejohn and Fiorina after comparing "maximum utility" decision-makers with "minimum-regret" decision makers:

An expected utility maximizer behaves as if he estimates the probabilities of events and utilities of outcomes. Each action is viewed as a lottery with choice dependent on the expected utility of each action-as-lottery. The minimax regret decision maker uses a simpler rule. He imagines himself in each possible future state of the world and looks at how much in error each of his available actions could be, given that state. Then he chooses that action whose maximum error over the states of nature is least. If asked why he voted, a minimax regret decision maker might reply 'My God, what if I didn't vote and my preferred candidate lost by one vote? I'd feel like killing myself.' Notice that for the expected utility maximizer the probability of such an event is very important, whereas for the minimax regret decision maker, the mere logical possibility of such an event is enough.

Ferejohn and Fiorina, op. cit., p. 523.
Clearly rational models of voting behavior have a place in the circle of competing theories aimed at explaining electoral behavior. They do, nevertheless, suffer from problems associated with methods used to collect attitudinal data. Aldrich makes a valid point in his conclusions about rational models of voting behavior when he states citizens may respond to an interviewer that they are concerned about election outcomes, or the closeness of an election, or voting out of citizen duty because they have already decided to vote.\(^99\)

Nonetheless, the vitality of the rational choice approach to studying electoral behavior — having proven its worthiness in past empirical research — can be enhanced by better conceptualizations of the decisional process itself. One plausible means of subjecting its underlying premises to empirical scrutiny is to examine the cognitive evaluation processes that are assumed to exist within the minds of citizens when they are weighing the pros and cons of candidates, parties, and policy matters. Since these processes carry numerous assumptions about the importance of these components of the electoral process, it is important to review the development of their status in voting behavior research and subsequent conceptual changes.

\(^{99}\)John Aldrich, *op. cit.*
offered by recent studies.

The Classical Voting Model

Both The American Voter and The Voter Decides viewed partisanship, candidate evaluations, and issue attitudes as the most immediate attitudinal determinants of the vote. Party identification was viewed as a longer term attitude not closely tied to any specific election context, while candidate and issue attitudes were considered to be more of a short-term component reflecting the candidates and issues prominent in a particular election. The dominant model linking these three attitudinal factors to vote choice is illustrated in Figure 1.

In this recursive model formation, party identification, issue attitudes, and candidate attitudes are each assumed to have a direct effect on vote choice, with party identification also having indirect effects through issue and candidate attitudes respectively. This model dominated research efforts on voting behavior through the early 1970s. Most studies indicated that partisanship

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Fig. 1—Classical model of vote choice
remained a strong predictor of vote choice, while candidate effects fluctuated dramatically over time. This basic model has come under attack by revisionists who have challenged the recursive specification of the model and the conceptualization and measurement of the explanatory components. Since these "core components" are incorporated into the rational choice model tested in this research, it is necessary to review these controversies.

Recursive and Nonrecursive Model Formulations

The traditional, recursive model of vote choice has been criticized on the grounds that it fails to consider additional plausible relationships among the explanatory variables. Certainly it seems plausible to assume that policy-oriented comments can be causes for and consequences of candidate evaluations and partisan attachment. Similarly, party loyalties can also affect and be affected by candidate evaluations.

One of the earlier nonrecursive models was formulated by Jackson in his analysis of the 1964 presidential election. Jackson explicitly incorporated a reciprocal linkage between the voter's party identification and their evaluations of the policy positions of the candidates and the political parties. The core components of his

101 Jackson, op. cit.,
model appear in Figure 2. Notice that no arrow directly links party identification and vote choice, although a reciprocal link exists between party identification and candidate or party evaluations. Jackson's analysis produced results which led him to conclude that "party identifications are highly influenced by people's evaluations of what policies each party advocates relative to their own preferences," and that "party affiliations have little direct influence on the voting decision except for people who see little or no difference in the parties . . . ."\textsuperscript{102}

Jackson's analysis departed from the classical voting model in its heavy emphasis on the role of issues in party preference and the absence of direct impact of party identification on vote choice. Most importantly, the stability of party identification is posited as a reflection of the stability of issue partisanship and the development of partisanship is shaped by the issue foundation underlying parental partisanship. In short, the inclusion of a nonrecursive linkage does result in interpretations which are quite different from the classical model.

Brody and Page provide discussion of the possible linkages between issue attitudes and vote choice: issue preferences may influence vote choice, but the causal flow

\textsuperscript{102}Jackson, \textit{op. cit.}, pp. 176-177.
Fig. 2--Jackson's Nonrecursive Causal Model
can run in the other direction if issue preferences follow an already made vote choice. One could envision a situation where vote choice could affect party identification: A person who voted for a certain party may subsequently decide that he or she is an adherent of that party.

It therefore becomes possible to formulate a model that demonstrates the full complexity of the relationship among the three core variables -- partisan identification, issue attitudes, and candidate evaluations -- with vote choice. Page and Jones have proposed a rather complex non-recursive model to explain vote choice in the 1972 and 1976 presidential elections. The core of this model is displayed in Figure 3. Note the multiple reciprocal linkages among policy preferences, party identification, and candidate evaluations.

In estimating an elaborated version of this model, Page and Jones found a reciprocal relationship between policy distances and candidate evaluations. More importantly, they found that current party attachments are affected by the policy and candidate attitudes.

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COMPARATIVE POLICY DISTANCES

COMPARED CANDIDATE EVALUATIONS

CURRENT PARTY ATTACHMENT

VOTE CHOICE

Fig. 3—Page and Jones' Nonrecursive Core Model
Thus, support exists indicating that party identification is more responsive to the immediate events of politics than is suggested by the classical model.

Furthermore, Markus and Converse constructed a dynamic simultaneous equation model of vote choice which included the usual set of explanatory variables, but in addition tried to explicitly model the social psychological processes by which the voter makes his/her vote choice. Their major assertion was that issue preferences and candidate personalities did not affect vote choice directly; instead, they argued that the major effect of these two variables (as well as party identification) was to jointly shape candidate evaluations which directly affected vote choice. Much in the vein of the Page and Jones model, social background characteristics are removed from a pattern of direct causality on the vote. This represents a major modification of the earlier sociological and social-psychological models of vote choice. Furthermore, candidates become the primary object of vote evaluations, not parties or issues. However, both partisanship and issue concerns remain linked to the electoral decision to explain the behavior patterns of those voters who cannot decide.

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solely on the basis of personalities and leadership oriented traits.

This reformulation of the earlier classical model is appealing, for it accommodates all the components of the rational model. Issues and candidates in an election are evaluated in terms of the costs and benefits derived from specific policy alternatives and the "presidential" capabilities of the candidates themselves. Party identification is viewed as a response to the ability of the governing parties to provide desired policy directives, but it is also used in deciding candidate choice. The primary nature of the comprehensive summation of attitudes relating to all three is clearly linked to the rational choice scheme.

It is clear, too, that nonrecursive models have been responsible for substantial advances in understanding the complexities of the vote choice process. The traditional recursive models may simply rule out by assumption too many substantively plausible linkages among the core variables. Such conclusions point to the necessity of examining reciprocal linkages in models simultaneously incorporating partisan attachments, issue orientations, and candidate evaluations.
The Intertwining Effects of Party, Candidate, and Issue Attitudes

Scholars involved in voting behavior research are usually interested in estimating the effects of party identification, candidate attitudes, and issue preferences on either vote choice or vote turnout, although the latter has received very little attention in this regard. The typical strategy involved in these analyses is to regress vote choice or vote turnout (Y) on party identification (X1), candidate issues (X2), and issue orientations (X3) and obtain regression coefficients representing the relative impact of each. Such analysis suffers in at least two ways. First, the regression equation only measures the direct effects of the independent variables; that is, one cannot actually compute any indirect effects. While controls can be used to determine whether strengths of association or tests of significance diminish with the inclusion of additional variables, a more complete understanding of the interrelationships among the independent variables and the dependent measure is difficult to grasp.

Second, the operationalization of party identification, issue orientations, and candidate evaluations is very problematic. Many of the measurement strategies used in past research -- such as the numerical counts of likes and dislikes of parties and candidates -- present difficulties because they tap at least two of the explanatory variables simultaneously. As a result, it becomes impossible to sort out the distinct effect of each variable. Given the intrinsic conceptual overlap and mutual dependence among party, candidate and issue attitudes, it may indeed be impossible to construct purely autonomous measures of each. For example, if the respondent views a candidate as a "big spender," this might very well be based upon the type of spending that he or she perceives the candidate will favor increased spending for; thus, the reference is tapping an issue component as well as a candidate component. This type of measurement problem can pose serious dilemmas for researchers, especially for those that posit one-way causal relationships.

Conceptual and Measurement Definitions of Party Identification

Campbell, et al. defined the political party "as the group toward which the individual may develop an identification, positive or negative, of some degree of
intensity." This identification is assumed to structure citizens' perceptions of politics, their evaluations of political objects, and guide their behavioral responses to political stimuli. Party identification has always figured prominently in voting behavior analyses because it has been consistently viewed as a major determinant of political behavior; because it has been depicted as a source of stability in the sometimes volatile electoral situations characteristic of American politics; and because it has served as the core of the "normal vote" concept developed by Converse -- the baseline from which short term partisan changes may be evaluated.

Many of the traditional empirical generalizations about party identification -- such as its early development

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108Campbell et al., op. cit., pp. 121-122.

109See Philip Converse, "The Concept of a Normal Vote," in Campbell, et al. (eds.) Elections and the Political Order (New York, 1966), pp. 9-39. Converse defined the normal vote as the expected two party split across categories of a campaign issue or other short term force given knowledge of the partisanship of the respondents in each of the categories. It assumes that party identification is a highly stable characteristic of voters. Though widely used by political scientists in the analysis of electoral behavior, it has not gone without criticism. See Christopher Achen, "The Bias in Normal Vote Estimates," Political Methodology, 6 (May 1979), 343-356. Achen concludes that there is little reason to assume that partisanship is as stable as the normal vote concept implies it to be, especially when applied to data from a period in which long-term shifts in the electorate are occurring -- such as was the case after 1964. Despite such criticisms, its utility is still widely recognized, although with greater care than in the past.
through a family dominated socialization process, its reinforcement over time, and its stability — have been carefully re-examined and subsequently called into question. Dobson and St. Angelo, Brody, and Howell have all challenged the presumed stability of partisanship, arguing that party attachments are more susceptible to political stimuli and events than originally assumed by Converse. With each bit of empirical evidence demonstrating the susceptibility of party identification to short-term forces comes more effective reasoning for the need of nonrecursive formulations which allow reciprocal linkages between party identification, candidate attitudes, and policy evaluations.

Numerous political scientists have experimented with alternative conceptualizations of party identification as this evidence for the short-term impact of political stimuli grows. Fiorina and Shively, in particular, have attempted to reformulate the conceptualization of party identification away from long-term attitudes acquired during childhood which lacks substantive issue and policy

content to an identification in the political experiences of the adult citizen. Asher and Katz have found problems with the unidimensional nature of the traditional partisan scale produced by the CPS questions. Specifically, independents have shown to possess characteristics normally associated with higher levels of participation, in some instance more so than weak Democrats and Republicans. In addition, strong Democrats and Republicans may cluster together when one considers strength of partisan intensity.

Despite the criticisms that have surfaced over the years in the literature, strong arguments still exist for the retention of the traditional measurement scheme used in most of the CPS surveys. In effect, many argue that it is not worthwhile to completely discard the traditional

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measure unless notable theoretical and substantive gains can be offered by alternatives. As even some of the critiques display, the traditional measure does an adequate job in representing partisan predispositions of citizens in multidimensional space.

Conceptual and Measurement Definitions of Candidate Evaluations

Candidate evaluation has received varying amounts of attention in voting behavior studies in the last thirty years. A number of recent models of presidential vote choice have argued that candidate evaluations are the most immediate determinants of vote choice and are, together, the primary variable through which other influences -- such as partisanship and issue attitudes -- operate.\footnote{Page and Jones, \textit{op. cit.}; Markus and Converse, \textit{op. cit.}; Donald R. Kinder and Robert P. Abelson, "Appraising Presidential Candidates: Personality and Affect in the 1980 Campaign," paper presented at the Annual Meeting of the American Political Science Association, September, 1981.} What could be labeled as a "broad-perception" oriented method of candidate evaluation has been operationalized and popularized by Kelley and Mirer. Their vote decision "rule" predicted presidential vote choice more accurately than a prediction based solely on party identification. This rational-choice method operates as follows:
The voter canvasses his likes and dislikes of the leading candidates and major parties involved in an election. Weighing each like and dislike equally, he votes for the candidate toward whom he has the greatest net number of favorable attitudes, if there is such a candidate. If no candidate has such an advantage, the voter votes consistently with his party affiliation, if he has one. If his attitudes do not incline him toward one candidate more than another, and if he does not identify with one of the major parties, the voter reaches a null decision.\textsuperscript{115}

The utility of the Kelley-Mirer rule in explaining vote choice has already come under strict scrutiny since its "net affect" approach inappropriately combines the evaluations of party and candidate, thereby reducing the role of party identification in predicting voter choice.\textsuperscript{116} In addition, it has been demonstrated that such an approach may reveal a sizeable percentage of the eligible electorate (as well as eventual voters) who have no net like-dislike score favoring either candidate.

Lawrence has developed a somewhat different approach to candidate evaluation that is "performance-perception" oriented. In examining the electorate's attitudes towards presidential candidates, he only examines the characteristics of the candidates that are related to their ability to perform presidential tasks.\textsuperscript{117} Lawrence's analysis

\begin{itemize}
  \item \textsuperscript{115} Stanley Kelley, Jr. and Thad W. Mirer, "The Simple Act of Voting" American Political Science Review, 68 (June 1974), 574.
  \item \textsuperscript{116} Margaret Conway and Mikel L. Wyckoff, "Voter Choice in the 1974 Congressional Elections," American Politics Quarterly, 8 (January 1980), 3-13.
  \item \textsuperscript{117} David Lawrence, "Candidate Orientation, Vote
revealed a strong and positive correlation between his reformulation of candidate evaluation and vote choice for the six presidential elections spanning 1952 to 1972.

Despite refinements in candidate evaluation approaches, problems persist over the use of a "net count" scheme utilizing positive and negative open-ended comments as a valid means of measuring cognitive evaluations.\(^\text{118}\) Generally speaking, such a process has been criticized for three reasons: (1) it obscures the large number of respondents who have no evaluations, particularly for special categorical responses such as those invoked by Lawrence; (2) it assumes that preferences do indeed exist and can be ordinally ranked by voters; and (3) it distorts the possibility of unidimensional evaluations; that is, it does not account for evaluations of only one candidate.

There are a number of longitudinal studies that have analyzed the content and sources of candidate images. Patterson's study of the 1976 presidential campaign examined the popular awareness of candidates, perceptions of the candidate's chances for winning the party nomination, and Choice, and the Quality of the American Electorate," *Polity*, 11 (Winter 1978), 229-246.

\(^\text{118}\) For comments and review of the related literature, see Frank B. Feigert and David L. McClure, "Candidate Evaluations: Limits to Rationality," paper presented at the Annual Meeting of the Southwestern Political Science Association, Dallas, Texas, March 1981.
images of the candidates over the course of the campaign. In general, Patterson found that citizens' awareness of many of the candidates prior to the primaries was extremely low, with recognition increasing disproportionately for one candidate -- Jimmy Carter -- primarily due to media coverage. Kinder and Abelson have discovered that evaluations of presidential candidates are responsive to the themes and events of the campaigns. Similarly, Norrander found that the reasons given for voting for a candidate in the 1980 primaries seemed to correspond very closely to the kinds of emphases presented by the campaign. In short, much of the research in the candidate evaluation area suggests that much of what is learned about the candidates is determined by the candidates' own campaign emphases and by the media reporting of primary election outcomes.

Conceptual and Measurement Definitions of Issue Attitudes

The role of issues in elections and the ability of the average voter to cast an "issue vote" have been two of the

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120 Kinder and Abelson, op. cit.

most controversial topics among researchers in the field of voting behavior. Early works, such as *The American Voter*, revealed a rather unsophisticated issue-oriented electorate. As stated earlier, partisanship and candidate orientations served as the major inputs into the vote choice process for the average citizen. Over time, however, this portrait of the typical American voter came under attack by "revisionists" who argued that the electorates of the 1960s and 1970s were more sophisticated than were the electorates of the 1940s and 1950s. They argued that the time periods studied in earlier works were largely "issueless," thus making these findings timebound. Issue voting was also believed to be more prominent in more politically charged times, causing candidates and parties to offer clear and less ambiguous choices. Others have argued that either the methods or data used to assess issue voting in the early voting studies were inadequate and thereby systematically underestimated the amount of issue voting.

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125 These critiques include Jack O. Field and
At the same time, this "revisionist" literature itself has come under attack on several methodological grounds. Indeed, analyses of more recent elections suggest that studies conducted in 1964 and 1972 may have been done in an era just as atypical as the studies of the 1950s. Aldrich and Bishop have discussed in great depth the methodological developments which have occured in the study of issue voting, particularly the consequences of question wording and question filters. Due to changes in question formats and question wordings, some researchers argue that it becomes impossible to compare results across time with any degree of accuracy. In addition, events surrounding the administration of the survey itself can


126 Asher, op. cit.; Brody and Page, op. cit.

obviously bias respondent results. Consequently, unless reliable panel data are available, many investigators have chosen to focus their studies on particular election years.

On the substantive side of the issue voting controversy, the work of Carmines and Stimson has provided fresh insights into two kinds of issue voting, one based upon "hard" issues and the other on "easy" issues. On the substantive side of the issue voting controversy, the work of Carmines and Stimson has provided fresh insights into two kinds of issue voting, one based upon "hard" issues and the other on "easy" issues. 128 Hard issues may be viewed as being more Downsian in nature; that is, voters actually make use of conceptual skills that allow them to formulate their own policy preferences and then locate the candidate closest to their preferences. In a sense, this type of voting is more voter dependent and depicts a more informed, a more interested, and a more involved electorate. Easy issues, on the other hand, are matters that have become so ingrained over a long period of time that they structure voters' "gut responses" to candidates and parties. As Carmines and Stimson argue, such issues are more symbolic than technical; more concerned with policy ends than policy means; and more influenced by common prejudices since they have been on the political agenda for some time. 129

129 Ibid., p. 79.
The conclusions reached by Carmines and Stimson are important to note since they may undoubtedly force future discussions of issue voting to be careful in equating issue voting with level of citizen competence. The authors argue that all issue voting is not sophisticated as previous studies have suggested; instead, easy issue voting is found to be far less sophisticated than nonissue voting. In short, overestimations have no doubt occurred in past research efforts by failing to consider these split dimensions of issue voting.

By contrast, Rabinowitz also discovers the salience of issues in shaping political behavior, but is unable to conclude that the one most salient issue to the voter dominates his/her voting decision. This finding lends support to the idea that the electorate is not merely a collection of single-issue voters. Therefore, taken as a whole, these investigations indicate that issues by themselves cannot totally explain voting behavior. The extent of issue voting may very well depend upon the characteristics of the voters, the nature of the issues themselves, and the emphasis that candidates put on the issues in their campaigns. Yet, it is equally clear that issue considera-

tions do occur in the voting calculus for many voters, rendering the concept a valuable factor for consideration in models of rational voting behavior.

Having now discussed the major propositions and findings in the literature, it seems evident that suggestions for future research all revolve around the need for more explicit models which can assist in piecing together the dynamic relationships between the predictor variables found to be related to vote turnout. Further, as Aldrich has suggested, more complex methodology suitable for estimating nonrecursive equation models are necessary to properly estimate the processes underlying the rational-choice approach to vote behavior. Hence, Chapter III explains the overall research design incorporated in this study and explains the construction of indicators for the complex attitudinal processes that underlie the voting calculus. In addition, the choice of the dependent variable to be used in the hypothesized models is explained in detail, primarily due to the controversy that surrounds self-reported versus official votes. Chapter III builds upon the literature review by detailing the construction of causal models designed to test for the long-term effects of the social-psychological model, the short-term effects of factors suggested in both The American Voter and subsequent analyses, and the components of rational choice.
CHAPTER III

RESEARCH DESIGN

Selection of Data

The data utilized in this research project are derived from the 1980 American National Election Study conducted by the Center for Political Studies. The traditional pre- and post-election samples are incorporated into this analysis, although the 1980 survey includes panel studies conducted throughout the course of the election year. Information on a variety of social, economic, and political questions were obtained by interviewing in person, and over the telephone, 1614 individuals living in households in the conterminous United States. The sampling universe consisted of all U.S. citizens eighteen years of age and older. Respondents were selected using a multistage area probability sample. In addition, information from the

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1The Center for Political Studies (hereafter cited as CPS) is housed at the Survey Research Center at the University of Michigan. CPS election studies have been conducted on a systematic two-year basis since 1952 and provide an extensive data base for political researchers with interests in congressional and presidential elections in the United States. It is probably the most widely used data bank for empirical research on our national elections.

2For detailed information about the sampling procedure, the reader should consult the American National Election Study 1980 Codebook, published by the Center for Political Studies at the University of Michigan.
accompanying Vote Validation Study for the 1980 presidential election study was incorporated into the present analysis. Researchers at the Survey Research Center sent interviewers to electoral offices throughout the United States to establish whether survey respondents were registered to vote in 1980 and, if so, whether the official voting record indicated that they had voted on election day.

There are several reasons for the use of the 1980 election study as opposed to other election years or an examination of the hypothesized models over several elections. First, the 1980 survey incorporates numerous questions which were not used in prior studies. Designers of the project purposely included many new question formats to allow users the opportunity to engage in novel measurements of constructs that have been subject to debate in past research efforts. As such, some of the variable constructions used in the present analysis are not possible in earlier years. Second, the 1980 election study provides the most recent presidential data available to scholars and thereby allows the testing of past conclusions on election processes. Third, future studies will no doubt include many of the question formats that have been added to the 1980 survey; hence, replications of the findings presented herein can be assessed for their validity and reliability over time. Nevertheless, the limitations of generalizing
the results based upon a single election study should be kept in mind, at least until such future replications are undertaken. Such a procedure is not uncommon in political science research and should not render the findings moot in any sense.

Variable Selection and Operationalization

Measurement of Predictor Variables: Scaled Items

This study seeks to identify and test hypothesized causal relationships between theoretically supported predictor variables and the dependent variable -- voter turnout. In searching for suitable indicators of attitudinal dimensions, researchers are often faced with no choice but the use of imperfect survey instruments. At best, we can attempt to construct question formats that tap the underlying attitude structures that we hypothesize to be influencing the behavior pattern under question. The choice of variables must be theoretically justified. Moreover, the measurement of the underlying concepts these variables represent must be scrutinized to determine the potential for random and nonrandom measurement error. In the following pages, care is taken to justify the selection of the variables to be used in the analyses. In some cases, this involves statistical testing procedures to determine the soundness of variable choice.
Several of the independent variables used in the hypothesized models that follow are constructed using additive indices. That is, multiple indicators of a concept under question are extracted from the survey questions and composite scores are constructed for each respondent for which valid data exists. The use of multiple indicators as opposed to single items increases the likelihood of measuring the underlying concepts with greater precision. Further, many of the concepts have traditionally been measured in past political research using such an approach.\textsuperscript{3} Since most of these variables play important roles in the model constructions that follow, careful explanations of their construction and the results of validity and reliability tests will be presented. Other predictor variables, except for those outlined in the third model, are single variable concepts, the choice of which will be explained in full in Chapter IV.

\textsuperscript{3}For a discussion of the advantages and disadvantages of using multiple indicators, see George I. Balch, "Multiple Indicators in Survey Research: The Concept 'Sense of Political Efficacy,'" Political Methodology, 1 (Spring 1974), 1-43; H. L. Costner, "Theory, Deduction, and Rules of Correspondence," in Hubert M. Blalock (ed.), Causal Models in the Social Sciences (Chicago, 1971), pp. 299-326. A discussion of the past use of multiple indicators in measuring specific constructs will be discussed in subsequent remarks.
The concept of "civic duty" has been a prime concept of inquiry for political analysts seeking to uncover factors relating to various modes of political participation in democracies as well as to the notion of system support. It involves a psychological awareness of the "expected" duty of citizens in a democracy to participate in the governing process regardless of interest, concern, or involvement in politics. Several questions in the CPS election studies have consistently been asked of respondents which have proven to be reliable indicators of one's strength of attachment to this notion. The questions have remained unchanged from survey to survey and include agreements and disagreements with the following four statements: (1) "It isn't so important to vote when


you know your party doesn't have a chance to win;" (2) "So many people vote in national elections that it doesn't matter much to me whether I vote or not; "If a person doesn't care how an election comes out then that person shouldn't vote in it;" and (4) "A good many local elections aren't important enough to bother with." These statements are used to establish a composite indicator of one's sense of civic duty for the 1980 election study.\(^6\)

Another item that has traditionally been included in voting behavior analyses is the concept of "political trust." Briefly, this concept is believed to tap an individual's positive or negative faith in government; that is, whether "government is or is not functioning and producing outputs in accord with individual expectations."\(^7\) Although a four question scale has normally been invoked by past researchers, a three item scale (ranging from zero to three) is used in this analysis due to its ability to achieve similar results with greater parsimony. The questions used for the construction of this

\(^6\)Agreements with these statements were counted for each respondent, thus giving a total score that ranges from a low of zero to a high of four.

variable include a count of positive answers to the following questions: (1) "How much of the time do you think you can trust the government in Washington to do what is right -- just about always, most of the time, or only some of the time?" (2) "Would you say the government is run by a few big interests looking out for themselves or that it is run for the benefit of all the people?" and (3) "Do you think that quite a few of the people running the government are crooked, not very many are, or do you think hardly any of them are crooked?"

The sense of "political efficacy" has also received considerable treatment in voting studies, particularly in the last ten years. Due to the well-grounded findings by Balch, Asher, Craig, and Abramson and Aldrich, a measure of "external efficacy" is used in this analysis. The findings of these studies combined with the results of reliability and validity tests to be discussed shortly confirm the use of this dimension of efficacy in explaining

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voter turnout. As pointed out in a previous section, measures of external efficacy have been shown to be highly correlated with voter turnout. Thus, a five-point scale (zero to four) was constructed based upon responses to the following questions which have empirically displayed their ability to tap this dimension: (1) "People like me don't have any say about what the government does;" (2) "I don't think public officials care much what people like me think;" (3) "Generally speaking, those we elect to Congress in Washington lose touch with the people pretty quickly;" and (4) "Parties are only interested in people's votes and not in their opinions." 9

Several scholars as well as political journalists have suggested that much alienation towards politics and disinterest in voting stems from poor ratings given to both incumbent political actors and government in general. Public opinion polls have consistently reported the general public's dissatisfaction with the level of performance associated with the national government in particular. While few researchers have incorporated this concept into models of vote behavior, its logical impact on voting decisions seems quite plausible and applicable to the current research project. Thus, a governmental performance

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9 These questions have been used in recent analyses by Balch, op. cit.; Abramson and Aldrich, op. cit.; and Craig, op. cit., with convincing results.
rating scale is constructed using respondent answers to the following questions: "How good a job is being done for the country as a whole by (1) the Federal government in Washington?; (2) the Presidency?; and (3) Congress -- that is the U.S. Senate and the House of Representatives?"

A relatively large body of research has investigated the impact that campaign stimuli can have on both voter turnout and vote choice. To facilitate an understanding of the contribution of such stimuli to the vote/no vote decision, a composite indicator is constructed from questions in the 1980 study concerning the use of various information mediums for election specific news. Again, a count is made of "yes" responses to questions concerning attention paid by the respondent to speeches or discussion of the 1980 presidential race on television, radio, newspapers, and magazines. A six-point index (zero to five) was produced with a score of zero indicating no attentiveness to such stimuli and a maximum score of five

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indicating substantial usage.\textsuperscript{11}

Two general scales were constructed revolving around the amount of political activity undertaken by the respondent and the extent of election specific political knowledge. Degree of political activity, assumed to be an relatively stable indicator of willingness to participate in politics, was measured by counting the number of positive responses to five traditional indicators of participatory political acts. These ranged (zero to five) from "talking to others" about the campaign to "giving donations" to political action committees.\textsuperscript{12}

Lastly, scaled indices were constructed in response to questions about societal and personal economic concerns. Much of the recent literature has begun to focus upon the impact that economic conditions can have on vote choice and turnout.\textsuperscript{13} Indeed, a major theoretical approach in

\textsuperscript{11}While specific questions were asked concerning the relative amounts of use of television, radio, newspapers, and magazines, the large number of missing data precluded the use of these questions in the analysis.

\textsuperscript{12}See Table VII for a complete listing of the political activities used in the construction of this scale.

political science attempts to explain political behavior in terms of personal costs and expected benefits derived from government policies, especially economic policies.14 Others, such as Tufte, have argued that people tend to vote their pocketbooks, further linking personal economic conditions with important determinants of political behavior.15 Thus, while many researchers have found aggregate economic conditions—such as inflation, unemployment, and income—to be significantly related to both congressional elections16 and presidential elections,17 the impact of personal economic well-being has produced mixed findings.18 In brief, while many citizens may be prompted to vote due to the general shape


17 Tufte, op. cit.

18 Donald R. Kinder and D.R. Kiewiet, "Economic Grievances and Political Behavior: The Role of Personal
of the economy, they may feel less prone to do so if they believe their own economic misfortunes lie with personal faults rather than specific governmental ones. Given this incongruity in research results, measures were computed for both concepts using questions hypothesized to tap both dimensions. To test for the "societal" economic impact on the voting act decision, a scale was produced counting each respondent's answer to the following questions: (1) "Would you say that over the past year the nation's economy has gotten better, stayed about the same, or gotten worse?"; and (2) "Would you say that at the present time business conditions are better or worse than they were a year ago?"

To test for the more "personal" side of economic impacts on voting, responses to two other economically-related questions were used to produce a special index score: (1) "We are interested in how people are getting along financially these days. Would you say that you (and your family living here) are better off or worse off than you were a year ago?"; and (2) "Do you think that over the last five years (your/your family's) income has gone up more than the cost of living, has it fallen behind, or has it stayed about even with the cost of living?"

Noticeably, the first set of questions specifically address systemic or Discontents and Collective Judgements in Congressional Voting," American Journal of Political Science, 23 (August 1979), 495-527; Feldman, op. cit.
societal-related economic matters while the second set of questions address more personal effects of economic well-being. Clearly, however, some dimensional overlap can be envisioned; the results of the validity and reliability tests can assist in determining the unique variance in the measurement of the two scales.

Reliability Test Procedures

In social science research, many phenomena to be measured by the researcher are neither real objects nor real events due to their abstract properties. As such, measurement in the social sciences, particularly, must focus on the crucial relationship between the observable response and the unobservable concept, the latter of which is of significant theoretical interest. As Carmines and Zeller point out, when the relationship between the response and the concept is strong, the analysis of the empirical indicators can be used to establish solid causal inferences about the relationships among the underlying concepts. Subsequently, if the relationship between the indicators and the concepts is weak, one can derive incorrect inferences concerning the theoretical linkages between concepts.

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Empirical measurements possess two properties essential in determining the nature of the relationship between observed indicators and unobserved concepts. First, reliability is the tendency toward consistency found in repeated measurements of the same phenomenon. Since the measurement of any phenomenon contains a certain amount of random error, repeated measurements will never be exactly equal. They should, however, be consistent in order to produce acceptable reliability levels. Hence, the goal of any set of indicators is to limit the amount of random error that can be caused by coding errors, interviewer bias, question ambiguity, and similar factors. As such, reliability is generally considered an empirical issue which focuses on the quality and performance of the empirical measures used to represent underlying, unobservable concepts such as alienation and efficacy.  

Reliability may be assessed through four basic methods: (1) the retest method; (2) the alternate form method; (3) the split halves method; and (4) the internal consistency method.  

\(^{20}\) Conceptually, one can envision reliability as a comparison of the variance in observed scores of respondents on a question with their true score plus random error variance. See Carmines and Zeller, *op. cit.*, pp. 29-32.

form methods require the administration of a questionnaire to the same group of respondents at two times. This procedure has been used in past studies on independent samples with some of the same measures; however, the procedure is not possible to conduct on the 1980 survey because most of the questions were addressed toward pre- or post-election respondents rather than both. The split halves method, while requiring only one instrument administration, causes concern among many researchers due to the different ways that items can be potentially grouped into halves. In short, different splittings of the sample may result in different correlations between the halves and, subsequently, lead to different reliability estimates.  

By comparison, the internal consistency method does not require either the splitting of samples or the repetition of testing items. As such, it seems most appropriate for this analysis since unique estimates of reliability can be estimated from a single survey administration. The most popular of the reliability estimates invoked in the internal consistency method is Cronbach's alpha.  

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22 Carmines and Zeller, op. cit., p. 43.

alpha is closely related to reliability estimates based on the split-halves method and if the data are in dichotomous form, alpha is equivalent to the Kuder-Richardson reliability coefficient. This reliability coefficient measures the amount of true variance in a scale; that is, it measures the variance due to "true" individual differences in the value of the dimension being measured as opposed to item-specific or respondent-specific variance. These latter variances may be viewed as "error variances" or more simply, sampling error of the expected correlation between an actual measurement. As Novick and Lewis have demonstrated, in most situations it provides a conservative estimate of a measure's reliability.\textsuperscript{24} The square root of the reliability coefficient is interpreted as the maximum predictive validity, or correlation, which is possible to achieve between the scale and any variables to which it is related. Pearson correlations between the scaled items and the dependent measure, voter turnout, revealed differences ranging from .245 for civic duty to .014 for political trust. Often when these results occur, it is suggested that the scaled items be weighted so as to assign them their relative importance. Nevertheless, as Aiken has demonstrated, there is generally very little

\footnote{The Reliability program in the Statistical Package for the Social Sciences (SPSS), Version X, was used for the computation of the alpha coefficients.}
difference between persons' rank orderings on weighted and unweighted scales. In short, higher reliabilities and thus higher predictability are rarely increased to significantly higher levels. Hence, the simpler and more easily replicable unweighted scales are used in the analysis.

Table I summarizes the results of the reliability estimates for each of the scaled items used in the hypothesized models. As a general rule, Carmines and Zeller suggest that reliability coefficients should not be much below .80 since at that level correlations are attenuated very little by random measurement error. None of the alpha coefficients reach the .80 criterion suggested by Carmines and Zeller. However, the coefficients for "institutional performance" and "external efficacy" are extremely close. The alpha coefficients for "civic duty," "campaign information exposure," and "political activities" fall moderately close to the .80 range while the coefficient for "political trust" is moderately low. The alpha coefficients for the "social economic concerns" and "personal economic concerns" are

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25 Lewis R. Aiken, Jr., "Another Look at Weighting Test Items," Journal of Educational Measurement, 3 (Summer 1966), 183-185. Given that the correlations for all of these items are quite modest, the weighting procedure is not necessary.

26 Carmines and Zeller, op. cit., p. 51.
### TABLE I

**RELIABILITY COEFFICIENTS FOR SCALED VARIABLES**

<table>
<thead>
<tr>
<th>Scaled Item</th>
<th>Standardized Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Efficacy</td>
<td>.728</td>
</tr>
<tr>
<td>Campaign Media Exposure</td>
<td>.663</td>
</tr>
<tr>
<td>Civic Duty</td>
<td>.686</td>
</tr>
<tr>
<td>Political Trust</td>
<td>.553</td>
</tr>
<tr>
<td>Political Activities</td>
<td>.615</td>
</tr>
<tr>
<td>Societal Economic Concerns</td>
<td>.326</td>
</tr>
<tr>
<td>Personal Economic Concerns</td>
<td>.412</td>
</tr>
<tr>
<td>Institutional Performance</td>
<td>.788</td>
</tr>
</tbody>
</table>

*The reported percentages represent the standardized Cronbach alpha coefficient. Unstandardized coefficients did not vary much from the standardized estimates. Further, almost identical reliability coefficients were produced using the Parallel model in the SPSS Reliability procedure which computes a correction for the bias of alpha. The standardized coefficients are computed using the variance-covariance matrix between the variables in the scale.*
extremely low and appear to confirm Lau and Sear's speculation of sizeable measurement errors for these terms. The addition of more items to the scales with low reliability coefficients could perhaps improve the reliability estimates; nevertheless, such a process can artificially increase alpha and prevent a parsimonious index. Overall the reliability results provide moderate confidence in the ability of the scales to provide consistent estimates of the hypothesized underlying constructs. Obviously, many of the scales are hampered by measurement error; yet, the trust, efficacy, and civic duty scales are based upon widely used question formats endorsed by the SRC-CPS in their election surveys. Other researchers, however, have also found limitations in these measures for previous years. At best, these reliability tests draw attention to the limitations of surveys to adequately tap complex cognitive processes. Given the general use of such indicators in past research, one must admit that political researchers would do well to adequately demonstrate their effectiveness.

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28 For instance, while the economic scales could be enhanced by combining them into one scale, little theoretical reason exists for doing so.
Validity Test Procedures

Put briefly, a measurement device is said to be valid if it accurately measures what it is supposed to measure. As such, one is not necessarily measuring the validity of the indicator itself as much as its purported use. Like reliability, the likelihood of obtaining a perfectly valid indicator is extremely small. Rather than being affected by random error, validity is concerned with nonrandom sources of error. Rather than assessing the validation of the measuring instruments themselves, validity is designed to validate the measuring device in relation to the purpose for which it is being used.\(^\text{29}\)

Three types of validity are relevant to the social sciences in general: (1) criterion validity; (2) content validity; and (3) construct validity. Upon close examination and reconsideration, however, neither content validity nor criterion-related validity appear to be all that useful in assessing the quality of indicators in social science research. Carmines and Zeller argue that content validity is really more of a goal to be achieved in seeking maximum measurement validity with rather imprecise standards used to determine the success of that goal achievement.\(^\text{30}\) Likewise, criterion validity is not

\(^{29}\)Carmines and Zeller, op. cit., p. 17.

completely applicable to many social science research projects. In short, most measures in social research involve abstract and theoretical concepts for which there exist no forms of behavior against which they can be compared or tested for estimation accuracy.\textsuperscript{31} Hence, it is quite appropriate for nontheoretical yet empirically oriented research. By contrast, construct validity possesses a clearer application to social science research, primarily due to the fact that it is theory-laden. Simply stated, construct validity is designed to examine "the extent to which a particular measure relates to other measures consistent with theoretically derived hypotheses concerning the concepts (or constructs) being measured."\textsuperscript{32} Behind many of the measures in social science, then, there exist concepts which these measures are seeking to analyze. In short, construct validation may be viewed as an examination of the extent to which a measure performs according to theoretical expectations. If the measure performs in accordance with the expectations, then one may conclude that it represents its intended theoretical concept.

\textsuperscript{31}Discussion of criterion validity may be found in J. C. Nunnally, \textit{Psychometric Theory} (New York, 1978); Carmines and Zeller, \textit{op. cit.}.

\textsuperscript{32}Carmines and Zeller, \textit{op. cit.}, p. 23
Carmines and Zeller propose three distinct steps to be undertaken in the construct validation process. First, the theoretical relationships between the concepts under study must be specified. Second, empirical relationships between the measures of the concepts must be analyzed. And third, the empirical evidence must be interpreted as to its ability to clarify the construct validity of the particular measure.\(^{33}\) Even if the empirical relationships hold according to one's theoretical expectations, a pattern of consistent findings is necessary in order to achieve construct validity with confidence. However, a researcher can proceed with planned analyses with greater faith in the measures. On the other hand, if a measure does not relate to other indicators in the theoretically proposed manner, then this is an indication that the measure is not valid for the construct of interest.\(^{34}\)

If past research efforts have incorporated the measure into analyses, of course, it draws the validity of the findings into question. On the other hand, the procedure to test the relationship between the measures could be faulty.\(^{35}\) Cronbach and Meehl have suggested the use of

\(^{33}\) Carmines and Zeller, op. cit., p. 23.


\(^{35}\) Carmines and Zeller, op. cit., pp. 24-25.
factor analysis over the use of bivariate correlation coefficients when several variables are involved in the measurement. Therefore, prior to scale constructions using multiple indicators, factor analysis was used to determine which seemingly related questions best measured the underlying concept with which they are theoretically proposed to share variance. The use of identical or similar items in prior research guided the selection of questions, although new formats allowed the inclusion of new items in some circumstances. The purpose of the factor analyses, then, was to test with greater precision the construct validity of variables that were likely candidates for predictor variables in the hypothesized causal models. At the same time, past research efforts can be either validated or scrutinized since such verification procedures are rarely invoked in research designs.

Factor Analysis Methods

Before discussing the results of the factor analyses, a few comments about factor analytical techniques are in order. Factor analysis is more of a mathematical tool than a statistical technique. It is used by researchers


for a variety of reasons, including data reduction, exploration of underlying dimensions, or merely as a means of confirming certain hypothesized relationships between a set of variables. \(^{38}\) Factor analysis assumes that the observed or measured variables in question are linear combinations of some underlying source variables -- called factors. Put differently, if a set of variables are correlated, then this correlation is assumed to exist due to the presence of underlying "factors" -- thought of as unobserved variables -- that account for the correlation.

Many different kinds of factor extraction methods are available to the researcher, including principal components factoring, principal axis factoring, alpha factoring, maximum likelihood factoring, and image factoring to mention a few. The major differences among the methods have to do with the assumptions that are necessary to make about the data in order to interpret the results. The most commonly used extraction methods are principal axis factoring and principal components factoring. The results

obtained by these methods usually do not differ that much from solutions obtained from the other methods. However, in order to justify the use of one method over another, a brief explanation is necessary for these two most commonly used approaches.

Principal components factor analysis attempts to produce the best linear combination of the variables incorporated into the analysis so that the first component (or factor) accounts for a maximum amount of the variance in the model. The second component produced is uncorrelated with the first and contributes a maximum to the residual variance. This process is repeated until components are produced that analyze the total variance between the variables. Hence, in components factor analysis, one is interested in defining the total variance of the variables and no assumption is made about the data having common and unique parts.\textsuperscript{39} This approach simply defines the basic dimensions of the data and does not distinguish between common, specific, and random error variances.

In contrast, principal axis factoring is primarily concerned with the dimensions of the space of common parts

\textsuperscript{39} Kim and Mueller, op. cit. The "common part" is that part of an observed variable accounted for by the common factors, while the "unique part" is that proportion of observed variance unaccounted for by the common factors.
of variables. That is, it assumes that the variance between variables should be partitioned into common and unique factors. As such, many scholars believe that this method follows the classical factor analysis model and is more acceptable than principal components factoring. Principal axis factoring considers that the best initial estimate of the communality of a variable with a factor is the squared multiple correlation between that variable and the other variables in the analysis. An iterative process is used in which the new communalities are estimated using previous estimates until no significance difference between two successive estimates is found.

In principal components factoring, as many factors can emerge from the analysis as there are variables. Such a condition is not what is envisioned; instead, one factor is expected to emerge since the variables are assumed to have a single common factor. As such, principal axis factoring seems most suitable to the model that I am hypothesizing for the variable set. In short, if factor analysis is used on measures hypothesized to measure the same theoretical construct, then we expect only a one-factor result. The communality, or proportion of variance shared by the underlying construct and each of the variables, is the primary numerical estimate used to interpret the validity of the variables in representing this unmeasured dimension.
To summarize, factor analysis is used at this stage in the study to test the validity of the variables used to measure particular hypothesized concepts -- such as efficacy, trust, and civic duty. The principal axis factor method should help to confirm (a) the existence of an underlying factor which the proposed variables are attempting to measure (i.e., a patterned relationship among the variables) and (b) a moderately strong correlation between these variables and the underlying dimension that emerges. In all analyses except one, the expectation was for one factor to emerge with a sizeable amount of the variance in each variable explained by the factor. The exception was the result expected for the analysis of the economic variables. Here, the assumption was that two factors would emerge, one for the "personal" economic concerns and another for the "societal" economic concerns. Therefore, the information used to evaluate the results was (a) the existence of one-factor solutions; (b) moderately high factor loadings for each variable; (c) moderately high communalities for the variables; and (d) moderately high amounts of total variance accounted for by the factors.\footnote{The word "moderately" is being used here for several reasons. A commonly accepted criterion for the inclusion of an item in a scale is that it correlates .45 to .55, at a minimum, with the total scale of which it is a part. In other words, it must share about 25 percent of its variance with the dominant content of the scale. See}
Table II through Table VIII display the results of the principal axis factorings. As expected, one-factor solutions were produced for each set of variables except for the hypothesized two-factor solution for the economic variables. Hence, the underlying dimensions that the variables were seeking to measure are shown to exist. However, the next pertinent question is how well they are measuring it.

Of particular interest are the results for the efficacy, trust, and civic duty scales. Standard CPS-SRC questions used by scholars in the past were used for the construction of these scales. The results cannot be labeled impressive according to most evaluations of factoring results. The efficacy scale produces a

Ada W. Finifter, Dimensions of Political Alienation: A Multivariate Analysis (unpublished Ph.D. dissertation, University of Wisconsin, 1967). However, for reasons to be discussed shortly, these levels may be considered too rigorous. Further, no such standards exist in the academic discipline.

The correlation matrices for each are presented in Appendix I.

One exception is the construction of the efficacy scale. This is a measure of "external" efficacy rather than political efficacy in general. Previous factor analysis results confirmed Balch's conclusions that efficacy does indeed break into two dimensions. Past research has indicated that "internal" efficacy has not declined as seriously in the post-1960 period as much as external efficacy. In addition, the findings of Abramson and Aldrich have demonstrated a clear link between vote decline and this latter measure.
TABLE II
FACTOR ANALYSIS OF EXTERNAL EFFICACY SCALE

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor Loading</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;People like me don't have any say about what the government does.&quot;</td>
<td>.451</td>
<td>.2037</td>
</tr>
<tr>
<td>&quot;I don't think public officials much care what people like me think.&quot;</td>
<td>.716</td>
<td>.5125</td>
</tr>
<tr>
<td>&quot;Generally speaking, those we elect to Congress in Washington lose touch with the people pretty quickly.&quot;</td>
<td>.610</td>
<td>.3722</td>
</tr>
<tr>
<td>&quot;Parties are only interested in people's votes but not in their opinions.&quot;</td>
<td>.674</td>
<td>.4541</td>
</tr>
</tbody>
</table>

Eigenvalue = 1.543
Percent variance explained = 38.6
TABLE III
FACTOR ANALYSIS OF POLITICAL TRUST SCALE ITEMS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor Loading</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Do you trust the government to do what is right most of the time, some of the time, or none of the time?&quot;</td>
<td>.588</td>
<td>.3468</td>
</tr>
<tr>
<td>&quot;Is the government pretty much run by a few big interests looking out for themselves or for the benefit of all the people?&quot;</td>
<td>.584</td>
<td>.3413</td>
</tr>
<tr>
<td>&quot;Do you think quite a few of the people running the government are crooked, not very many, or are hardly any of them crooked?&quot;</td>
<td>.528</td>
<td>.2796</td>
</tr>
</tbody>
</table>

Eigenvalue = .9677
Percent variance explained = 32.3
TABLE IV
FACTOR ANALYSIS OF CIVIC DUTY SCALE ITEMS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor Loading</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;It isn't so important to vote when you know your party doesn't have a chance to win.&quot;</td>
<td>.503</td>
<td>.2535</td>
</tr>
<tr>
<td>&quot;So many people vote in national elections that it doesn't matter much to me whether I vote or not.&quot;</td>
<td>.626</td>
<td>.3918</td>
</tr>
<tr>
<td>&quot;If a person doesn't care how an election comes out then that person shouldn't vote in it.&quot;</td>
<td>.298</td>
<td>.0889</td>
</tr>
<tr>
<td>&quot;A good many local elections aren't important enough to bother with.&quot;</td>
<td>.553</td>
<td>.3062</td>
</tr>
</tbody>
</table>

Eigenvalue = 1.040
Percent variance explained = 26.0
### TABLE V
FACTOR ANALYSIS OF GOVERNMENT RATING SCALE ITEMS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor Loading</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;How good a job is being done for the country by the federal government in Washington?&quot;</td>
<td>.772</td>
<td>.5959</td>
</tr>
<tr>
<td>&quot;How good a job is being done for the country by the presidency?&quot;</td>
<td>.710</td>
<td>.5044</td>
</tr>
<tr>
<td>&quot;How good a job is being done for the country by Congress -- that is the U.S. Senate and the House of Representatives?&quot;</td>
<td>.752</td>
<td>.5651</td>
</tr>
</tbody>
</table>

Eigenvalue = 1.665  
Percent variance explained = 55.5
TABLE VI

FACTOR ANALYSIS OF CAMPAIGN MEDIA EXPOSURE SCALE ITEMS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor Loadings</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
<td>II</td>
</tr>
<tr>
<td>&quot;Did you listen to any campaign speeches on the radio?&quot;</td>
<td>.402</td>
<td>.198</td>
</tr>
<tr>
<td>&quot;Did you read about the campaign coverage in magazines?&quot;</td>
<td>.802</td>
<td>.044</td>
</tr>
<tr>
<td>&quot;Did you watch any campaign coverage on television?&quot;</td>
<td>.180</td>
<td>.771</td>
</tr>
<tr>
<td>&quot;Did you watch the presidential debate on television?&quot;</td>
<td>.055</td>
<td>.815</td>
</tr>
<tr>
<td>&quot;Did you read about the campaign in the newspaper?&quot;</td>
<td>.752</td>
<td>.157</td>
</tr>
</tbody>
</table>

Eigenvalues =
Percent variance explained =

1.715  1.017
34.3   20.4
### TABLE VII

FACTOR ANALYSIS OF POLITICAL ACTIVITIES SCALE ITEMS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor Loading</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Have you tried to persuade others politically&quot;</td>
<td>.326</td>
<td>.1064</td>
</tr>
<tr>
<td>&quot;Have you attended any political meetings or rallies?&quot;</td>
<td>.594</td>
<td>.3529</td>
</tr>
<tr>
<td>&quot;Have you worked for any candidates or parties?&quot;</td>
<td>.644</td>
<td>.4150</td>
</tr>
<tr>
<td>&quot;Did you wear a campaign button or display a sticker on your car?&quot;</td>
<td>.468</td>
<td>.2192</td>
</tr>
<tr>
<td>&quot;Do you belong to any political organizations?&quot;</td>
<td>.352</td>
<td>.1240</td>
</tr>
</tbody>
</table>

Eigenvalue = 1.217

Percent variance explained = 24.4
## TABLE VIII

FACTOR ANALYSIS OF ECONOMIC CONCERN SCALE ITEMS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor Loadings</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;We are interested in how people are getting along financially these days. Would you say you (and your family living here) are better off or worse off financially than you were a year ago?&quot;</td>
<td>.505  .189</td>
<td>.2913</td>
</tr>
<tr>
<td>&quot;What about the economy? Would you say over the past year the nation's economy has gotten better, stayed the same, or gotten worse?&quot;</td>
<td>.024  .521</td>
<td>.2721</td>
</tr>
<tr>
<td>&quot;What about the next 12 months? Do you expect the economy to get better, worse, or stay the same?&quot;</td>
<td>.147  .278</td>
<td>.0991</td>
</tr>
<tr>
<td>&quot;Would you say at the present time business conditions are better off or worse off than they were a year ago?&quot;</td>
<td>.092  .395</td>
<td>.1652</td>
</tr>
<tr>
<td>&quot;Do you think over the last five years (your/your family's) income has gone up more than the cost of living, has it fallen behind, or has it stayed about the same?&quot;</td>
<td>.743  .056</td>
<td>.5559</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eigenvalues</th>
<th>Percent variance explained</th>
</tr>
</thead>
<tbody>
<tr>
<td>.963  .420</td>
<td>69.6  30.4</td>
</tr>
</tbody>
</table>
relatively low eigenvalue that translates into a modest 38.6 percent of the variance among the variables being explained by the underlying factor. The results for the trust and civic duty scales are 32.3 percent and 26 percent explained common variance, respectively. The results for the efficacy scale, presented in Table II, show factor loadings and communalities which are moderately high with the exception of the first item in the scale, "People like me don't have any say about what the government does." Admittedly, the explained variance is low, and the communality for the first item is below 25 percent. These results, however, coincide with previous studies examining the same phenomenon. Furthermore, given the rather modest correlations between these items, perhaps one

43 The factor loadings are analogous to regression coefficients in regression analysis; that is, they indicate the correlation between the variable and the factor. The communalities are simply the square of the factor loading -- i.e., similar to coefficient of determination (or R-squared) in multiple regression analysis. The eigenvalue is the sum of all the communalities, and the percent variance explained is derived by dividing the eigenvalue by the number of variables in the analysis. For further discussion on these derivations, see Kim and Mueller, Introduction to Factor Analysis, and Harmon, Modern Factor Analysis.

should not expect results much different from what appears. The first question item in the scale has traditionally been found to be the weakest indicator of external efficacy, possessing the lowest correlation with the other variables. More importantly, however, is the confirmation of the "external" dimension from the analysis, although the results do indicate that a weak measurement of such a dimension.

The factor analyses for the political trust and civic duty items are presented in Table III and Table IV, respectively. The factor loadings and communalities are moderately low with the explained variance slightly below one-third. Again, the findings should not be all that surprising given the modest correlations among the variables. In general, however, the results are not as promising as expected. Past research has often assumed a much greater cohesiveness among the variables due to Guttman scaling results published by the SRC during the 1960s. The conclusions presented parallel those of Asher since he, too, discovered low reliabilities for the separate efficacy items as well as the indices constructed from them. The weak results, which can be partly contributed to measurement error, do not prevent the use of


46 Asher, op. cit., pp. 61-62.
the scales in additional analyses. They do, however, confound the conclusiveness of the findings. Incorporate them. A similar pattern of results is displayed in Table VII for the political activities scale — modest correlations and a relatively low explained variance percentage.

In Table V the results for the government institution scale stand out in contrast with the other findings. A substantial 55.5 percent of the variance among the variables is explained by the one-factor solution. The factor loadings for all three variables are relatively high and produce consistently high communalities. These results indicate that the three variables used to measure government performance do a reasonably good job in tapping such a dimension.

Table VI displays the results for the media exposure scale. Here the results differed from hypothesized expectations. Two distinct factors emerge with the questions pertaining to campaign information exposure on the radio, in magazines, and in newspapers loading high on one factor and questions pertaining to television loading high on the other.

These results are not illogical; Shaffer, for instance, argues in his multivariate analysis of voter turnout that individuals who acquire their political information through newspapers and magazines should be
better informed than television viewers. Therefore the existence of two information dimensions does fit in with some empirical research on communications. The factor loadings are very impressive for the printed and television mediums, while radio information tends to load much lower. In addition, the communalities are high for all the variables, with radio information again being the sole exception. Factor One explains 34.3 percent of the common variance among the variables, while factor two explains 20.4 percent of the variance. The relative strengths of each grouping of variables with voter turnout were determined using the Pearson's correlation measure. Based upon these results and the general proposition in the media literature that more informed citizens tend to be ones attuned to print media, a scaled index produced by counting positive responses to the newspaper and magazines.

Based upon these results and the general proposition in the campaign media literature that more informed citizens tend to be those attuned to print media, a scaled index was produced by counting positive responses to the newspaper and magazine questions. A similar scale was produced for the television questions. Then an overall

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scale, including radio usage, was computed in an identical fashion. Each scale was tested separately to determine which one best fit the model in question. The results varied little between the scales. Thus, the overall scale was chosen since it subjects wider media usage to testing.

Lastly, the two-factor solution for the economic concern scales is presented in Table VIII. Since only two questions are being used to measure the dual underlying dimensions, it was decided to put all four items together in the factor analysis with the expectation of a two factor solution emerging. Questions one and five of the scale were presumed to be measures of the "personal" dimension of economic concerns while questions two and four were hypothesized to measure the "societal" dimension. Question three was included in the analysis to test for its applicability to the societal scale. The analysis produced the expected two-factor solution with the questions loading as hypothesized. The loadings for question three, however, are not as distinct as those for the other questions. Therefore, only questions two and three were retained as valid measures of the societal aspects of economic concerns.

48 The factoring technique is designed to have at least as many variables as factors; hence the need for the inclusion of all the items.
What is the overall conclusion of these factoring results? The construct validity for most of the scales is modest in comparison with expected results. Only the results for the government performance scale and media exposure produce results indicative of relatively high levels of construct validity. Such results point to the disturbing realities faced when attempting to measure complex attitudinal processes through survey measuring instruments. Nevertheless, no official standards exist for acceptance or rejection of measurement items based upon reliability and validity tests. The results focus attention on the need to revise many of the SRC-CPS survey items used to measure these constructs; however, it does not preclude their use in subsequent analysis. Indeed, it is common practice in much of the published political science literature to scale items without any examination of their reliability or validity. Part of this blind acceptance can be attributed to the absence of alternative data sets of comparable size and scope to the CPS studies. Moreover, the questions incorporated into the CPS surveys are supposedly subjected to rigorous reliability and validity testings in sample administrations. What must be admitted, however, is that the modest reliability and validity findings will compound the problem of error variance due to measurement limitations.
Measurement of Other Predictor Variables

Past research provides insight into additional predictor variables that may be tested and incorporated into hypothesized models of long-term, election-specific, and rational-oriented character. Traditional demographic variables that have been linked to differing levels of political participation include age, income, race, sex, religion, education, and region. Information on these characteristics are contained within all of the CPS election studies and are either supplied by the respondent or, where appropriate, estimated and filled in by the interviewer (sex and race, for instance). Each respondent's age is computed from the date of birth supplied to the interviewer. For level of education, respondent's were asked their highest grade of school or year of college completed. Both estimated family income and estimated personal income were provided to interviewers in the form of checked interval categories starting with $2,000 and terminating with a general category of $50,000 and over. Race was determined by respondents' classification into one of the following categories: white, black, native American (American Indian, Alaskan

native), Asian or Pacific Islander, Mexican-American, Puerto Rican, or other Hispanic. Region codes are provided in several different formats: a nine area region code constructed by the Survey Research Center, congressional districts, individual states, and U.S. Census Bureau region codes. Respondents were also asked their religious preference (membership or attendance) which were categorized into four Protestant groupings, Catholic, Jewish, and miscellaneous nontraditional Christian denominations.

Many researchers have noted the potential role that election-specific voter perceptions can have on electoral behavior. Some have suggested that level of interest in the campaign, concern over the outcome of an election, and perceived closeness of an election should have direct causal relationships with the act of voting.50 Differing conclusions have been reached depending upon the presence of additional predictor variables and the elections used for analysis. Campaign interest can be assessed for participants in the 1980 election survey.

through the use of the following question asked of respondents in both the pre and post-surveys: "Some people don't pay much attention to political campaigns. How about you? Would you say you have been very much interested, somewhat interested, or not much interested in following the campaign this year?" In addition, concern over the closeness of the election is tapped by the following question: "Do you think the presidential race will be close or will (name given of respondent's previous prediction of winner) win by quite a bit?" Similarly, concern over the outcome of the election is addressed by the following question, although it is expressed in terms of political party victory as opposed to candidate victory: "Generally speaking, would you say that you personally care a good deal which party wins the presidential race this fall, or that you don't care very much which party wins?"

Two additional variables established by early researchers in voting studies, level of party intensity and political ideology, have consistently been included in most voting behavior analyses due to rather consistent findings confirming their contribution to decisional processes.\textsuperscript{51} The CPS National Election Studies

traditionally have included a question asking respondents to locate themselves on a seven-point scale ranging from "Strong Republican" on one end of the scale to "Strong Democrat" on the opposite end. These question codes can be recoded so as to produce a party intensity scale that puts neutrals or moderates on one end and strong party identifiers on the other. Such an approach has been found to be a reliable indicator of the strength or "intensity" of one's partisanship despite attempts to derive new measurements. \(^{52}\) In addition, the CPS election studies have included a question asking respondents to approximate their location on a seven-point ideology scale. In general terminology, the respondent is assessing the "conservative" or "liberal" direction of his basic political beliefs. One end of this scale is labeled "extremely liberal" and the other end "extremely conservative." The middle of the

scale represents a mixture of these traits, or in more common jargon, a "middle of the road" category. The 1980 election study contains additional questions concerning dimensions of political ideology; nevertheless, the traditional question wording produces suitable response categories for the analysis undertaken in this study. It may be conveniently recoded in much the same fashion as the party identification scale to produce a general index of weak to strong ideological attachment.

Both Brody and Sniderman, and Weisberg and Grofman demonstrate plausible paths between a respondent's past voting history (whether or not he/she voted in past presidential elections) and turnout rates. Intuitively, it appears that regularity in voting instills a habitual pattern of behavior and increases the likelihood of one voting in the future. The CPS election surveys include a standard question asking respondents, "In elections for President since you have been old enough to vote, would you say you have voted in all of them, most of them, some of them, or none at all?" Although past voting


history has not received much treatment in past causal explanations of voter turnout, recent findings present evidence which support plausible linkages with other variables that have been more commonly associated with electoral behavior. As such, this variable offers yet another possible predictor for one of the hypothesized models.

Computed Variable Indexes

As discussed, the model of rational voting behavior seeks to posit the individual as a utility maximizer who weighs the costs and benefits accrued from both the decision to vote and the eventual vote choice. One can envision the voter assessing certain election information designed to assist in the calculation of the expected vote "utility." In the model of voting behavior posited by Angus Campbell and his associates, such a

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56 This model viewed partisanship, candidate evaluations, and issue orientations as the most immediate attitudinal determinants of the vote. Party identification was viewed as a longer-term attitude not closely tied to any specific election context, while candidate and issue attitudes were considered to be more short-term components reflecting the candidates and issues prominent in a particular election. This model of voter behavior, while
voting calculus forms the theoretical foundations for voting behavior investigation. The 1980 CPS election study contains sets of questions which are applicable to the rational model concepts. Several indices were constructed to fit the processes outlined by rational choice theorists to test their applicability to the decision to vote or abstain from the electoral process.

First, a comparative policies differences scale was constructed using respondents' ratings of seven policy issues relevant to the 1980 campaign. These issues included such items as defense spending, inflation, U.S.-Soviet relations, and women's rights.\textsuperscript{57} Respondents were first asked to locate themselves on each scale followed by their perception of where the major candidates in the presidential election should be located. By subtracting the respondent's position on this scale from his/her perception of both major party candidates' positions, one can derive a sense of "closeness" or modified by new research findings, continues to provide the underlying assumptions about voting behavior against which new research must be gauged.

\textsuperscript{57} Basically, respondents were asked to place themselves on a hypothetical scale with opposite policy positions existing at either end. For instance, the scale for the women's rights issue placed "equal role with men in running business, industry, and government" at one end and "women's place is in the home" at the opposite end. All the scales used for the variable constructions in this study consisted of seven points. For a complete discussion of the scale construction, see Appendix B.
proximity to the candidates. In addition, we can carry the estimation one step further by next subtracting the closeness positions derived for both candidates from each other and summing across all policy scales. If all values are kept absolute, then this resulting score should indicate the magnitude of difference the respondent has "calculated" between the two candidates on the major issues in the campaign.58

Similarly, assessments may be made of voters' evaluations of the candidates based on such matters as leadership characteristics, experience, ability, and personal qualities. Two widely used procedures for examining these evaluations are (a) the CPS standard "feeling thermometer" questions and (b) a net count of positive and negative open-ended comments made in response to questions asking what in particular would make him/her vote for or against the candidate.59 The CPS "feeling

58 Several approaches have been used by past researchers to construct policy differences scales between candidates and voters. For an overview and testing of three widely used procedures see Page and Jones, "The Reciprocal Effects of Policy Preferences, Party Loyalties and the Vote," American Political Science Review, 73 (December 1979), 1071-1089. This concept will be more fully discussed in the section on model construction.

59 Past empirical work demonstrating the use of these procedures includes Brody and Page, op. cit.; Kelley and Mirer, op. cit.; Page, Choices and Echos in Presidential Elections: Rational Man and Electoral Democracy (Chicago, 1978); and Lawrence, "Candidate Orientation, Vote Choice, and the Quality of the American Electorate, Polity, 11 (Winter 1978), 229-246.
thermometer" scales represent respondent ratings of candidates using a thermometer analogy. Scores can range between 0 (very cold or unfavorable) through 50 (no feeling at all for the candidate) to 100 (very warm or favorable). Due to inherent problems that exist with candidate like/dislike scales, the use of thermometer ratings is incorporated into this analysis. By subtracting a respondent's rating of one candidate from another, we can again obtain a "net gain or loss" measurement in accordance with Downsian rational choice modeling. Page and Jones have found this measure to be very highly correlated with vote choice and demonstrate the advantages of this procedure over others.

Measurement of the Dependent Variable

Political analysts have a choice of tools to consider in the actual measurement of voter turnout. They may choose between the Census Bureau's reported estimates, aggregate election returns, or they may choose to use "reported" turnout as supplied by respondents in a representative sample survey. If one is interested in contextual factors that affect voter turnout (voting convenience, ease of registration requirements, polling hours, etc.) then official vote tabulations may be

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60 Page and Jones, op. cit. pp. 1072-1073.
appropriate. If, on the other hand, one is interested in studying attitudes related to the act of voting and nonvoting, then attitudinal questions posed to a survey sample may be more appropriate. An examination of the voting turnout literature reveals no clear pattern or rationale for choice of turnout measure until recently. Early studies such as those conducted by Lazarsfeld, Campbell, and Key all used respondent supplied voting data from samples and showed mild concern about the correctness of recall. Indeed, most of the pioneering work in the voting behavior literature is built upon this type of dependent variable measurement, whether it be vote/no vote recall or specific vote choice. The choice of the voter turnout measure has nevertheless become a major substantive concern for those who study electoral behavior due to the potential impact for unreliability that the effects of misreporting may have on posited models of electoral participation.


Campbell, et. al, The American Voter, pp. 93-96. Campbell did make some attempt to estimate the error involved with the sample used for the analysis. The difference between reported turnout and the official election estimates was 12 percent. The authors postulate that six percent of the difference was due to sampling error, two percent due to invalidation of respondent's ballots, one percent due to a higher re-interview rate among voters, and three percent unexplained.
In the database used in this study, two measures of voter turnout are available. One is the reported turnout of the sample which is based exclusively upon respondent recall. The other measure is based upon a check of each respondent's recall using official voting documents; this contingency device is generally known as the "validated vote" in the CPS National Election Studies. 63

Numerous problems have been documented concerning the use of the reported turnout measure in political surveys. 64 Obviously, the most significant problem associated with this measure is that the reported turnout figures do not parallel actual turnout figures for the entire electorate. Furthermore, comparisons with the validated measures usually reveal gaps ranging from 5 to 20 percent. 65 The consistency and magnitude of this

63 See Katosh and Traugott, op. cit., p. 520.
65 Wolfinger and Rosenstone, op. cit., p. 115.
overreporting suggests that sample-population differences are not due solely to sampling error.

The reasons for this overreporting phenomenon are complex, yet it appears that many people do not want to admit to an interviewer that they have failed to exercise their "civic duty." More importantly, however, is the fact that most voter surveys tend to exclude transients and institutional residents from their sampling. Consequently, this leads to voting overestimations of at least 5 percent. In addition, it is estimated that almost two percent of the votes cast in presidential elections end up being invalidated by election officials due to improper voting practices.66

It would appear that the validated voter turnout measure would provide a closer approximation of the true turnout of the population to which results are normally generalized. Despite its attractiveness, problems do exist with the validated vote measure used by the Survey Research Center.67 The most serious of these problems lies with the inability of officials to locate actual voting records,

66 Sigelman, op. cit. In addition, Weir finds that weak party identifiers and those with substantial interest in the campaign tend to incorrectly recall their votes in larger percentages.

67 Clausen, op. cit.; Sigelman, op. cit.; Katosh and Traugott, op. cit.
an action that automatically challenges the validity of the respondent's reported vote. Invariably, this leads to an inability to conclude with certainty whether the individual actually voted or not. Furthermore, the validated results tend to overestimate voting too, sometimes by as much as 7 to 10 percent. Regardless of the measure incorporated to study voter turnout, problems exist which can undoubtedly hamper valid and reliable findings. The existing literature provides no final answer for this seemingly important question.

Normally, respondents in the CPS election studies overreport voting by 10 to 15 percent. To illustrate, consider the figures from the last CPS election surveys. In 1976, 11 percent of the respondents falsely claimed to have voted; in 1978 some 12.8 percent misreported their voting status; and in 1980 approximately 12.6 percent of the respondents falsely claimed to have voted. As Table IX shows, the 1980 election survey contains an unusually large percentage of misreporters among those claiming to have voted. While some 76.3

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68 Sigelman, op. cit.
69 Traugott and Katosh, op. cit.
70 Sigelman, op. cit.
71 Compiled from crosstabulations between the reported and validated measures from the 1980 American National Election data.
### TABLE IX

**SELF-REPORTED TURNOUT VERSUS VALIDATED TURNOUT**

<table>
<thead>
<tr>
<th>Validated Turnout</th>
<th>Self-Reported Turnout</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Voted</td>
</tr>
<tr>
<td>Voted</td>
<td>76.3%</td>
</tr>
<tr>
<td></td>
<td>(47.5%)</td>
</tr>
<tr>
<td>No vote</td>
<td>20.2%</td>
</tr>
<tr>
<td></td>
<td>(12.6%)</td>
</tr>
<tr>
<td>Missing</td>
<td>3.5%</td>
</tr>
<tr>
<td></td>
<td>(2.2%)</td>
</tr>
</tbody>
</table>

*The first percentage represents the column percentage while the percentage in parentheses represents percent of total sample.*
percent of those reporting to have voted were confirmed by
the validated measure, another 20.2 percent falsely claimed
to have visited the polling booths on election day.

Political scientists who have investigated the
misreporting phenomenon in survey samples have generally
concluded that the accuracy of the self-reported turnout
figure varies as a function of personal characteristics and
political attitudes of the respondent.\textsuperscript{72} Although some
differences exist in the findings, it is interesting to
note that most analysts conclude that race, age, and social
status as well as political efficacy and partisan intensity
of the respondent play dominant roles in separating
accurate reporters from misreporters. Of course, these
factors have for some time been posited as important
determinants of voting itself.\textsuperscript{73}

While some studies have argued that the misreporting
problem has contaminated past research problems,\textsuperscript{74}
others have found the choice to make little
difference.\textsuperscript{75} Sigelman asserts that many of the efforts

\textsuperscript{72} For instance, see Clausen, \textit{op. cit.}; Weisberg,
\textit{op. cit.}; and Sigelman, \textit{op. cit.}.

\textsuperscript{73} Campbell, \textit{et al.}, \textit{op. cit.}; Lazarsfeld, \textit{et al.},
\textit{op. cit.}; Milbrath and Goel, \textit{op. cit.}; Nie and Verba, \textit{op. cit.}.

\textsuperscript{74} Weir, \textit{op. cit.}; Hill and Hurley, \textit{op. cit.}.

\textsuperscript{75} Katosh and Traugott, \textit{op. cit.}; Sigelman, \textit{op. cit.}. 
to determine the impact of the problem contain methodological flaws that damage the utility of their conclusions. Nevertheless, since most voting behavior research is almost exclusively based upon respondent-supplied information on the voting act (not to mention choice), an important question merits attention. How valid are the results of these studies? Or as Sigelman states, "Are misreporters more like what they claim to be -- voters -- or what they actually are -- nonvoters?" Sigelman's discriminant analysis of respondents in the 1978 CPS National Election Study discovers that "misreporters are a cross between actual voters and admitted nonvoters, although they bear a greater resemblance to the former than to the latter." This confirmation leads him to state that past researchers can stand on much firmer ground; that

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76 For instance, prior to 1978 respondents were not asked where they were registered to vote. Consequently, the Hill and Hurley conclusions may be of questionable validity. Furthermore, Sigelman notes that many of the conclusions in the Hill and Hurley study are based upon simple chi square tests whose values and levels of significance are greatly affected by the different sizes of the subsamples used in their analysis. Katosh and Traugott's 1980 study employs regression analysis with a dichotomous variable as the dependent variable, an unsuitable technique which can lead to invalid assessments. Lastly, the scope of the variables employed in many of these studies has been somewhat limited and excluded theoretically pertinent variables.

77 Sigelman, op. cit., p. 50.

is, while it is well known that respondent supplied voting data is contaminated by overreporting error, it appears that the large body of electoral research is largely unaffected by the misreporting phenomenon.

Given these recent conclusions, the primary measurement of vote turnout to be employed in this study is the respondent's reported turnout. Several considerations, other than those upon which Sigelman's conclusions are based, necessitate the use of this measure as opposed to the validated measure. First, almost all voting research in past years has utilized this measurement; therefore, it is essential to invoke the same method to make results comparable. Second, this study focuses upon attitudinal dimensions of the vote/novote decision as opposed to the contextual factors. While the reported turnout measure may indeed be "inaccurate", it nevertheless possesses clearer links to the psychological processes underlying the voting act decision. Third, past researchers have noted that the validated measures of turnout actually record a greater decline in turnout than do the official estimates. While this study does not trace hypothesized models over elections, it nevertheless points to a noteworthy problem with the validated results. Fourth, most research has displayed little difference, if any, between results using the reported turnout measure and those using the validated measurements. As Sigelman's results indicate, using the
reported measure does not endanger the applicability of the findings to the broader population from which the sample is drawn.

While recent research efforts have indeed helped to clear up some confusion and apprehension among voting behavior scholars, one must remember that they are often based upon single election samples. As already noted, overreporting in the 1980 election study is more evident than in many past surveys. Therefore, two approaches are incorporated to help assess questions about the potential impact of such large overreporting percentages. Given the controversy that exists among scholars in the field, it is believed that the choice of respondent-supplied voting information should be reasonably defended and limitations admitted.

First, contingency tables are produced to compare all independent variables with both vote indicators to test for similarities in relationships. The percentage reporting to vote is significantly different from the validated results: 71 versus 54 percent. The latter figures mirrors the official estimated voting percent established by official estimates. However, crosstabular analysis revealed relationships between the independent variables incorporated in this study and both turnout measures which were very similar and displayed the same directional results. To test for differences in results, all analyses
reported in this study are performed using both indicators. Significant differences, when they appear, are brought to the reader's attention.

Second, a discriminant analysis is performed on the sample using most of the variables incorporated into the hypothesized models as well as others investigated by scholars in the past. The purpose of this analysis is to determine whether the misreporters in the 1980 study follow the results of Sigelman's analysis of the 1978 National Election Study by resembling actual voters more than nonvoters. Table X summarizes the results of a discriminant analysis which incorporates 14 predictor variables and three categories of respondents as the contrast groupings. The three respondent groupings are constructed from a crosstabulation of respondent self-reported voter turnout and the vote validation measure. "Actual voters" are respondents who answered that they voted in the 1980 presidential election and their vote is confirmed by the validation process. "Misreporters" are

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79 Lazarsfeld, op. cit.; Campbell, The American Voter; Nie, Verba, and Petrocik, op. cit.; Brody and Sniderman, op. cit.; Erikson, op. cit.; King, op. cit.; Boyd, op. cit.; Cavanagh, op. cit.; Wolfinger and Rosenstone op. cit.; Sigelman op. cit.

80 The technique is similar to that employed by Sigelman. The Discriminant program in the Statistical Package for the Social Sciences (SPSS), Version X, was used to perform the analysis.
TABLE X

DISCRIMINANT ANALYSIS OF VOTERS, MISREPORTERS, NON VOTERS

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Function 1</th>
<th></th>
<th></th>
<th>Function 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Standardized</td>
<td>Total</td>
<td>Standardized</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Structure</td>
<td>Discriminant</td>
<td>Structure</td>
<td>Discriminant</td>
<td></td>
</tr>
<tr>
<td>Campaign Interest</td>
<td>.430</td>
<td>.240</td>
<td>-.053</td>
<td>.110</td>
<td></td>
</tr>
<tr>
<td>Election Closeness</td>
<td>.077</td>
<td>-.008</td>
<td>.294</td>
<td>.292</td>
<td></td>
</tr>
<tr>
<td>Outcome Concern</td>
<td>.236</td>
<td>.160</td>
<td>-.039</td>
<td>.094</td>
<td></td>
</tr>
<tr>
<td>Voting History</td>
<td>.832</td>
<td>.726</td>
<td>-.107</td>
<td>-.203</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.228</td>
<td>.225</td>
<td>.133</td>
<td>.289</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>.252</td>
<td>.072</td>
<td>.225</td>
<td>.161</td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>.204</td>
<td>.142</td>
<td>.551</td>
<td>.532</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.090</td>
<td>-.110</td>
<td>.180</td>
<td>.273</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td>.078</td>
<td>-.040</td>
<td>.414</td>
<td>.341</td>
<td></td>
</tr>
<tr>
<td>Political Trust</td>
<td>.040</td>
<td>-.040</td>
<td>-.330</td>
<td>-.100</td>
<td></td>
</tr>
<tr>
<td>&quot;External Efficacy&quot;</td>
<td>.256</td>
<td>.176</td>
<td>-.261</td>
<td>-.211</td>
<td></td>
</tr>
<tr>
<td>Civic Duty</td>
<td>.383</td>
<td>.233</td>
<td>-.089</td>
<td>-.124</td>
<td></td>
</tr>
<tr>
<td>Government Institution</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rating</td>
<td>-.080</td>
<td>-.112</td>
<td>-.488</td>
<td>-.384</td>
<td></td>
</tr>
<tr>
<td>Ideology</td>
<td>.140</td>
<td>.049</td>
<td>.204</td>
<td>.208</td>
<td></td>
</tr>
</tbody>
</table>

Group Centroids
- (1) Actual Voters: .534, .057
- (2) Misreporters: .184, -.270
- (3) Nonvoters: -1.380, .030

Canonical Correlations: .629, .115
Eigenvalues: .655, .013

Classification Results

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>Voters</th>
<th>Misreporters</th>
<th>Nonvoters</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Actual voters (n=613)</td>
<td>362 (59.1%)</td>
<td>172 (28.1%)</td>
<td>79 (12.9%)</td>
</tr>
<tr>
<td>(2) Misreporters (n=158)</td>
<td>65 (41.1%)</td>
<td>64 (40.5%)</td>
<td>29 (18.4%)</td>
</tr>
<tr>
<td>(3) Nonvoters (n=441)</td>
<td>82 (19.6%)</td>
<td>81 (18.4%)</td>
<td>278 (63.0%)</td>
</tr>
</tbody>
</table>

Percent correctly classified = 58.09% (N=1212)
individuals who claim to have voted in the election but who are confirmed otherwise by the validation process. Finally, "admitted nonvoters" are comprised of individuals who answered that they did not vote in the election and their abstention is confirmed by the validation process.

The discriminant analysis produces two discriminant functions with the first function significant at the .05 level and the second function substantially failing to meet statistical significance (p=.402). The first function clearly contains almost all the discriminating power with an eigenvalue of .655, indicating that it explains 98 percent of the common variance. The canonical correlation coefficient of the first function is quite large in comparison to the first function (r*=.629) and indicates that a moderately strong relationship exists between the groups and the first discriminant function.\(^8\)

Both standardized discriminant function coefficients and total structure coefficients are reported for each predictor variable. Standardized discriminant function coefficients (coefficients that would be obtained if the original data each possessed standard deviations of 1.0) are the best known gauges of predictor power, being somewhat analogous to partial correlation coefficients in

\[^8\text{William R. Klecka, Discriminant Analysis, (Beverly Hills, 1980).}\]
multiple regression analysis.\textsuperscript{82} When the units of measurement are different for variables involved in the analysis, the relative importance of each variable can be assessed by examining these standardized discriminant coefficients as opposed to the unstandardized coefficients. Klecka suggests the use of a third type of coefficient which avoids the problems of multicollinearity among the standardized and unstandardized discriminant coefficients. Hence, "total" structure coefficients are reported for each predictor variable as well. These coefficients are simply Pearson correlations between each predictor variable and the discriminant function. Intuitively, they yield information on how closely a variable and a function are related. When this coefficient is very large, the predictor variable is assumed to be conveying the same information as the function. When the coefficient is near zero, the variable is assumed to have very little in common with the combination of variables that best discriminates between categories of the dependent variable.\textsuperscript{83}

Examining the coefficients for the first function reveals that the variables most closely related to the first function are voting history (.832), campaign interest (.430), and civic duty (.383). The second function is also

\begin{enumerate}
\item \textsuperscript{82} Ibid., p. 36.
\item \textsuperscript{83} Ibid., p. 31.
\end{enumerate}
dominated by three variables: income (.551), performance ratings for government institutions (-.488) and race (.414). Nevertheless, this function is not statistically significant; hence, one cannot say these differences exist with any validity.84

The group centroids produced by the analysis provide even clearer intuitive information. This measure summarizes the position of a group and represents an imaginary point in p-dimensional space that has coordinates that are the group's mean on each of the discriminant variables. As Klecka85 states, one can study these centroids to obtain an understanding of how the groups differ since each once represents the typical position for its group. For the first function, the group centroids range from +.534 for actual voters to -1.370 for admitted nonvoters. Substantively, this means that voters as opposed to nonvoters possess the characteristics that provide meaning to the first function (i.e. -- possess the highest coefficients). The group centroid for the misreporters lies in a position between these two extremes

84Sigelman's analysis of the 1978 National Election Study sample yields similar results; however, the second function derived by the discriminant program barely met the standard (p=.05) significance level test. His analysis did not include income as a predictor variable, but also found older age levels to possess a high coefficient for the second function.

85Klecka, op. cit., p. 16.
but notably closer to the voter group. In short, misreporters are closer to actual voters in terms of the predictor variables that contribute to the first function. Although the second function is not statistically significant, it is interesting to note that there is little difference between voters and nonvoters on this function. The negative group centroid for the misreporters clearly stands out from these other two groups and indicates that whites, higher income individuals, and those who rate the performance of government institutions poorly are much less likely to misreport the act of nonvoting.

The classification results from the discriminant analysis also reveal some useful information that bears on the question concerning the nature of the nonvoter. Even though the fourteen predictor variables correctly classify a little over 58 percent of the cases, approximately 41 percent of the misreporters are misclassified as voters (almost identical to the percent of misreporters who are correctly classified). Only a little over 18 percent of the misreporters are incorrectly classified as nonvoters. In short, the pattern of errors in the classification stage of the analysis combined with the group centroid information previously discussed indicates that misreporters more closely resemble actual voters than nonvoters in the 1980 CPS National Election survey.
Finally, Table XI presents the results from two discriminant analyses with identical predictors designed to differentiate between voters and nonvoters. However, one analysis uses self-reported turnout data while the other uses validated data in hopes that a comparison may yield insights into the impact of the misreporting problem in the 1980 survey. Both sets of coefficients reveal very similar patterns of association with the dependent variables. The group centroids for both functions are almost identical for the voter category and demonstrate that voters possess the characteristics associated with both functions regardless of dependent variable choice. However, the eigenvalues for the two analyses are somewhat different, with the .640 value for the self-reported group indicating better discriminating power. The canonical correlation for the self-reported function is also higher and the percent of cases correctly classified is about five percent higher for this group as well. In short, while these findings do not indicate absolute equality of the results regardless of the dependent measure chosen, they do indicate that researchers would not be terribly far off base with predictions based upon self-reported measures. Since these results are not as conclusive as those presented by Sigelman, all analyses incorporated in the study will be conducted using both measures of voter turnout to test for differences in results.
### TABLE XI

**DISCRIMINANT ANALYSIS USING REPORTED VERSUS VALIDATED VOTE**

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Self-Reported Vote</th>
<th></th>
<th>Validated Vote</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Structure</td>
<td>Standardized Function Coefficient</td>
<td>Total Structure</td>
<td>Standardized Function Coefficient</td>
</tr>
<tr>
<td></td>
<td>Coefficient</td>
<td></td>
<td>Coefficient</td>
<td></td>
</tr>
<tr>
<td>Vote History</td>
<td>.835</td>
<td>.734</td>
<td>.842</td>
<td>.685</td>
</tr>
<tr>
<td>Campaign Interest</td>
<td>.436</td>
<td>.247</td>
<td>.456</td>
<td>.217</td>
</tr>
<tr>
<td>Civic Duty</td>
<td>.379</td>
<td>.227</td>
<td>.418</td>
<td>.192</td>
</tr>
<tr>
<td>Education</td>
<td>.251</td>
<td>.073</td>
<td>.283</td>
<td>.070</td>
</tr>
<tr>
<td>Age</td>
<td>.214</td>
<td>.202</td>
<td>.274</td>
<td>.240</td>
</tr>
<tr>
<td>Income</td>
<td>.195</td>
<td>.116</td>
<td>.270</td>
<td>.159</td>
</tr>
<tr>
<td>Outcome Concern</td>
<td>.247</td>
<td>.165</td>
<td>.245</td>
<td>.138</td>
</tr>
<tr>
<td>External Efficacy</td>
<td>.269</td>
<td>.191</td>
<td>.233</td>
<td>.125</td>
</tr>
<tr>
<td>Race</td>
<td>.067</td>
<td>-.052</td>
<td>.168</td>
<td>.052</td>
</tr>
<tr>
<td>Government Performance Rating</td>
<td>-.072</td>
<td>-.098</td>
<td>-.141</td>
<td>-.151</td>
</tr>
<tr>
<td>Ideology</td>
<td>.128</td>
<td>.028</td>
<td>.140</td>
<td>.058</td>
</tr>
<tr>
<td>Close Election</td>
<td>.081</td>
<td>-.007</td>
<td>.129</td>
<td>.040</td>
</tr>
<tr>
<td>Gender</td>
<td>-.089</td>
<td>-.111</td>
<td>-.097</td>
<td>-.089</td>
</tr>
<tr>
<td>Political Trust</td>
<td>.036</td>
<td>-.061</td>
<td>.014</td>
<td>-.042</td>
</tr>
</tbody>
</table>

#### Group Centroids

(1) Voters

<table>
<thead>
<tr>
<th></th>
<th>.467</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) Nonvoters</td>
<td>-1.37</td>
</tr>
</tbody>
</table>

#### Eigenvalues

<table>
<thead>
<tr>
<th></th>
<th>.640</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.335</td>
</tr>
</tbody>
</table>

#### Canonical Correlations

<table>
<thead>
<tr>
<th></th>
<th>.624</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.50</td>
</tr>
</tbody>
</table>

#### Percent Correctly Classified

<table>
<thead>
<tr>
<th></th>
<th>79.2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>72.3</td>
</tr>
</tbody>
</table>
Having now discussed the choice of the independent and main dependent variables to be used in the analysis, the next section will present a brief discussion of the concepts that underlie causal modeling techniques and the statistical procedures suitable for estimating the parameters of various kinds of models.

CAUSAL MODELING

The Use of Causal Modeling in Research

Causal modeling has been recognized as a powerful analytical tool in the social sciences for many years. Basically, causal modeling addresses questions about possible causes; that is, it provides explanations of effects as the result of causes. One begins with a model in which substantial confidence has been invested and hypothesized relationships between variables have been guided by sound theoretical or logical reasoning. As an analytical technique, causal modeling incorporates variables believed to be potential determinants of the effects and then attempts to isolate the separate contributions to these effects made by each predictor.

\textsuperscript{86}\textsuperscript{For in depth treatments of causal modeling procedures which are summarized here, see Herbert B. Asher, Causal Modeling (Beverly Hills, 1976); Hubert M. Blalock, Social Statistics (New York, 1972), pp. 429-473; Norman Nie, C. Hadlai Hull, Jean G. Jenkins, Karin Steinbrenner, and Dale Bent (eds.), op. cit., pp. 383-397.}
variable.

Sound prior theorizing is essential in the causal modeling process. If the researcher does not establish certain posited linkages, then the procedure turns into a mindless process of trying to find the best statistical fit for the data. In short, substantive and theoretical concerns are the cornerstones of the process. Even the addition and omission of linkages in the models should not be based solely on statistical grounds.

Furthermore, causal modeling techniques do not allow the researcher to derive the direction of causality between two or more variables, nor do they allow him to posit that a causal relationship even exists. At best, we can make inferences about causal structures based upon statistical findings and logically plot a theoretically guided temporal ordering within the model. Moreover, as Selltiz has argued, the nature of the causal relationship can only be determined if three conditions are met: (1) covariation must exist between two variables; (2) a temporal ordering must be established between the two variables so as to determine the direction of causality; and (3) the covariation between the two variables should not vanish when the effects of confounding variables -- those believed to be causally prior to the two variables in

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87 Asher, *Causal Modeling*, p. 11.
question -- are removed.  

The pioneering works of Simon and Blalock provide insights into testing procedures used in causal analysis. Simon's work argues that one could examine correlations between pairs of variables in models to determine if a causal relationship exist. If a nonzero correlation emerges under conditions where a temporal sequence or ordering of the variables could be specified, and the error terms, or unmeasured variables in the models, were not correlated, then the correlation is evidence of causation under the set of assumptions being made. Blalock extended Simon's work to produce a technique by which a researcher could analyze an hypothesized causal sequence of events using empirically measured data. Basically, the process involves the construction of a model, often in the form of an arrow diagram showing where hypothesized linkages between variables occur. One then generates predictions that the omitted linkages in the model should produce correlation coefficients that are zero. Hence, the causal modeling technique makes use of

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90 Ibid.
regression procedures, with the paths between variables becoming standardized regression coefficients. Consider Figure 4.

In such models, one has endogenous variables (X2, X3, and X4), exogenous variables (X1), and error terms (Ru, Rv, Rw). Endogenous variables are variables that at some point in the model are dependent; that is, causal paths are drawn directly to them from other variables in the model. Exogenous variables are variables that are not dependent in any equation for the model. In short, exogenous variables are assumed to be the first temporal variables in the model. The error terms, or residuals, represent disturbance terms and are factors that are not actually measured that impinge upon the endogenous variables. The arrows represent hypothesized causal paths which represent the parameters of the model the researcher is interested in estimating. In this situation, one could estimate the paths using ordinary least squares regression procedures. The omitted paths could also be estimated to see if they were sufficiently close to zero to justify their exclusion from the model. The path coefficients measure the respective weights assigned to each of the independent variables in the prediction of the dependent variable under question in the model.

In estimating these paths, however, several assumptions must be made. First, interval level data are
Fig. 4—Causal model diagram example
needed in order to determine means and variances used in least squares regression procedures. Second, several assumptions must be made about the error terms. The error terms are the result of a "stochastic" component, meaning that some of the effects on the dependent variable originate from omitted variables in the model operating in different directions. Error terms also are the result of measurement error components. In addition, error terms are assumed to have a mean of zero, constant variance for different values of the dependent variable (homoscedasticity), zero order correlations with other error terms, and no correlation with the independent variables when in the same estimation equations.\(^9\)

Lastly, if significance tests for the model are to be applied, the error terms must be normally distributed. In addition, the Simon-Blalock technique requires that the relationships between the variables always be linear. Thus, the stringent requirements of the Simon-Blalock technique render causal modeling moot except when all the above assumptions are met. Fortunately, another technique, widely known as path analysis, can be used in place of the Simon-Blalock technique and yields even additional information.

\(^9\)Asher, op. cit., p. 25.
As Asher explains, "Path analysis is basically concerned with estimating the magnitude of the linkages between variables and using these estimates to provide information about the underlying causal processes." To use path analysis, the assumptions of ordinary regression analysis must be met along with the requirement that the error terms in the equations be uncorrelated with the predictor variables. To obtain path estimates, one merely regresses each endogenous variable on those variables that are directly linked to it in the hypothesized model. The residual paths, those for the error terms, can also be estimated by merely taking the square root of 1-R squared produced for the equation. In simple terms, this represents the amount of unaccounted variance in the dependent variable. Obviously, the R-squared represents the amount of explained variance produced in the dependent variable by the independent or predictor variables. Not only can the direct influences of the independent variables on the dependent variables be estimated, but the indirect influences can be estimated as well. The indirect effects, following the rules established by Sewell Wright, are the sum of the products of all indirect paths between an independent and dependent

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92 Asher, op. cit., p. 29.
variable in the model. In all, the correlations between two variables in a model can be decomposed into (a) direct effects, (b) indirect effects, and (c) spurious effects. The latter represents the compound paths between a set of variables that are mathematically part of the decomposition, but are not substantively interpretable. This decomposition process provides an excellent way to test the adequacy of the model. If the model has been specified properly, that is, if all significant variables are included and all significant paths have been estimated, then the correlation between any two variables should be equal to the sum of the simple (direct) and compound paths (indirect and spurious) linking the two variables. Measurement error and sampling error can often be the cause for incongruities between these two computations. Hence, path analysis is an attractive method for analyzing causal relationships since well-known and widely used regression techniques may be utilized, with the standardized regression coefficients used as the path estimates.

Recursive and Nonrecursive Models and Identification

Causal models are often referred to as simultaneous equations models. This means that several causal relationships are going on simultaneously in the model or

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that more than one dependent variable exists for which path estimates must be made. Simultaneous equations models may be of two types: recursive and nonrecursive. Recursive models are the simpler of the two and have dominated much social science research. Recursive models imply one-way causation that is posited in a definite time sequence. In other words, the variance in one variable is being explained by one or more variables that temporally occur prior to it in a definite causal sequence. Such a model rules out any two-way, or reciprocal, causal paths. If all the linkages in a model are recursive then the entire model is recursive and it may be estimated with ordinary least squares regression.

Other simultaneous equation models are nonrecursive. No definite causal or temporal order exists in such models and two-way causation is implied between one or more sets of variables. When a model is nonrecursive in nature, it cannot be estimated with ordinary least squares regression. In such a situation, the requirements for OLS (ordinary least squares) regression are violated. Specifically, the independent variables are nonstochastic and the error terms are correlated with the independent variables.94

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such situations, the estimates for the paths are biased. Hence, other methods are required for estimation depending upon the identification status of the equation being used to estimate the path coefficient. Before discussing these methods and, in particular, the method to be incorporated into one of the models in this study, a brief summary of the identification problem in simultaneous equations models is necessary.

As explained by Hanushek and Jackson, for some types of models we have enough information in the equations to estimate the parameters, while for others we do not.\(^95\) That is, in order to solve a set of equations, you must have at least as many equations as unknowns. This is commonly referred to as the identification problem. In any simultaneous equations model, identification proceeds on an equation by equation basis; if any equation in the model is underidentified, then the entire model is underidentified and thus cannot be estimated using regular regression procedures. If none of the equations are underidentified, then they will either be exactly identified or overidentified. If an equation is exactly identified, then we have the exact amount of information to estimate it; if it is overidentified, then we have access information. In short, each identification status requires a different type

\(^{95}\)Hanushek and Jackson, *op. cit.*, pp. 246-280.
of estimation technique to determine the parameters, or path coefficients.

The identification process in recursive models is relatively simple. These types of models are never underidentified. To determine whether they are exactly identified or overidentified, one merely examines the linkages in the model. If no links are omitted between the variables in the model, then it is said to be exactly identified; if any linkage is omitted, then it is overidentified. Despite the identification status of a recursive model, it may be estimated using ordinary least squares regression. 96

Identification in nonrecursive models is far more complex and requires a two step process to determine the actual identification status. The first step is commonly referred to as the "rank condition." 97 It involves an examination, on an equation by equation basis, of the number of exogenous variables left of the equation. If this number is less than the number of endogenous variables on the right-hand side of the equation, then the equation is underidentified. If the numbers are equal, it is exactly identified. If the number is greater, then the equation is overidentified. In order to estimate a

96 Hanushek and Jackson, op. cit., p. 240; Asher, op. cit., pp. 50-51.
97 Asher, op. cit. pp. 52-53.
nonrecursive model, all of the equations must be either exactly identified or overidentified.

The second step is called the "order condition." The rank condition must also be met in order for an equation (and thus the entire model) to be estimated. The rank procedure involves the construction of a matrix which contains a row for each equation and a column for each variable in the model. The cells of this matrix are determined to be either zero or nonzero depending on whether variables appear in the equation. This procedure reveals the restrictions we have put on the model by showing when variables in each equation are zero or not. Next, a phi matrix is computed so that the number of elements in the matrix is equal to the number of variables in the model. This time, ones are inserted where restrictions have been placed and zeros elsewhere. These two matrices are then multiplied together. The number of nonzero rows and columns in this matrix must be equal to \( Q-1 \), where \( Q \) is the number of equations in the entire model. If it is exactly equal, the model is said to be exactly identified. If at least one matrix produces more nonzero rows and columns than \( Q-1 \), then the model is said to be overidentified. In summary, recursive models

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98 Asher, op. cit., pp. 53-54.

99 For full discussion, see Hanushek and Jackson, op. cit., pp. 258-267.
are always either identified or overidentified and may be estimated using OLS regression procedures. Nonrecursive models may either be underidentified, exactly identified, or overidentified. If they are underidentified, then they cannot be estimated. If they are exactly identified or overidentified, then they may be estimated using one of several procedures outlined below.

Estimation of Nonrecursive Models

Equations which are exactly identified in nonrecursive models may be estimated using the instrumental variable procedure. Stated simply, the process entails finding instrumental variables — variables in the model that are not correlated with the error term in the equation being estimated — and multiplying the equations completely through by these variables. This would produce expected values for the variables which are then used to solve the equation in a normal regression procedure. The basic purpose of this procedure is to produce more consistent estimators since correlation between explanatory variables and the disturbance terms can bias these estimates. The instrumental variable procedure attempts to correct for

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100 This procedure is briefly outlined in Asher, op. cit., p. 17. A more lengthy discussion is provided in Donald E. Stokes, "Compound Paths: An Expository Note," American Journal of Political Science, 18 (February 1974), 191-214.
this bias by substituting in place of the variables that
are correlated with the error terms new estimates derived
from other endogenous variables which are not correlated
with them.

For overidentified equations in nonrecursive systems,
the most common estimation approach is two-stage least
squares.\(^1\) Other methods, designed to estimate an
entire system of equations at one time, include three-stage
least squares and full information maximum
likelihood.\(^2\) In two-stage least squares, the problem
addressed is that endogenous variables in the model are
sometimes independent variables and at other times
dependent variables. The basic problem encountered here,
again, is that such variables are correlated with the error
terms and produce biased parameter estimates. Two-stage
least squares is a commonly invoked procedure designed to
eliminate this problem so that best limited unbiased
estimators can be produced. It provides a method for
deriving substitutes for endogenous variables so as to
eradicate the correlation with error terms.

Briefly, this technique is accomplished by getting a
"fitted" value for the endogenous variable by regressing it
against all the variables which are not correlated with the

\(^{1}\) For related discussion, see Johnston, \textit{op. cit.},
pp. 380-393.

\(^{2}\) See Johnston, \textit{op. cit.}, pp. 376-395.
error term in the equation be estimated. By definition, this produces an unbiased estimate for the endogenous variable which can then be substituted into the regression equation to produce estimates for the dependent variable. As Zellner and Theil have demonstrated, three-stage least squares estimates may produce more efficient estimates than the two-stage process if certain conditions are met. 103

In the chapter that follows, the hypothesized models are developed using theoretical explanations derived mostly from empirical studies. Two of these models are recursive and are estimated using OLS regression procedures. The third model is representative of the nonrecursive classification and exclusively contains overidentified equations. Therefore, a comparison is made of the two-stage and three-stage least squares results to see if any efficiency is gained with the latter procedure.

The Special Case of a Dichotomous Dependent Variable

The dependent variable incorporated into the following causal models is dichotomous in nature; that is, it possesses only two values (one representing vote and the

103 See A. Zellner and H. Theil, "Three-stage, Least Squares: Simultaneous Estimation of Simultaneous Equations," *Econometrica*, 30 (January 1962), 54-78. Johnston, op. cit., argues that the third stage increases estimation efficiency by taking into account the correlations among all the equations in the system. Generally, however, three-stage estimates are found to differ very little from the two-stage estimates.
other no vote). In such a situation, one of the tenets of ordinary least squares regression analysis is violated. In short, the variance for the error term will be different for different values of the independent variables. This violates the assumption of homoscedasticity, or that the variance of the error terms is equal for every value of the independent variable. Several procedures have been suggested by methodologists to circumvent this problem. This study will employ two such techniques: discriminant analysis and logistic regression. These techniques were chosen for two reasons. First, discriminant analysis has been employed in some of the voting behavior studies in the past involving turnout, and thus, findings can be made more comparable. Further, discriminant analysis provides the attractive feature of classification analysis that allows one to see how well the independent variables in the equations successfully predict group memberships. Second, logistic regression, a nonlinear regression technique, is employed because it is one of the most statistically appropriate methods available for dichotomous, nonlinear regression functions. In addition, it is capable of estimating probabilities based upon log-odds ratios. A

\[ Y = X \beta + \epsilon. \]  
\[ e = 1 - X \beta. \]  
\[ e = -X \beta. \] 

---

104 This can be demonstrated by the following example. When the dependent variable is dichotomous, the standard regression equation will appear as follows: \( Y = X \beta + \epsilon. \) When \( Y \) is one, then the error term will be equal to the following: \( e = 1 - X \beta. \) When \( Y \) is equal to zero, the value of \( e \) will be: \( e = -X \beta. \)
brief discussion of each follows.  

**Discriminant Analysis**

Discriminant analysis is most appropriate when a researcher is using a dichotomous dependent variable that differentiates observations by categories that do not necessarily form any rank order. In other words, the dependent variable could be sex, but neither an ordinal nor an interval scale could be said to exist for the values. Discriminant analysis seeks to classify observations into strictly ordinal categories using information provided by the set of predictor variables. Discriminant analysis seeks to find the best linear combination of independent variables that maximizes the sum of squares around the mean of this value between the groups. Viewed

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105 For an excellent discussion of the comparisons of OLS regression, discriminant analysis, and probit regression (a nonlinear regression function similar to logistic regression), the reader should consult John Aldrich and Charles F. Cnudde, "Probing the Bounds of Conventional Wisdom: A Comparison of Regression, Probit, and Discriminant Analysis," American Journal of Political Science, 19 (August 1975); 571-608.

in a different manner, the calculation of the best linear combination of the independent variables attempts to partition its variance into between group variation and within group variation. It tries to maximize the between group variation. This calculation is generally called the "discriminant function." Discriminant function coefficients are usually part of most statistical software packages, and are analogous to regression coefficients in OLS regression. They can help identify the most important discriminant variables and are useful in the classification stage where predictions are made for the group memberships. Significance tests may be performed to determine the fit of the discriminant model. It should be pointed out, however, that discriminant analysis is not considered to be a true regression technique. In addition, the assumptions of normally distributed variables and equal variance and covariances are not easily met. For these reasons, it is desirable to subject the path estimates in the models leading directly to the dependent variable to yet another statistical technique for comparison purposes.

Logistic Regression

When scores on a dependent variable are limited to two values, say zero or one, the resulting plot of independent variables against the dependent variable normally takes on an "S-shape" curve as opposed to the traditional straight
line character of a normal regression equation. If one uses OLS regression procedures to estimate the predicted values for the dependent variable, the regression technique would attempt to average out the vertical differences of the actual scores from the estimates.\textsuperscript{107} Such results lead, again, to error terms being correlated with independent variables and heteroscedasticity. Furthermore, given the dichotomous nature of the dependent variable as opposed to a continuous characteristic, very rarely would the error terms approximate a normal distribution. What is desired is a procedure that will produce estimates of the dependent variable that will lie within the zero to one range so as not to produce uninterpretable probabilities exceeding one or becoming negative when less than zero. In short, what is needed is a regression function that fits a nonlinear as opposed to a linear form.

Logistic regression produces such estimates and is very appropriate to the analysis of dependent variables in dichotomous, noninterval form.\textsuperscript{108}

\textsuperscript{107}Aldrich and Cnudde, "Probing the Bounds," p. 578.

\textsuperscript{108}There is some question about whether most ordinal level data can be treated as interval without violating too many assumptions of regression. For the "pro" side of this argument, see Sanford Labovitz, "The Assignment of Numbers to Rank Order Categories," American Sociological Review, 35 (June 1970), 515-524. For a critique of this method, see Thomas P. Wilson, "Critique of Ordinal Variables," Social Forces, 49 (1971), 432-444.
The logistic function can best be thought of as the probability of a success that a value for the dependent variable is one (assuming that the categories are coded zero and one). The function itself is expressed as $Y = \frac{e^{XB}}{1 + e^{XB}}$. This can be easily converted to an odds ratio by the following transformation:

$$1-p = \frac{1-e^{XB}}{1 + e^{XB}}$$

$$= \frac{1 + e^{XB} - e^{XB}}{1 + e^{XB}}$$

$$= \frac{1}{1 + e^{XB}}$$

By taking the log of this odds ratio, one can derive the probability of a "success" (for instance, a vote in this study) for differing values of the independent variables. Some statistical software packages, notably SAS (Statistical Analysis System) and BMDP produce coefficients that represent the change in the log odds ratio produced by a unit change in the independent variable. This is not directly interpretable like a regression coefficient in OLS regression. But by taking the antilogs of these coefficients, one can deduce the change in the odds ratio produced by unit changes in the independent variables. As stated, these odds ratios can be converted to probabilities quite easily. 109

109 The log odds ratio is normally called a "logit" by econometricians; thus the name logistic regression.
Summary

This chapter has presented the components of the research design implemented in this study. Three hypothesized models of voter turnout are constructed based upon past research and theoretical conceptualizations presented in the literature. One model posits a causal relationship among various long-term predictor variables, some of which are assumed to have substantial impact on voting turnout since the 1960s. Another model tests for the causal impact of more short-term, or election specific factors discussed in more recent studies on voter turnout. A final model assesses the probability of voting under a rational choice framework with hypothesized links between candidate evaluation, partisan identification intensity, and comparative policy differences operating in a nonrecursive manner. Each of these dimensions tests a different set of assumptions about the underlying causal processes that influence the simple act of casting a vote in presidential elections.

Two models are first estimated using OLS regression and path analysis. This reveals the direct and indirect influences of the predictor variables in the hypothesized causal sequences. All data are recoded so as to conform to a linear correction technique that allows for an interval level assumption of data measurement. The third model is estimated using three-stage least squares regression as it
is nonrecursive in nature and cannot be analyzed with methods utilized for the other models. Then, using discriminant function analysis, all direct paths in the first two models are re-estimated. The rankings of the discriminant function coefficients are compared to the OLS regression estimates for importance. A classification analysis is also performed to test the differences among the two sets of predictor variables in their abilities to successfully predict membership in either the voter or nonvoter category. Lastly, an iteratively reweighted least squares maximum likelihood logistic regression analysis will be performed on all three models for direct paths leading to the dependent variable. The relative impacts of the variables are compared for differences across models. Substantive conclusions are then reached concerning the importance of the findings and suggestions are made for future research incorporating elections across time.
CHAPTER IV

MODEL CONSTRUCTIONS

Short-Term/Election Specific Model of Voter Turnout

Our review of past research in voting behavior has revealed the importance of several election-specific factors affecting voter turnout. Three attitudinal components consistently tested by researchers include the individual's interest in the campaign, his concern over the outcome of the election, and perceived closeness of the election. The latter component has been investigated in more recent years while the first two factors were introduced by Angus Campbell and his associates in their pathbreaking vote studies of the 1950s. As discussed in the previous chapter, the empirical findings using similar measurements of these concepts have produced rather inconsistent findings. The review of related literature indicates controversy centers in particular on the interest and outcome perceptions. With only a few exceptions, the perceived closeness of the election has been fairly well dismissed as an unimportant factor in the voter turnout decision. While it is known that each of these attitudinal dimensions can contribute to an explanation of voter turnout, it is unclear how they
might causally relate to each other and the eventual turnout decision.

In positing a causal sequence between these variables, one must consider their temporal proximity. This temporal ordering should follow a logical pattern if possible; however, it is rare to find patterns where an absolute consensus on the ordering would exist among investigators. At best, one can be guided by past empirical findings which have shown certain relationships between variables. In addition, new or untested relationships may be offered and subjected to statistical analysis.

The general decline in voter turnout in presidential elections has been pictured as a consequence of an overall declining interest in politics in general. We could posit this decline in terms of a lack of concern in election outcomes, due in part to a variety of complex factors ranging from a declining faith in government to more time demanding occupations and job situations which impinge upon political participatory activities. Regardless of the source of electoral concern, we can hypothesize its relation to both political interest and the perceived closeness of the election. Figure 5 depicts a causal sequence between these three election specific factors.

All path estimates were hypothesized to be positive in direction. That is, one would expect higher levels of turnout to be associated with higher levels of concern,
Fig. 5--Hypothesized short-term variable linkages (* indicates significance at the .05 level).

(R-squared = .148*)
interest, and perceptions of a close election outcome. Each variable is hypothesized to be directly linked to voter turnout since most past research has either found such relationships or incorporated it into a general theoretical construct as is the case with the closeness factor and rational choice arguments. The expectations hypothesized in this causal arrangement are that differing levels of election concern will foster similar attitudinal changes in campaign interest. Individuals who show interest in and concern over the election may have more at stake in the election, thus perceiving it as both important and close. Campbell, for instance, has distinguished between high and low stimulus elections.¹ In high stimulus elections, people generally perceive that the vote will be close and the decision an important one.

Using OLS regression, standardized regression coefficients (betas) were derived by regressing each endogenous variable onto the dependent variable to which it was linked. The estimates are also displayed in Figure 5; estimates marked with asterisks are significant at the .05 level or better. The estimate for the linkage between perceived closeness of the election and voter turnout was near zero (beta = .04) and statistically insignificant (p=.087).

In addition, the path estimate for the links between election concern and perceived election closeness was near zero (.03) and statistically insignificant (p=.178). The estimate for the linkage between campaign interest and perceived closeness was moderate (beta = .118), but passed the significance test. The linkages for the rest of the model were in the hypothesized directions, and all were statistically significant (p .05). The path coefficient for the link between interest and voter turnout was strong (.333) as was the estimate for the linkage between concern and interest (.276). The only other moderate link was that between concern and voter turnout (beta = .107). The percent explained variance in the dependent variable is low in comparison to most models; nevertheless, it rates fairly strong in voter turnout studies (R-squared=.148). Indeed, some multivariate models with far more variables have produced R-squared values equal to or less than the one produced by this parsimonious four variable model.

After testing for any changes in the explained variance of the turnout measure, it was decided that the closeness measure could be eliminated from the model without much loss of explanatory power. The R-squared value remains virtually the same, and the coefficients for interest and concern are lowered only slightly. This finding is in agreement with other researchers,
particularly Ferejohn and Fiorina and Reiter.\textsuperscript{2}

Figure 6 shows a more parsimonious model offered that takes into account interest in elections and concern over the outcomes. Although not specified in this model, several factors could be acting to weaken the effect of close election perceptions. Some people, for instance, vote purely because of civic duty regardless of whether or not they believe they can affect the outcome. Furthermore, less competitive elections are known to produce less voter worries about the closeness of a contest, particularly if few substantive issues or unattractive candidates are involved. And, of course, all of these factors make it much more difficult for the party organizations to mobilize their supporters.

From this more parsimonious model, we can seek yet another factor which prior research has indicated is linked to turnout -- media exposure. In constructing a temporal causal sequence, we can hypothesize that both interest in and concern about the outcome of an election leads to more media exposure. That is, we assume that the individual becomes an information searcher, seeking out facts and

\textsuperscript{2}John A. Ferejohn and Morris P. Fiorina, "The Decline in Turnout in Presidential Elections," paper delivered at the National Science Foundation Conference on Voter Turnout, San Diego, California, 1979; and Howard L. Reiter, "Why Is Turnout Down?" \textit{Public Opinion Quarterly}, 43 (Fall 1979), 303.
Concern \rightarrow \text{Vote turnout} \\
\text{Campaign interest} \rightarrow \text{Vote turnout} \\
\text{Concern} \rightarrow \text{Campaign interest}

Fig. 6—Respecified Model of Primary Short-term Influences
opinions to buttress interest and concern. Such a causal sequence follows the arguments of most studies of the socialization effect of the mass media. Individuals not only seek facts about campaign issues and candidate stands, but also selectively screen information through "selective perception." In addition, the potential voter attempts to reduce information gathering costs by obtaining campaign details through various forms of communication which are most accessible and reliable. As a result, the measure of media exposure becomes a scale based upon responses to questions about the use of all types of media -- printed and broadcast. This recognizes the availability of different forms of communication readily available to almost all citizens today, and does not differentiate between those who read newspapers for instance, and those who primarily depend on televised network news programs. Some have argued, conversely, that individuals who depend upon printed media are better informed and retain more information about political matters than those who are more dependent upon broadcast mediums. Shaffer, for example, hypothesized that declining readership of newspapers and magazines was responsible for subsequent declining turnout rates among the electorate.\(^3\) He assumes that the

printed media are more intellectually demanding and play potentially larger roles in providing in-depth information on which a citizen can draw better conclusions. While his analysis does indeed show that newspaper reliance was consistently important in predicting reported turnout in individual elections, it would be incorrect to assume that it was the most important variable in explaining turnout over time.

Furthermore, public opinion polls in the last decade have consistently concluded that most Americans use television as their major source for political information, and most people attach the greatest validity to television news. The view that television news is superficial in its coverage of campaign issues may miss the point. If the vast majority of Americans are dependent upon the broadcast media for their political information, then they become the major agents that describe political reality for us. Thus, the power of the media becomes one of agenda setting -- deciding which issues and candidacies merit special attention and focus. Systematic research indicates, moreover, that issues which receive the greatest attention in the media are perceived to be the most important to voters. As such, another revised model is proposed and estimated. The

\[4\text{For results of recent polls on this subject, see Public Opinion, October-November, 1981, 35-40.}\]
hypothesized causal sequence is displayed in Figure 7.

Substantively, this is an appealing modeling sequence. All the variables fit the expectations very nicely except for the insignificant link between election concern and media exposure. The explained variance is again higher than other multivariate models incorporating more variables. The adjusted R-squared value is .181, which is only slightly different from the R-squared value. In short, this tells us that the addition of the media variable to the model improves our prediction capabilities significantly over the previous three variable model.

In addition, the hypothesized link between media exposure and voter turnout is moderately strong and in the hypothesized direction. The decline in the value of the regression coefficient for the interest measure from the three variable model does indeed confirm that its effect is mediated through media usage. The path estimate between interest and media exposure, as expected, is also strong. How can we explain the one anomaly in the model -- the absence of a significant link between outcome concern and media usage? No doubt, part of the problem lies with measurement error in the independent variables. Second, if concern does not lead to significantly more media usage, we might assume that information costs are too high. This could be an indicator that other potential sources of political information are valid reference points for many
(R-squared = .183*)

Fig. 7--Four variable short-term influence model (* indicates significance at the .05 level).
voters -- such as peer groups. Third, this conclusion conforms to the dual dimensionality of interest and concern that was originally hypothesized by Campbell in early studies of voting behavior. Accordingly, this linkage is dropped from the model since the estimate is near zero.

In searching for yet another critical short-term influence on presidential voting in recent years, we can direct our attention to the status of the economy. As discussed in Chapter II, political researchers have devoted increasing attention to the effect of perceptions of the economy on eventual vote choice in presidential elections. Others have begun to explain variances in turnout levels by examining the importance of economic issues. Both assume, of course, that in recent years the health of the nation's economy as well as the personal financial condition of the individual services as a strong determinant of vote behavior. This assumption is quite plausible given the importance attached to economic concerns in the last few presidential contests.

The 1980 presidential election serves as an excellent test of these assumptions since almost all analysts concluded that the fate of incumbent President Carter hung on his abilities or inabilitys to achieve policy improvements

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in taxation and budgeting. As Henry A. Plotkin explains:

Elections are won and lost for many reasons, but none as critical as the state of the nation's economy. It is as likely as anything else that Jimmy Carter met his Waterloo on Election day because he failed to correct three critical aspects of the economy: inflation, unemployment, and interest rates.

Given the pivotal importance of the economic issues in the 1980 campaign, we can hypothesize certain relationships between immediate economic concerns and the short-term influence factors in the current model.

The literature review has pointed to the debate within the discipline over the impact of "societal" or systemic economic concerns and those of a more "personal" nature. In one instance, voting behavior is assumed to be guided by personal satisfaction or dissatisfaction with the overall state of the economy. Anger or pleasure is aimed specifically at the governmental system, as it is viewed by the individual to be the prime culprit in the nation's economic plight. In the other situation, the established work ethic culture of many Americans acts as an intervening factor which mediates their animosity toward the political system. Here, current personal and family financial situations are depicted to be the result of individual choices and

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inadequacies (or adequacies). In short, government is not held as responsible for economic matters if the individual believes other mitigating conditions to be part of the overall problem. Likewise, relief is not thought to be as important if the perception is that government should not be involved in assisting individuals with financial hardships.

Thus, as explained in the Chapter III, two measures were constructed to tap both of these dimensions. In specifying their temporal location in the current short-term model, we must consider the following points. First, both personal and societal economic problems should heighten political interest and concern about election outcomes. Most likely, voters will be given substantially different choices by both the major candidates and parties on the direction of economic policies. Second, the relationship between economic concerns and media exposure is less clear. As one becomes more concerned about personal or systemic economic matters, he or she is more likely to seek additional information. The media are likely to devote increasing amounts of attention to coverage of economic issues, since it is assumed that it is one of the primary issues in the presidential contest. This is the causal sequence that will be posited here; however, we must recognize that the opposite could be true as well. Citizens could become alienated from economic issues if they believe
that nothing can be done to really solve the dilemma. Figures 8 and 9 display the insertion of the societal and personal economic attitudinal components into the model. The numbers represent the path estimates produced using OLS regression; starred coefficients (standardized regression coefficients) represent those found to be significant at the .05 level of significance or better.

The results are somewhat surprising. While the 1980 presidential election carried a definite economic tone, neither factor produces statistically significant effects on voter turnout. In addition, the regression coefficients for both factors are near zero. The amount of explained variance actually goes down slightly when these variables are introduced into the model, and the adjusted R-squared percentages (not shown) indicate that the variables reduce the fit of the model. What can we deduce from this seemingly counter-intuitive finding? First, it must be admitted that while the measurements for both economic items are sufficient for inclusion into the model, neither is perfect. Thus, we can attribute part of the anomaly in the results to measurement error -- a perplexing problem. Second, voter turnout rather than vote choice is under investigation in this model. Others have clearly

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7 The model was also estimated with both economic variables as antecedents to outcome concern. The results produced the same insignificant effects.
Fig. 8--Short-term influences with societal economic variable (* indicates significance at the .05 level).
Fig. 9--Short-term influences with personal economic variable (* indicates significance at the .05 level).
demonstrated that economic matters must have indeed have had an influence on vote choice in 1980. But the impact of these factors on voter turnout is minimal at best. In one way, this is consistent with the overall turnout rate for the 1980 election, since it was one of the lowest this century. Despite pressing issues, people did not vote in a proportion that one would expect.

Third, we can attempt to explain this puzzle by recapitulating a previous thought. Those severely affected by the downturn of the economy, we could hypothesize, would most likely have an important stake in the outcome of the election. But again, the support for such a thesis has never been adequately demonstrated. Disaffected individuals in our society have usually had the worst turnout rates in the past. On the other hand, those satisfied or tolerant of current economic affairs -- personal, societal, or both -- may be directing their attention to other modes of behavior, presumably life satisfaction and leisure.

Fourth, the failure of either indicator to significantly influence the likelihood of voting can allow us to draw a tentative conclusion about the debate between societal versus personal economic effects on voting. Clearly, neither indicator is significantly related to turnout; however, this might be a better indicator of vote influence coming from the personal dimension as opposed to the societal dimension. The results are not satisfactory
enough to allow one to make such an inferential leap without great caution. While societal economic conditions in this country were rather dismal in 1980, they did not seem to spur people to the polls, although those who went may have been influenced in their vote choice by these conditions. It can only be deduced that such a result was a cross-product of personal blame, disinterest, frustration, alienation or anger. Regardless, evidence presented here demonstrates that while voter choice and voter turnout may be related, they remain separate and distinct dimensions of vote behavior. Due to the results, both economic factors were eliminated from the model.

In searching for antecedent variables to serve as partial explanations for the three existing predictor variables in the model -- electoral outcome concern, campaign interest, and media exposure -- one can look to past theoretical reasoning and findings from empirical analyses. As might be expected, it has been long suggested that those with intense partisan preferences are also highly likely to be interested in politics. Thus, partisan intensity was inserted into the model with direct linkages to both

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8 This contention is supported by the following studies: Bernard R. Berelson, Paul F. Lazarsfeld, and William McPhee, Voting (Chicago, 1954); Angus Campbell, Gerald Gurin, and Warren E. Miller, The Voter Decides (Evanston, Ill., 1954); and Campbell, et al., The American Voter.
outcome concern and campaign interest. Furthermore, it has been widely documented that two demographic variables -- age and education -- have strong positive effects on voting as well as the three predictors already in the model.9

In addition, linkages between differing age levels and political partisanship have been well documented by empirical studies as well.10 The fully diagrammed model is presented in Figure 10. Insignificant paths have been eliminated from the model as deduced by several OLS regression analyses. Partisan intensity exerts strong effects, as hypothesized, on both electoral outcome concern and interest in the campaign (beta = .31 and .11 respectively).

All the path estimates displayed are significant at the p 05 level or better. Age was found to be related to partisan intensity, media exposure, and interest in addition to its direct impact on voter turnout. Education followed an identical pattern, with neither variable significantly

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9This linkages were established by the early voting studies by Lazarsfeld, et al., op. cit., Campbell, et al., The American Voter Campbell, et al., The Voter Decides. These are substantiated by more recent studies, particularly Norman Nie, Sidney Verba, and John R. Petrocik, The Changing American Voter (Cambridge, 1976).

Fig. 10--Fully Diagrammed Recursive Causal Model of Short-Term Election-Specific Influences on Voter Turnout.
linked to electoral concern.

The path estimates for the full model are presented in Figure 11 and the OLS parameter estimates for each variable's linkage to vote presented in Table XII. The information in Table XII reveals that among the election-specific factors, interest in the campaign has the most appreciable effect on voter turnout. This is corroborated by findings previously articulated by Cassel and Hill in their analyses of the 1964 and 1976 presidential elections, although they investigated non-Southern voters.\textsuperscript{11} Few of the most recent multivariate studies of voter turnout, however, have included media exposure. The results presented here argue for the strong effect of this variable as well. It is also interesting to note the strong effects of both demographic variables on voter turnout (betas = .199 for age and .179 for education). These conclusions differ from the Cassel and Hill study. Indeed, the direct effects of these variables surpass those of any of the more election specific variables. This model also offers an improvement in the amount of explained variance. The .223 R-squared percentage is somewhat higher than those presented in multivariate models of the past. The adjusted R-squared value of .219 (not shown) indicates that the addition of the

\textsuperscript{11}Carol A. Cassel and David B. Hill, "Explanations of Turnout Decline," \textit{American Politics Quarterly}, 9 (April 1981), 189.
TABLE XII
ORDINARY LEAST SQUARES REGRESSION PARAMETER ESTIMATES FOR SHORT-TERM CAUSAL MODEL

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Beta*</th>
<th>Std. Error</th>
<th>T-test</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest in campaign</td>
<td>.184</td>
<td>.017</td>
<td>6.58</td>
<td>.0001</td>
</tr>
<tr>
<td>Concern over election outcome</td>
<td>.067</td>
<td>.021</td>
<td>2.55</td>
<td>.0108</td>
</tr>
<tr>
<td>Media Exposure to campaign</td>
<td>.139</td>
<td>.009</td>
<td>5.08</td>
<td>.0001</td>
</tr>
<tr>
<td>Current partisan intensity</td>
<td>.102</td>
<td>.019</td>
<td>3.85</td>
<td>.0001</td>
</tr>
<tr>
<td>Age</td>
<td>.199</td>
<td>.014</td>
<td>7.72</td>
<td>.0001</td>
</tr>
<tr>
<td>Education</td>
<td>.179</td>
<td>.015</td>
<td>6.78</td>
<td>.0001</td>
</tr>
</tbody>
</table>

\[ R^2 = .223 \]
\[ F = 61.8 \]
\[ \text{Adjusted } R^2 = .219 \]

*Standardized regression coefficients.
partisan intensity, education, and age variables significantly add to the prediction capabilities of the model. It is also interesting to note that the impact of age, education, and partisan intensity reduce the subsequent effects of interest, concern, and media exposure when compared to the model previously presented in Figure 7.

Most multivariate regression analyses of voter turnout examine only the direct, additive effects of predictor variables on the dependent variable, voter turnout. The advantage of using the causal modeling technique is that it allows one to examine the underlying causal processes and to compute both direct and indirect effects of the predictors on the dependent variable. Table XIII presents the computations for the direct, indirect and resulting total effects for all the predictor variables in the model directly linked to voter turnout. The findings are interesting in that they clearly demonstrate notable indirect effects for all the variables, particularly the interest and media exposure items.

With the indirect effects figured in, the impact of these two variables become more correctly specified and indicate much stronger relationships with voter turnout than would be possible to deduce from normal multivariate regression. These indirect effects were computed using the
TABLE XIII

DIRECT AND INDIRECT EFFECTS OF PREDICTORS IN SHORT-TERM FACTOR MODEL OF VOTE TURNOUT

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Direct Effect*</th>
<th>Indirect Effect**</th>
<th>Total***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest in Campaign</td>
<td>.183</td>
<td>.114</td>
<td>.297</td>
</tr>
<tr>
<td>Concern over election outcome</td>
<td>.067</td>
<td>.084</td>
<td>.151</td>
</tr>
<tr>
<td>Media exposure to campaign</td>
<td>.139</td>
<td>.121</td>
<td>.2604</td>
</tr>
<tr>
<td>Current partisan intensity</td>
<td>.101</td>
<td>.034</td>
<td>.134</td>
</tr>
<tr>
<td>Age</td>
<td>.199</td>
<td>.04</td>
<td>.239</td>
</tr>
<tr>
<td>Education</td>
<td>.179</td>
<td>.085</td>
<td>.264</td>
</tr>
</tbody>
</table>

All coefficients are statistically significant at the .05 level.

*Standardized regression coefficient estimate for direct path between the predictor and the dependent variable.

**Sum of the compound path estimates leading from predictor variable indirectly to dependent variable, including spurious paths.

***Sum of the direct and indirect path estimates.
recursive path analysis procedure outlined by Asher.\textsuperscript{12} This process disaggregates the correlation between two variables into the direct effects and indirect effects. The process entails two steps, the first of which is the estimation of the path coefficients for all direct linkages between variables in the model. This is accomplished through ordinary regression analysis. The path estimate that is used is the standardized regression coefficient. Indirect effects of these variables on others in the model are computed by multiplying the coefficients for any paths indirectly leading from the predictor variable to the dependent variable in question. The resulting indirect path estimates are then summed to produce a coefficient which is a measurement of a predictor's variable indirect effect on the dependent variable in question. The total effect thus become the sum of the indirect and direct path estimates.

Residual path coefficients may also be computed by taking the square root of $1 - R$-squared value for the equation used to estimate the direct paths leading to the

dependent variable in question. For sake of clarity, these were not included in the causal diagrams. For instance, the main dependent variable, voter turnout, possesses an R-squared value of .22. Thus, the amount of unexplained variance unaccounted for by the model is 78 percent for the turnout measure. The path estimates for each error term then simply become the square root of this term.\(^{13}\)

In brief, this short-term, election specific model of voter turnout produces important results for those interested in studying factors affecting voter turnout. It helps add credence to the substantive conclusions of those scholars who argue that factors specifically related to an election have definite effects on the likelihood of one casting a vote. At the same time, by adding to the model both partisan intensity and two demographic variables found to be consistently related to vote behavior, one can view their simultaneous effects in a more explicitly defined causal sequence. It is still necessary, however, to test other dominant models of voter turnout before final conclusions can be made. The next two sections will follow such a strategy.

\(^{13}\)The following are estimates for the unexplained variance for each variable: voter turnout = .78; campaign interest = .86; outcome concern = .86; and partisan intensity = .98. The error term coefficients are as follows: voter turnout = .46; campaign interest = .37; media exposure = .44; outcome concern = .31; and partisan intensity = .14.
Long-Term/Social Psychological Model
of Voter Turnout

Since Angus Campbell and the Michigan school of researchers began investigations into the social-psychological components of the vote decision process, it has dominated empirical investigations of vote behavior. Campbell's seminal work spurred hypothesis testing that continues today, with many of the original findings substantiated by repeated survey studies. Basically, the vote decision process hypothesized by these researchers entailed the delicate interactions of personal and psychological dimensions of attitudinal behavior. Political efficacy, political trust, political alienation and cynicism, sense of civic duty, long-term attachments to political parties -- these were the dimensions of the voting calculus hypothesized by Campbell and his associates. Over the years, political scientists have differed on continued support for the "Michigan" model. Nevertheless, the solid theoretical propositions posited by Campbell continue to find empirical support in the literature.

As discussed in Chapter II, Campbell's original conceptualization has come under careful scrutiny in the last decade. Several authors have effectively demonstrated the existence of two separate dimensions of political efficacy. Originally, efficacy and trust items were intertwined
causing some distortion of the theoretical meanings attached to each. More recently, Balch and Craig have effectively demonstrated the presence of an "external" and "internal" dimension of political efficacy. Abramson and Aldrich have demonstrated the effectiveness of the decline in the "external" dimension of political efficacy in explaining the general decline in voter turnout since 1960. In short, the internal dimension of political efficacy is linked to the individual's belief that means of influence are available to him and involve the individual's sense of his own political effectiveness. External political efficacy is the belief that government actors and institutions are responsive to influence attempts.

Although the existence of these two dimensions has already been thoroughly tested, my own factor analysis of the questions used in the CPS/SRC confirmed the presence of these dimensions for survey respondents in the 1980 study. This concept will serve as a starting point for the construction of a causal model that incorporates many of the


traditional social-psychological measures, but which also attempts to specify their relationships with each other and voter turnout with more clarity and precision. Certainly the choice of efficacy as reference point is well justified, given its known relationship with all forms of political participation. In addition, its positive correlation with modes of participation appears to hold even after demographic influences have been controlled. In short, its choice as a viable antecedent to vote behavior appears well justified.

A preliminary model is constructed between voter turnout, sense of external political efficacy, and education. Education is added to the model at this beginning stage due to its moderately strong correlation with efficacy. Figure 12 illustrates the conceptual linkages between the three variables. The path estimates represent standardized regression coefficients produced by OLS multiple regression.

The linkages between the variables are all in the expected directions, with both education and efficacy

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Fig. 12—Simple long-term attitude model of vote turnout (* indicates significance at the .05 level).

(R-squared = .06*)
displaying moderate effects on voter turnout. The asterisks indicate that all the path estimates (standardized regression coefficients) are significant. The amount of explained variance is minimal, but this initial model is used to confirm prior theoretical and empirical references.

Since efficacy as measured in this model ("external") is concerned with system responsiveness, a third variable is added to the model believed to tap one's level of satisfaction with government in general. The CPS/SRC surveys contain questions asking respondents to rate the performance of traditional institutions of the national government. It seems plausible that such a rating would be directly tied to external efficacy, and possibly be a factor that helps to shape the direction of the efficacy feelings. At the same time, one would expect to find a causal relationship between government performance rating and turnout. Political alienation and dissatisfaction with the government would very likely impinge upon the decision to vote, particularly if feelings of alienation and cynicism are increasing. Figure 13 presents the revised model with the re-estimated OLS path coefficients.

The path estimates presented in Figure 13 support the hypothesized links. Government performance ratings are positively linked with efficacy as expected; furthermore, the negative path estimate between the performance rating and turnout lends some support for the suggestion that
Fig. 13—Education, efficacy, and performance ratings: impact on turnout rate (*indicates significance at the .05 level).
disaffection with the governmental system does produce declines in turnout, even with the positive effects of efficacy are controlled. The fact that more abstract measurements of institutional performance, as opposed to specific political actors, indicates that political events, crises, and processes have effects on levels of systemic support as measured through voter turnout.

Given the importance that past empirical literature in voting research has attached to political trust, it becomes necessary to posit a logical developmental sequence between trust, efficacy, and the institutional performance item. We may think of political trust as a measure of the faith one has in government and its officials to act honestly and to do "what is best for the rest of the country." One can hypothesize that feelings of trust affect one's sense of efficacy. After all, if the government and its actors are not looked upon with trustworthiness, it is doubtful someone will believe that he or she can either alter government actions or feel it is legitimately responding to citizen's demands. This still leaves unanswered the role that institutional performance ratings will play in this cognitive sequence.

It has already been hypothesized that performance rating will affect turnout rates since it represents an alienation factor. Similarly, it appears that a cognitive sequence between performance and trust might fit logical
expectations. That is, one's general satisfaction or dissatisfaction with the institutions of the national government should also impinge upon approval ratings of government actors (president and members of Congress). We might expect, of course, that negative feelings would override positive connotations as is normally the case with presidential approval ratings. As Kernell and Monroe have demonstrated, voters have relatively sophisticated political memories. For example, positively accepted government economic policies usually have only a slight impact on presidential popularity, while negative ratings usually cause a strong negative bias. Figure 14 illustrates the hypothesized linkages between education, trust, efficacy and institutional performance with OLS standardized regression coefficients representing the estimates for the path estimates.

The results of the regression analysis do indeed confirm a strong relationship between institutional performance ratings, political trust, and external efficacy measures. The hypothesized linkage between trust and turnout levels turned out to be highly insignificant; however, the importance of trust is not in its direct impact on vote.

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(R-squared = 0.72)

Fig. 14--Long-term voter turnout model with trust, efficacy, performance, and education (*indicates significance at the .05 level).
Rather, political trust, as causally depicted in this model, serves as a strong indirect influence by acting through efficacy. This serves as some clarification in the literature, as most researchers have dismissed trust as a mere byproduct of the disapproval of political officials. Furthermore, the external dimension of efficacy is depicted as a viable measurement of an attitudinal component much more complex than that depicted by the authors of The American Voter. Here, external efficacy and trust both are found to be significantly related to past institutional performance ratings. Such findings add to the clarification of the underlying causal processes that are responsible for the development of attitudes towards political participation. Therefore, the importance of the model at this stage is not so much its ability to explain turnout as it is to properly specify the interrelationships between these cognitive processes.

Party intensity is added to the model as an explanatory factor for the level of the government performance rating. It seems obvious that an individual's strength of party identification will have a direct impact on judgments made about government institutions. Given the fact that Democratic identifiers outnumber Republicans in the general

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electorate, combined with a relatively lengthy Democratic control of Congress prior to 1980, we can only hypothesize that the relationship between these two variables will be positive.

In addition, the traditional measure of civic duty is also added to the model. The importance of this variable in explaining voting turnout has long been documented. While individuals may not go to the polls out of concern over issues, or interest in the qualities of programs offered by candidates, or because of deep seated ideological leanings, many do vote out of loyalty to the type of governmental system and gratitude for the right to vote. However irrational this might seem within the causal schemes of political scientists, it is an unmistakable reality. As such, its effects are hypothesized to be positively related to party intensity, government performance ratings, political trust, and political efficacy in addition to its known linkages to voter turnout. Lastly, two exogenous variables are added to the model to insure adequate specification. In addition, education is known to

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be strongly correlated with civic duty,\textsuperscript{21} political efficacy,\textsuperscript{22} and party identification.\textsuperscript{23}

It is hypothesized that a person with strong sense of civic duty will most likely possess concerns than those with weaker levels. Lastly, political ideology, coded here to portray intensity rather than direction, is added to the model as an exogenous variable because it is evident that a person's partisanship will be influenced by his political ideology. Furthermore, ideological intensity is hypothesized to affect government performance ratings, political trust, and political efficacy. It is unclear how ideology specifically relates to these measures, but it is obvious that strong ideological beliefs will induce more interest in politics in general. Hence, we can assume that it will be positively linked to political efficacy. However, the direction of its relation with trust and governmental performance are not as well established, particularly since these measures may center around partisan political concerns. Figure 15 displays the links to be tested.

Figure 16 displays a more parsimonious model which shows the significant links that emerged from the OLS

\textsuperscript{21}Campbell, et al., \textit{The American Voter}, and Campbell, Gurin, and Miller, \textit{op. cit.}\textsuperscript{21}

\textsuperscript{22}Verba and Nie, \textit{op. cit.}; Campbell, et al., \textit{op. cit.}\textsuperscript{22}

\textsuperscript{23}Campbell, \textit{The American Voter}\textsuperscript{23}
Fig. 15—Fully Diagrammed Recursive Causal Model of Long-term Social Psychological Influences on Vote Turnout.
Fig. 16--Path Estimates for Long-Term Factor Model of Vote Turnout
regressions. Interestingly, civic duty was not significantly related to either political trust nor political efficacy, somewhat confirming separate dimensions for each. While the path estimate between civic duty and partisan intensity was very weak, its linkage with political efficacy is moderately strong. In addition, party identification intensity is only weakly related to government performance. Two possible explanations exist for this finding. First, it must be remembered that it is partisan intensity that is being examined here, not the direction of one's party identification. A much better result occurs when party identification is used in the analysis since partisans are more likely to rate the opposing party's institutional performance much lower. In addition, these findings help to confirm the conclusions reached by many analysts -- the 1980 election was a very negative election with more people voting against someone rather than for someone.  

Table XIV contains the OLS regression estimates for predictors in the full long-term factor model of voter turnout. As expected, the civic duty variable is strongly related to voter turnout. This confirms that the decline in turnout in the 1980 presidential election cannot be

---

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Beta</th>
<th>Std. Error</th>
<th>T-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civic duty</td>
<td>.214</td>
<td>.014</td>
<td>6.97</td>
<td>.0001</td>
</tr>
<tr>
<td>Government performance rating</td>
<td>-.107</td>
<td>.024</td>
<td>-3.46</td>
<td>.0006</td>
</tr>
<tr>
<td>Political Efficacy</td>
<td>.153</td>
<td>.012</td>
<td>4.70</td>
<td>.0001</td>
</tr>
<tr>
<td>Partisan Intensity</td>
<td>.171</td>
<td>.022</td>
<td>5.67</td>
<td>.0001</td>
</tr>
<tr>
<td>Educational level</td>
<td>.109</td>
<td>.005</td>
<td>3.49</td>
<td>.0005</td>
</tr>
</tbody>
</table>

\[ R^2 = .148 \] \hspace{1cm} \[ F = 33.11 \]
\[ \text{Adjusted } R^2 = .143 \] \hspace{1cm} \[ \text{Prob}>F = .0001 \]

*Standardized regression coefficients.*
attributed to an erosion in the civic duty factor. It is the most significantly related social-psychological dimension in the model. Partisan intensity also displays a moderately strong link with voter turnout. This indicates that those with more intensely held partisan beliefs turned out in greater numbers than less partisan. Political efficacy also exerts a strong influence on turnout. Since the external measure is being used in this analysis, support is offered for its association with turnout over that of the internal measure. Government institution ratings appear to have a moderate negative effect on turnout. We can speculate from this coefficient that part of the decline in turnout in this election was due to negative feelings aimed at abstract government institutions. Given that the coefficient is not that large, it is impossible to say with this analysis whether the the effect is a genuine reflection of general dissatisfaction with components of the governmental system or whether it is really a spurious correlation, resulting from underlying evaluations of incumbent parties and candidates.

The overall R-squared value for the model is .148; this represents fairly typical predictive power for most models that have been tested using social-psychological data. The adjusted R-squared value does not differ much from the computed R-squared value. This indicates that all the variables in the model significantly add to the
explained variance.

Table XV presents the results of the path analysis with the direct, indirect and total effects displayed for each predictor variable. None of the indirect effects of the variables are that large, and their addition to the direct effects only slightly changes the direct path estimates. The direct negative effect of the institutional performance ratings is offset somewhat by a positive indirect effect that is channeled through the trust and efficacy measures. Interestingly, the indirect effects of partisan intensity are negative. This is due in large part to the spurious correlation between partisan intensity and education. Thus, after indirect effects are computed, the impact of political efficacy is slightly higher than that for partisanship. In short, this long-term model confirms the positive role that feelings of civic duty, political efficacy, and partisan intensity have in the voting process. The coefficients for these variables are found to be almost equivalent to those discovered in the short-term model for more election specific factors.

Rational Choice Based Model of Voter Turnout

The two previous models of voter turnout have confirmed the importance of both election-specific and long-term attitudinal factors in the voter turnout decision. In the case of the election specific model, factors tied
### TABLE XV

**DIRECT AND INDIRECT EFFECTS OF PREDICTORS IN LONG-TERM FACTOR MODEL OF VOTE TURNOUT**

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Direct Effect*</th>
<th>Indirect Effect**</th>
<th>Total***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civic duty</td>
<td>.214</td>
<td>.036</td>
<td>.25</td>
</tr>
<tr>
<td>Government performance rating</td>
<td>-.107</td>
<td>.072</td>
<td>-.073</td>
</tr>
<tr>
<td>Political Efficacy</td>
<td>.153</td>
<td>.034</td>
<td>.187</td>
</tr>
<tr>
<td>Partisan Intensity</td>
<td>.171</td>
<td>-.01</td>
<td>.161</td>
</tr>
<tr>
<td>Educational Level</td>
<td>.109</td>
<td>.021</td>
<td>.13</td>
</tr>
</tbody>
</table>

All coefficients significant at .05 level.

*Standardized regression coefficient estimates for direct path between predictor and dependent variable.

**Sum of the compound path estimates from predictor variable indirectly to dependent variable, including spurious effects.

***Sum of all direct and indirect path estimates.
specifically to the election were found to exert significant influences on the probability of voting. In the long-term model, important social psychological components tied to cognitive processes used to evaluate political events also demonstrated significant influences on the voter turnout decision of the respondents. Yet another model of voting behavior deserves attention in the search for important explanatory factors and causal processes that guide the voting decision processes.

The model of rational voting behavior is grounded in the larger literature of rational choice theory. Basically, the assumptions of this theory are that preferences exist among voters, that these preferences can be ordered, which, in turn, can yield a net "affect" highly predictive of vote choice. Various conceptualizations of this process have led to different operationalizations for the underlying decisional process. In most instances, however, it is assumed that the voter can cognitively evaluate differences between parties and candidates, compare these to his or her own policy preferences, and then choose either the party or the candidate within closest proximity of those personal choices.25

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25 The literature is extensive on this topic. For some examples of empirical research incorporating the basic ideas of the the rational choice scheme, see Nie, et al., op. cit., Herbert Weisberg and Jerrold G. Rusk, "Dimensions of Candidate Evaluation," American Political Science Review, 64 (December 1970), 1167-1185; Stanley Kelley, Jr.,
One can envision an extension of the rational choice perspective to the decision to vote or not. Such is the primary argument made by Downs; citizens will weigh the costs and benefits associated with the voting process. Participation becomes the choice whenever expected utility exceeds expected costs. However, as rational choice theorists have discovered, certain confounding factors (which could be labeled "irrational" according to the tenets of the process) override the rationalization process. Most notably, one such factor is the civic duty dimension investigated in the previous long term model.

The approach does have its limitations. It obviously assumes that the voter has access to error- and value-free information. It further assumes that individuals can rank order their own preferences, to be then used as a yardstick to weigh the plusses and minuses of candidate positions. While these underlying premises have been challenged, rational choice processes have displayed their applicability to the voting process. Several models of rational vote choice have been posited by political scientists over


the years. As mentioned, Anthony Down's seminal voting study, focusing on an economic interpretation of voting behavior involving costs and benefits, directed new attention towards more rational choice theories of voting. Basically, Downs perceived the voting act as that of an investment decision. That is, for the prospect of some uncertain future benefit, an individual accepts costs with certainty in the present. From this perspective, abstention from the voting process could be rationalized, since an individual actually arrives at a nonvoting decision by weighing gains and losses experienced in the process of choosing a party or candidate to support.27

The major axiom underlying the mode rational voting appears to be that of evaluation. Individuals are assumed to be processors of information and calculators of costs and gains. The extent to which this is done varies, as some use shortcuts in deriving information upon which the eventual voting or nonvoting decision as well as the vote choice is made. As such, we might assume that information

27As critics of this approach have pointed out, many citizens may vote even though they (a) perceive their impact on the election outcome to be minimal, (b) place no direct value on the act of voting, or (c) do not really perceive any gains from either candidate's or party's victory. This points to the probability of the voting calculus involving less strict criteria than some rational choice theories assume. In short, the decision need not be null if the perceived costs outweigh the perceived benefits. Rather, a choice may be made which simply minimizes costs.
crucial in the voting calculus revolves around issue, candidates, and political parties. These three central components of the electoral decision have been the primary target of investigation in voting studies since the development of the classical voting model by Campbell, Gurin and Miller,28 and its subsequent development in examining presidential elections in The American Voter.

The vote decision portrayed in The American Voter was one consisting of six distinct attitudinal elements toward politics: the affective attitudes toward the Republican candidate, the affective attitude toward the Democratic candidate, attitudes on domestic policy, attitudes on foreign policy, performance related attitudes toward the parties as managers, and group related attitudes.29 Political partisanship and long-term social characteristics acted as mediating factors for these more election specific perceptions. In other words, in the "funnel of causality" portrayed by the authors of The American Voter, partisanship filtered the impact of social group memberships depicted by sociologists and the short term influences of candidates and parties of interest to political scientists.

28 Campbell, et al., The Voter Decides.

Since the 1950s, political scientists have sought to refine this model in a variety of ways. Some have argued for the continued importance of political partisanship due to its stability over time as compared to evaluations of candidates and issues, which change from election to election. Markus and Converse, in a recent study, tested a simultaneous equations model that posited the impact of partisanship at multiple time points. Issue stances and the effects of party identification are carried forward from one election to the next as a continuous summary measure. This attitudinal summary becomes the basis for vote choice, unless it produces a differential score near zero, at which point the individual votes in accordance with his or her party allegiance.

In yet another complex treatment of vote choice aimed at refining the earlier impact of issues, candidates, and parties, Page and Jones posit a model which examines party identification as an interactive variable, constantly affecting the evaluations of candidates and issues. The Page and Jones formulation of vote choice closely


resembles that of the issue voter model and is based upon the assumptions of rational choice. In their nonrecursive model of vote choice, party identification interacts with issue positions in a reciprocal manner, influencing and being influencing by them. These interactions then come together to shape the voter's assessments of candidate qualities to produce a logical, yet complex summary candidate evaluation measure. It is on the basis of this comprehensive evaluation scheme that the vote decision is eventually made. Their investigation of the 1972 and 1976 presidential elections found strong evidence for the existence of these reciprocal causal linkages. In their model, social and demographic variables found to be important determinants of political behavior and opinion formation serve as important causal agents of the major core elements of the model -- partisanship, comparative policy differences between the candidates and the individual, and comparative candidate evaluations.

The results of the Page and Jones analysis points to the failure of past models to account for the interaction of these long established elements of vote choice. Indeed, their conclusions indicate that models of vote choice that fail to take such reciprocal linkages into account may overestimate the effects of party identification and

32 Ibid., pp. 1087-1088.
candidate evaluations since the more precise causal pattern redirects their influences through each other rather than as totally separate dimensions.

The logical decisional sequence posited by Page and Jones seems equally suitable to an examination of a voter turnout calculus which coincides with the rational model of political behavior. By substituting partisan intensity in place of partisan identification, the same causal sequence could occur for a voter turnout decision. Logically, we may think of the decisional calculus in the following manner. Citizens are hypothesized to see more utility in the act of voting if (a) they perceive viable differences in candidate positions on salient issues in comparison to their own policy preferences and (b) they perceive appreciable differences in the qualities of the candidates in terms of such characteristics as leadership, style, and executive decisional capabilities.

Nevertheless, in order to properly test the model's general applicability to the voter turnout decision, some modifications to the model construction are in order. Given the importance of partisan intensity in explaining higher levels of political participation, including voting, I hypothesize a direct linkage between between the partisan intensity measure and the dependent measure in my study — self reported vote. Furthermore, due to the alterations in the construction of the comparative policy differences
scale, a direct link is also proposed between this measure and voter turnout. In addition, such a model is not as temporally bound as the previous recursive model's formulations of factors affecting voter turnout. Instead, a more dynamic, simultaneous interaction process is hypothesized to be occurring. The core components of this model and their relationship to voter turnout is presented in Figure 17.

Since this is a nonrecursive model, the path estimates for the hypothesized linkages cannot be estimated with normal regression procedures. As explained in Chapter III, the reciprocal paths force a violation of one of the major assumptions of OLS regression: the error terms are correlated with the independent variables. In order to circumvent this problem, a two-stage and three-stage least squares regression program was used to estimate the parameters of the model. As outlined in the research design, this involves obtaining new estimates for the three core variables and substituting these "fitted" values into the regression equations.

The core model by itself, as explained by Page and Jones, cannot be estimated because it is underidentified. In short, there are more equations than there are unknowns: three empirically observable relationships among the central endogenous variables are available to estimate the six causal processes hypothesized. In order to meet the
Fig. 17--Hypothesized linkages for rational model of vote turnout
identification status, Page and Jones incorporate addi-
tional exogenous variables into their model which, on
theoretical grounds, are to influence the core endogenous
variables but which are not to be affected by the existing
endogenous variables.

It is doubtful that these requirements can be fully
met, but social empirical theory can serve as a guide for
the justification of the exogenous variables eventually
chosen. Page and Jones do an adequate job in justifying
their choices; therefore, the same exogenous variable are
incorporated into this analysis with the following excep-
tions.\textsuperscript{33} To produce the comparative policy differences
scale, the following procedure was incorporated: first,
respondent's self placement on seven policy question scales
was obtained.\textsuperscript{34} The issues covered both domestic and
foreign policy items. Then, each respondent was asked to
locate both the Republican presidential candidate and the
Democratic candidate on the scale. This represented the
respondent's perceptions of where the candidates stood on
these issues, not necessarily the official stand of the
candidate or the party. While inaccuracies no doubt

\textsuperscript{33} For a discussion of the rationale behind the
selection of these exogenous variables, see Page and Jones,
\textit{op. cit.}, pp. 1079-1082.

\textsuperscript{34} For a listing of these policy question areas,
see Appendix II.
occurred in the accurate candidate placements, that need not be of concern here. We are more interested in the respondent's perceptions since this is being used, presumably, in the voting decision. Next, the scores assigned by respondents for each candidate was subtracted from the their own self scores and summed across all policy items. The resulting index, ranging from 0 to 49, indicated whether a respondent perceived differences in the candidates' positions and his or her own score. Accordingly, low scores indicated little difference while high scores indicated large differences. The expectation, of course, is that respondents with high scores on the index are more likely to cast a vote, while the opposite is true for those at the low end of the scale.

As previously mentioned, partisan intensity is used instead of party identification, since the former carries more theoretical meaning in the voter turnout decision while the latter is primarily used to predict vote choice. Additionally, a different political involvement scale is used as one of the exogenous variables. The explanation of the construction of this scale is provided in Chapter II. It represents a scaling of positive responses to five questions relating to different kinds of political activity in which a person can engage in (contacting officials, attending political meetings, etc.).
Lastly, a different measure is used to compute the candidate qualities index. This decision was made based upon the known problems that exist with the traditional measurements of this scale. Page and Jones use the most often invoked method of computing respondents' ratings of the candidates on personal qualities: the summation of positive and negative counts to open-ended questions about candidate qualities and characteristics. Even though past research has found this measure to be highly correlated with vote choice, simple descriptive frequencies conducted on these variables reveal that few respondents can articulate more than two reasons for either a like or dislike factor out of a potential ten for each candidate. A frequency run on the 1980 data, for instance, revealed that almost 80 percent of the respondents could not think of any positive reasons for casting their votes for Jimmy Carter while almost 88 percent could not do so for Ronald Reagan. Hence, a rather large percentage of the respondents are assigned scaled scores of zero. This endangers the scale's ability to tap the presumed rational choice decision process. To correct for this problem, eight close-ended questions were available in the 1980 survey which covered many of the categories normally listed by respondents in the open-ended process (moral, dishonest, effective leader, etc.).
The resulting, fully identified nonrecursive model is diagrammed in Figure 18. The exogenous variables provide the necessary specification to properly estimate the model. With the incorporation of these variables, the three major equations of the model are overidentified, which allows for the use of the two-stage and three-stage least squares estimating procedures.

Both two-stage least squares and three-stage least squares regression analyses were performed on the model. The estimates did not seem to improve that much with the use of the three-stage procedure. Therefore, the two stage estimates were selected. The estimates are presented in Figure 19 with coefficients significant at the .05 level or better indicated by an asterisk.

The results of this analysis have potentially important implications for voter turnout research. To date, no known multivariate analyses have been conducted on voter turnout using nonrecursive modeling. The path estimates indicate some new insights into the model of rational voter turnout decision-making. First, the reciprocal links hypothesized between the core variables -- partisan intensity, comparative candidate evaluations, and comparative policy differences -- are confirmed by the estimation procedures. Importantly, this further adds evidence that past recursive models have incorrectly specified the dynamic relationships among these crucial variables.
Fig. 18—Fully Identified Nonrecursive Causal Model of Rational Voting Schema using Candidate Evaluation, Policy Differences and Party ID Intensity.
Fig. 19--Path Estimates for Nonrecursive Rational Factor Model of Vote Turnout
The most pronounced estimates are those found between the candidate evaluation measure and policy differences scale as well as those between party intensity and the policy scales. Equally important is the strong linkage between candidate qualities and candidate evaluations. The measure of candidate qualities being used in this analysis is far more interpretable than those based upon the open ended likes and dislikes. While it is true that respondents are "locked" into pre-chosen responses, an examination of the types of responses to these questions reveals a large percentage with the same type of answers. In addition, this measure avoids the problem of large numbers of "don't know" and "no response" characteristic of the other types of measures. Even so, the amount of explained variance for this model is quite low (.08) in comparison to other models. Even so, by incorporating these estimations into other attitudinal models could help improve their explanatory power.

Furthermore, all three core variables are found to be strongly correlated with voter turnout. At a minimum, this adds to our ability to understand the complexities involved in predicting voter turnout. Comparative policy differences have the greatest impact on voter turnout, and coincides with the Page and Jones finding indicating that this variable is also the strongest single factor influencing
vote choice.\textsuperscript{35} Yet, both party identification intensity and comparative candidate evaluations exert near equal influences on the electoral turnout decision as well. Quite surprisingly, the coefficient for the candidate evaluation measure is not in the expected positive direction. Substantively, this is interpreted to mean that people with fewer perceived differences between candidates on pertinent campaign issues vote in larger percentages than do those who perceive larger differences. As such, one could conclude that larger differences in candidate evaluations play little role in increasing turnout rates. Conversely, the analysis presented here argues the opposite. Less perceived differences between the candidates and the respondent's own policy stands is more strongly related to turnout.

These seemingly counter-intuitive findings on candidate evaluations, nevertheless, have received additional support in the literature. Weisberg and Grofman have provided strong evidence to indicate that a similar development occurred in the 1976 presidential election. They discover that respondents who rate one candidate much more favorably than another actually have lower turnout rates than those who perceive fewer differences between candidates.\textsuperscript{36}

\textsuperscript{35}Page and Jones, op. cit., p. 1082.

\textsuperscript{36}Herbert Weisberg and Bernard Grofman, "Candidate Evaluations and Turnout," American Politics Quarterly, 9
However, it takes issues with Aldrich's finding that candidate evaluation thermometer scales have little to do with voter turnout.\textsuperscript{37}

The finding presented here seems to confirm a trend that has been noted over the last three presidential elections. A rising percentage of the electorate has been rating both candidates equally. Brody reports that in 1976, one in seven rated the candidates alike in comparison to 10 percent on 1972 and 8 percent in 1968.\textsuperscript{38} For reasons unknown, the data indicate that in 1980 either indifference to the candidates or perceiving less differences between candidate stands and one's own correlates more highly with voting. Since this study is based upon a single election, it becomes impossible to assess the validity of the finding. But anomalies have emerged before in assessing the importance of candidate evaluations and turnout as the Aldrich and Weisberg and Grofman articles indicate. Perhaps Aldrich's comments on the vulnerability of attitudinal data to various forms of "rationalization" is correct. Individuals may be voting for reasons quite different from the ones mentioned to interviewers. Hence, (April 1981), 207-216.


\textsuperscript{38}Richard Brody, \textit{op. cit.}, p. 312.
the potential problem of measurement error is always a concern.\footnote{Aldrich, op. cit., p, 732.}

Comparisons Across Models: Results of Discriminant and Logistic Regression

As explained in the research design in Chapter III, statistical problems may confound the accuracy attached to estimations of voter turnout using multivariate models based upon ordinary regression procedures. The dependent variable in these types of studies is dichotomous in nature and the linear relationships required for the use of data analysis with least squares regression may be seriously violated. This could result in misleading results even though the estimates appear to be statistically significant. The major problem with the use of regression analysis on a dichotomous dependent variable is that predictions will most likely occur that fall out of the two value maximum range. As a result, it becomes difficult to attach any substantive meaning to such predictions since they clearly don't fit the realm of real possibilities -- in this case a vote or an abstention. When a continuous dependent variable is used in regression that is normally distributed, such results are far less damaging. The error terms, or "unexplained" variance, do not result in zero
outcomes under certain conditions. This creates a major violation of the regression technique which cannot be dismissed without major concern.

Two procedures have been used with increasing proficiency to correct for the problem of nominal and ordinal dependent variables with limited value ranges. The first is discriminant analysis, a procedure that is designed to handle categorical data that can be assigned into mutually exclusive and exhaustive categories. Several studies that have investigated voter turnout factors have made use of discriminant analysis because of its applicability to the type of dependent variable the researcher is forced to use in his model. Separate discriminant analyses were run on all predictor variables directly linked to voter turnout in all three models. The results may be compared to the OLS regression results to detect any major discrepancies. More importantly, however, this procedure allows one to compare results across models so that the importance of the different models can be assessed against each other.

Table XVI contains the discriminant results for the predictor variables in the short-term/election specific

TABLE XVI

DISCRIMINANT ANALYSIS OF PREDICTORS IN SHORT-TERM FACTOR MODEL OF VOTE TURNOUT

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Standardized Discriminant Coefficients</th>
<th>Total Structure Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest in Campaign</td>
<td>.415</td>
<td>.677</td>
</tr>
<tr>
<td>Electoral Outcome concern</td>
<td>.159</td>
<td>.336</td>
</tr>
<tr>
<td>Campaign Media Exposure</td>
<td>.320</td>
<td>.599</td>
</tr>
<tr>
<td>Partisan Intensity</td>
<td>.239</td>
<td>.390</td>
</tr>
<tr>
<td>Age</td>
<td>.465</td>
<td>.437</td>
</tr>
<tr>
<td>Education</td>
<td>.420</td>
<td>.419</td>
</tr>
</tbody>
</table>

Group Centroids
(1) Nonvoters               -.869
(2) Voters                  .329

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigenvalue</td>
<td>.287</td>
</tr>
<tr>
<td>Canonical Correlation</td>
<td>.472</td>
</tr>
<tr>
<td>Wilk's Lambda</td>
<td>.777</td>
</tr>
<tr>
<td>Significance of Lambda</td>
<td>.00</td>
</tr>
</tbody>
</table>
Two discriminant function coefficients are listed. The standardized coefficient is perhaps the most cited in the literature. These coefficients are analogous to standardized partial correlation coefficients and are thought by many to be the best known gauges of predictor power. Since the units of measurement are different for each variable, the importance of each variable in comparison to others in the model can be assessed by examining these coefficients. The total structure coefficients represent the Pearson correlations between each predictor variable and the discriminant function. This is a measure of how closely a predictor and a function are related, with large coefficients indicating that the two relate similar information.

An examination of the coefficients reveals that the variables most closely related to the discriminating function are (1) age, (2) education, and (3) interest in the campaign. These results parallel the findings of the OLS regression procedures, thus indicating to some extent that the violations of the OLS assumptions were not serious. The total structure coefficients are useful whenever the predictor variables are known to be moderately correlated with each other. The standardized discriminant function coefficients may be artificially lowered if this is the case because they take into consideration the simultaneous contribution of all the other variables. To some extent, those conditions are met here, since many of these
variables are linked together within the model. The corresponding structure coefficients are somewhat higher for the interest and campaign media exposure variables than the standardized counterparts. This is also consistent with the findings produced by the path analysis conducted on the short-term model. When figuring in the indirect effects, the contributions of these two variables are enhanced significantly. Notice, however, that the structural coefficients for the age and education variables remain virtually unchanged.

The group centroids reveal that, as expected, voters as opposed to nonvoters possess the characteristics associated with the first function and indicate that the two groups do possess significantly different means on the predictor variables. The canonical correlation is moderately strong (.472) indicating that the groups are related to the discriminating function. However, the eigenvalue is rather small and indicates that the variables do not explain a great deal of the common variance. Finally, Wilk's lambda, a statistic often used to test for the significance of the discriminating function, and the corresponding value and probability level indicates that the results did indeed come from a population where differences exist between the two groups under question — voters and nonvoters.
The classification analysis that corresponds with this discriminant analysis, presented in Table XVII, indicates how well the predictors differentiate between voters and nonvoters. The proportion of cases correctly classified is 77.48 percent, a good result when compared to some of the studies previously cited as examples of research in the voter turnout area. Clearly, the function discriminates much better among voters than nonvoters since only 10 percent of the cases in the voting category are misclassified.

Table XVIII presents the results of the discriminant analysis for the long-term voter turnout model. Once again, the result closely resembles the findings presented based upon the OLS regressions. Civic duty, efficacy, and partisan intensity are the variables most closely associated with the discriminating function. The group centroids also reveal the differences between voters and nonvoters on this function, with voters again disproportionately possessing the characteristics presented in the predictor list. The canonical correlation and eigenvalue, it should be noted, are slightly lower than that presented for the short-term model and are very small in size. The Wilk's lambda test of significance indicates that the groups do come from populations with significant differences. The classification results, shown in Table XIX are very similar to that of the short-term model: 76 percent of the cases are correctly classified, and the function does a better
TABLE XVII

CLASSIFICATION RESULTS OF DISCRIMINANT ANALYSIS OF PREDICTORS IN SHORT-TERM FACTOR MODEL OF VOTE TURNOUT

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>Number of Cases</th>
<th>Predicted Group Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Nonvoters</td>
<td>358</td>
<td>160 (44.7%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>198 (55.3%)</td>
</tr>
<tr>
<td>(2) Voters</td>
<td>943</td>
<td>95 (10.1%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>848 (89.9%)</td>
</tr>
</tbody>
</table>

Percent of Grouped cases correctly classified = 77.48%. 
## TABLE XVIII

**DISCRIMINANT ANALYSIS OF PREDICTORS IN LONG-TERM FACTOR MODEL OF VOTE TURNOUT**

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Standardized Discriminant Coefficients</th>
<th>Total Structure Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civic duty</td>
<td>.568</td>
<td>.678</td>
</tr>
<tr>
<td>Government Performance Rating</td>
<td>-.275</td>
<td>-.164</td>
</tr>
<tr>
<td>Political Efficacy</td>
<td>.428</td>
<td>.542</td>
</tr>
<tr>
<td>Partisan Intensity</td>
<td>.439</td>
<td>.432</td>
</tr>
<tr>
<td>Educational Level</td>
<td>.326</td>
<td>.453</td>
</tr>
</tbody>
</table>

**Group Centroids**

1. Nonvoters
   - Eigenvalue: -.735
   - Canonical Correlation: .391
   - Wilk's Lambda: .847
   - Significance of Lambda: .00
2. Voters
   - Eigenvalue: .180
   - Canonical Correlation: .391
   - Wilk's Lambda: .847
   - Significance of Lambda: .00

**Wilk's Lambda**: .847

**Significance of Lambda**: .00
TABLE XIX
CLASSIFICATION RESULTS OF DISCRIMINANT ANALYSIS
OF PREDICTORS IN LONG-TERM FACTOR
MODEL OF VOTE TURNOUT

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>Number of Cases</th>
<th>Predicted Group Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Nonvoters</td>
<td>259</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(26.3%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>191</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(73.7%)</td>
</tr>
<tr>
<td>(2) Voters</td>
<td>777</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(7.5%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>719</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(92.5%)</td>
</tr>
</tbody>
</table>

Percent of Grouped cases correctly classified = 76%.
job in predicting group membership for voters than nonvoters.

Table XX presents the results for the discriminant analysis of predictors in the rational factor model. The eigenvalue and canonical correlation are the weakest of the three models. The most noteworthy information presented by these results is the very high coefficient for the partisan intensity variable. These results also coincide with the results of the three stage least squares procedure. Policy differences and partisan intensity were found to be moderately correlated with voter turnout while candidate evaluations were found to be negative. However, as shown in Table XXI, the results of the classification analysis are impressive. The function does equally well in distinguishing between voters and nonvoters.

Overall, then, the discriminant analysis confirms the OLS regression procedures upon which the path analysis is based. Still, the results of the discriminant analysis confirm the perplexing problem researchers face in examining the factors affecting voter turnout. The amount of total explained variance continues to be quite modest in size.

While discriminant analysis is helpful in cases where dichotomous dependent variables exist, the technique does force other assumptions about the data which might not be readily met. For instance, the discriminant function
<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Standardized Discriminant Coefficients</th>
<th>Total Structure Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparative Candidate Evaluation</td>
<td>.172</td>
<td>.429</td>
</tr>
<tr>
<td>Comparative Policy Differences</td>
<td>.495</td>
<td>.605</td>
</tr>
<tr>
<td>Partisan Intensity</td>
<td>.755</td>
<td>.828</td>
</tr>
<tr>
<td>Group Centroids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Nonvoters</td>
<td>-.423</td>
<td></td>
</tr>
<tr>
<td>(2) Voters</td>
<td>.152</td>
<td></td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>.06</td>
<td></td>
</tr>
<tr>
<td>Canonical Correlation</td>
<td>.24</td>
<td></td>
</tr>
<tr>
<td>Wilk's lambda</td>
<td>.939</td>
<td></td>
</tr>
<tr>
<td>Significance of lambda</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td>Actual Group</td>
<td>Number of Cases</td>
<td>Predicted Group Membership</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>(1) Nonvoters</td>
<td>334</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(5.7%)</td>
</tr>
<tr>
<td>(2) Voters</td>
<td>1098</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2.8%)</td>
</tr>
</tbody>
</table>

Percent of grouped cases correctly classified = 75.8%
technique assumes that within each class, observations are distributed normally across the independent variables, with equal variances and covariances for each class, while at the same time allowing for differing means. This normality assumption is a rather stringent requirement given the type of data that is common to the social sciences.

As a result, a nonlinear regression program was used to estimate all three models. Again, the purpose is to test for any discrepancies that might exist due to violations of statistical assumptions of the estimating techniques. A maximum likelihood logistic function using the Gauss-Newton derivative-free algorithm for nonlinear least squares produced the estimates found in Tables XXII through XXIV. This function is quite suitable to the nonlinear relationship that often occurs between independent and dependent variables when the dependent variable is limited to a two-value range. Logistic regression, as explained in the research design section, is especially suited for such situations as it assumes the data conforms to an "S" shape rather than a pure linear form. In addition, logistic regression produces parameter estimates which may be easily

---

41 The procedure known as SYS NLIN in S.A.S. (Statistical Analytical System) was used to obtain the logistic regression estimates. In addition, the reader should consult Mary Ralston and Robert Jennrich, "Dud, A Derivative-Free Algorithm for Nonlinear Least Squares," Technometrics, 20 (February 1978), 7-14.
### TABLE XXII
MAXIMUM LIKELIHOOD LOGISTIC REGRESSION ESTIMATES FOR SHORT-TERM FACTOR MODEL OF VOTE TURNOUT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Std. Error</th>
<th>t-value(^b)</th>
<th>Odds Ratio</th>
<th>Probability(^d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(B_0) (intercept)</td>
<td>-5.487</td>
<td>1.2859</td>
<td>-4.267</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(B_1) (campaign interest)</td>
<td>.782</td>
<td>.3194</td>
<td>2.448**</td>
<td>2.18</td>
<td>.685</td>
</tr>
<tr>
<td>(B_2) (election concern)</td>
<td>.265</td>
<td>.3303</td>
<td>.802</td>
<td>1.30</td>
<td>.565</td>
</tr>
<tr>
<td>(B_3) (media exposure)</td>
<td>.239</td>
<td>.1462</td>
<td>1.634*</td>
<td>1.27</td>
<td>.559</td>
</tr>
<tr>
<td>(B_4) (partisan intensity)</td>
<td>.522</td>
<td>.3231</td>
<td>1.615*</td>
<td>1.68</td>
<td>.626</td>
</tr>
<tr>
<td>(B_5) (age)</td>
<td>.021</td>
<td>.2903</td>
<td>2.828**</td>
<td>2.27</td>
<td>.694</td>
</tr>
<tr>
<td>(B_6) (education)</td>
<td>.449</td>
<td>.2543</td>
<td>1.765*</td>
<td>1.56</td>
<td>.609</td>
</tr>
</tbody>
</table>

\(^{**} p < .05\)
\(^{*} p < .10\)

**a**These maximum likelihood estimates are derived using an iteratively reweighted least squares process where the weights are the reciprocals of the variances.

**b**T-tests of significance were computed by dividing estimates by their standard errors.

**c**Odds ratios computed by taking the anti-logs of the estimates.

**d**Probabilities were computed by dividing the odds ratio by \(1 + \text{the log odds ratio} (P/1 + P)\).
TABLE XXIII
MAXIMUM LIKELIHOOD LOGISTIC REGRESSION ESTIMATES FOR RATIONAL FACTOR MODEL OF VOTE TURNOUT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Std. Error</th>
<th>t-value&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Odds&lt;sup&gt;c&lt;/sup&gt; Ratio</th>
<th>Probability&lt;sup&gt;d&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B_0$ (intercept)</td>
<td>-1.694</td>
<td>.840</td>
<td>-2.014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$B_1$ (comparative policy</td>
<td>.141</td>
<td>.071</td>
<td>1.96*</td>
<td>1.15</td>
<td>.534</td>
</tr>
<tr>
<td>differences)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$B_2$ (comparative candidate</td>
<td>.003</td>
<td>.011</td>
<td>.35</td>
<td>1.0</td>
<td>.50</td>
</tr>
<tr>
<td>evaluations)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$B_3$ (partisan intensity)</td>
<td>.751</td>
<td>.392</td>
<td>1.91*</td>
<td>2.1</td>
<td>.677</td>
</tr>
</tbody>
</table>

* $p < .40$

<sup>a</sup> These maximum likelihood estimates are derived using an iteratively reweighted least squares process where the weights are the reciprocals of the variances.

<sup>b</sup> $t$-tests of significance were computed by dividing estimates by their standard errors.

<sup>c</sup> Odds ratios were computed by taking the anti-logs of the estimates.

<sup>d</sup> Probabilities were computed by dividing the odds ratio by $1 + \log$ odds ratio ($P/(1 + P)$).
TABLE XXIV
MAXIMUM LIKELIHOOD LOGISTIC REGRESSION ESTIMATES FOR LONG-TERM FACTOR MODEL OF VOTE TURNOUT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Std. Error</th>
<th>t-value&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Odds&lt;sup&gt;c&lt;/sup&gt; Ratio</th>
<th>Probability&lt;sup&gt;d&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B_0$ (intercept)</td>
<td>-2.641</td>
<td>1.293</td>
<td>02.04</td>
<td>1.55</td>
<td>.607</td>
</tr>
<tr>
<td>$B_1$ (civic duty)</td>
<td>.441</td>
<td>.190</td>
<td>2.32*</td>
<td>1.34</td>
<td>.572</td>
</tr>
<tr>
<td>$B_2$ (efficacy)</td>
<td>.296</td>
<td>.255</td>
<td>1.16**</td>
<td>1.34</td>
<td>.572</td>
</tr>
<tr>
<td>$B_3$ (partisan intensity)</td>
<td>.60</td>
<td>.380</td>
<td>1.58**</td>
<td>1.34</td>
<td>.572</td>
</tr>
<tr>
<td>$B_4$ (education)</td>
<td>.480</td>
<td>.319</td>
<td>1.50**</td>
<td>1.34</td>
<td>.572</td>
</tr>
<tr>
<td>$B_5$ (government performance rating)</td>
<td>-.263</td>
<td>.421</td>
<td>-.62</td>
<td>.76</td>
<td>.431</td>
</tr>
</tbody>
</table>

*significant at .05
**significant at .10

<sup>a</sup>These maximum likelihood estimates are derived using an iteratively reweighted least squares process where the weights are the reciprocals of the variances.

<sup>b</sup>T-tests of significance were computed by dividing estimates by their standard errors.

<sup>c</sup>Odds ratios were computed by taking the anti-logs of the estimates.

<sup>d</sup>Probabilities were computed by dividing the odds ratio by $1 + \log \text{odds ratio} (P/1 + P)$. 
converted into log-odds ratios and then into probabilities. Thus, while the technique does not produce the equivalent of a regression coefficient or multiple correlation coefficient like regression analysis, the results can be transformed into probabilities which can lend useful predictive information.

In Table XXII, the results of the logistic regression are presented for the short-term model of voter turnout. The log-odds ratios are computed by taking the antilog of the estimates. These are analogous to an odds board in gambling, indicating the probability of losing as compared to the probability of winning. The actual probabilities are computed by dividing the odds ratio by itself plus one. With the dependent variable coded as "0" for nonvoting and "1" for voting, these probabilities tell us the likelihood of a individual with the predictor characteristic voting in an election. By examining these probabilities, we can see that campaign interest, age, and partisan intensity produce the highest percentages associated with the voting act. Similarly, we could compute the probabilities for each level of the predictor variable. These results are not presented, but the computations clearly indicate that higher levels of interest, concern over the election outcome, amounts of media exposure, and stronger partisan intensity all increase the likelihood of voting, as one would predict.
The logistic regression results for the predictors from the rational model of voter turnout are presented in Table XXIV. Notice that for the candidate evaluation measure, the probability of voting equals the probability of not voting. The same is almost true of the comparative policy differences variable while the partisan intensity measure does a much better job of predicting voter turnout. The results from this logistic regression add to our understanding of the inability of this model to explain a great deal of the variance in voter turnout. The policy differences and candidate evaluation measures are found to be not as powerful indicators as suggested by the two previous analyses.

Chapter Conclusions

What has the preceding analysis demonstrated? The three competing models of voter turnout presented within this chapter point to the difficulties that political researchers face in constructing valid explanations for the level of voter turnout in the United States. Each has taken a different approach in attempting to clarify some of the inconsistencies that exist in the empirical studies of vote behavior. The models tested in this chapter have incorporated theoretical constructs that have served as the cornerstones for three dominant conceptualizations of the attitudinal processes. Each are assumed to be at work when
individuals reach decisions on whether to cast a vote or abstain from the process. Components within each of the three models have been found to exert significant influences on the vote participation decision. Therefore, one of the important purposes of this dissertation has been the replication necessary to test and validate prior research.

Besides serving as this validation purpose, new and important theoretical constructs were discovered which significantly add to our understanding of the underlying causal processes that influence vote behavior. Most importantly, concepts from all three models were subjected to three different types of statistical analysis to insure the validity of the findings and to check for potential specification errors in prior research. The three statistical procedures produced rather consistent results and confirmed the continued existence of factors believed to enhance and depress voter turnout. Chapter V will summarize the major purposes of this dissertation, its major contribution to the understanding of empirical and theoretical developments in the area, and issue a general call for future research.

In conclusion, these differing statistical analyses have subjected the predictors within each model to rigorous testing. For the most part, the results did not vary much at all from one type of analysis to another. Such retesting procedures help to confirm the data analysis results and attaches greater reliability to them.
CHAPTER V

CONCLUSIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Recapitulation

As stated in Chapter I, the focus of this study is directed toward the attitudinal components of the voting decision process. The investigation is thus limited to the attitudinal processes linked to electoral behavior. The importance of voting to political system maintenance and the continued existence of stable democracies is discussed and questions of concern about the rising trend of non-voting are addressed.

The research goals of the study are presented as crucial and perplexing problems in the study of elections. The hypotheses are listed and limitations of the study are acknowledged. The research examined the affect of three competing causal models of voter turnout. It is hypothesized that long-term attitudinal beliefs -- such as one's sense of civic duty and long-standing feelings of political efficacy continue to serve as strong predictors of voting participation. Short-term or election specific factors -- such as concern over the election of the outcome, interest in the election, and perceived closeness of the election -- are hypothesized as somewhat limited predictors of voter
turnout. Finally, concepts that are associated with the cognitive processes of rational vote choice are hypothesized to be strong predictors of vote turnout when specified in nonrecursive causal relationships. The limitations of the study are also highlighted and attention is drawn to complications that must be contended with due to the nature of survey data.

Chapter II is an overview of the literature relating to voter turnout and also incorporates some of the literature on vote choice which may serve to specify conditions affecting electoral turnout. Specifically, the literature review groups related empirical and theoretical research into three categories. The first category consists of studies that examine the sociological and demographic influences on voter turnout. The traditional relationships between age, education, gender, and region and voting are summarized by pointing out studies which examine such effects. The second category consists of factors related to the social-psychological explanation of voter turnout and findings related to long-term, stable attitudes and beliefs such as one's sense of civic duty and political efficacy. The third category includes rational choice approaches to the study of vote behavior. Discussion of the more general utility-maximization model of voting as well as the minimax-regret rational criteria is presented as examples of theorizing in this area. In addition,
particular models of vote choice are outlined and linked to voter turnout decisional models. The construction and conceptualization of party identification, candidate orientation, and issue evaluation are reviewed, since these are central components of most vote choice models. The applicability of such model components to voter turnout models is suggested and explored.

Chapter III presents the research design for the study. Both the source and reasons behind the choice of the data used in the analysis are discussed. Rationale for focusing upon one presidential election is given and the generalization of the results to broader election contexts is suggested as a potential benefit. Also provided is a discussion on the choice of particular variables to be used in the quantitative analysis. Many of the variables represent multiple indicators of an underlying concept or process. Additive scales and indexes are constructed from these multiple indicators. In order to test the reliability and validity of these multiple indicators, statistical tests are conducted and the results presented. Since survey data are used in the analysis, the selection of specific questions used to measure attitudinal and social attributes of the respondents is also explained. The choice of the dependent variable is scrutinized, beginning with a review of methodological controversies among scholars in the field. In order to generate greater
confidence in my choice of self-reported turnout as the dependent variable, as opposed to validated vote reports, a discriminant analysis is conducted between the self-reported data and the validated data to determine and acknowledge potential problems with the variable selection.

In the last section of the chapter, the methodology used in the analyses is discussed. Overviews of causal modeling, regression and path analysis, discriminant analysis, and logistic regression are presented so that readers can familiarize themselves with these specific quantitative techniques and their applicability to the data.

In Chapter IV, specific causal models of election specific, long-term social psychological, and rational choice factors are hypothesized and subsequently constructed. Each model is built in a stepwise fashion, with interrelationships among variables as well as connections to voter turnout examined and compared. Ordinary least squares regression, incorporating path analysis techniques, is used to analyze each model and to assess its ability to explain variation in voter turnout.

The final model constructed for each theoretical category is then subjected to three different types of analysis. OLS regression and path analysis are again used to determine the direct and indirect effects of each predictor variable in the models. To assess the possibility of faulty estimates due to nonlinear relationships,
discriminant analyses are also conducted on each final model. These also provide a useful classification analysis which reveal the capabilities of the different models to distinguish between voters and nonvoters. In addition, logistic regression is used in a final quantitative analysis of each model. This technique is most suitable for regression analysis when the dependent variable is dichotomous in nature, as is the case in this study. Results from each analysis are presented and conclusions drawn about the importance of predictor variables.

In this last chapter, I review the major findings of the study, discuss some of the implications for voting behavior theory and research, and suggest pathways for future research.

Major Findings and Contributions

This research provides some new insights into factors that affect voter turnout. Variables identified in past literature are, for the most part, confirmed as playing statistically significant roles in the decision on whether to vote or not. Beyond that, new variables are found to also play a role in the voter turnout process.

The first hypothesis stated that long-term attitudinal beliefs such as civic duty, political efficacy, and partisan intensity continue to serve as strong predictors of voter turnout. While it is somewhat difficult to accept
the boundaries of weak, moderate, and strong relationships between variables, the analysis of the long-term model indicates that some long-term attitudinal factors do play a significant role in determining whether an individual will vote or not. Among the independent variables included in the model, one's sense of civic duty emerges as the most important predictor of voter turnout. This is followed very closely by one's sense of political efficacy, measured in this model as "external" efficacy. The analysis thus concludes that feelings relating to government responsiveness have definite impact on voter turnout. The third most important long-term variable explaining voter turnout is partisan intensity. The level of one's education has the expected moderate impact.

Besides confirming the research hypothesis, the long-term attitudinal model also confirms certain variable relationships that have been the subject of controversy and disagreement in the past. In particular, this model has helped to clarify the role that political trust plays in the development of deep seated attitudes conducive to political participation. Political trust, alienation, and efficacy are used in the same context in voting behavior studies of the past. Researchers at times find it difficult to distinguish between the attitudinal dimensions of these concepts. Moreover, the cognitive developmental sequence linking trust and efficacy has never been
adequately addressed. These two factors are extremely important to the study of voter turnout, since most theories posit that political alienation and efficacy are strongly related to governmental support levels. Such conditions are assumed to be a precondition for the existence of a stable democracy.

Furthermore, the specific dimension of external political efficacy is confirmed by the analysis. The findings indicate that political efficacy is more than personal belief about the ability to influence governmental action. Efficacy, as defined in this research, becomes a set of beliefs that are very much shaped by governmental performance and are tied to concerns about governmental response to needs and demands. The cognitive developmental sequence posited between governmental performance, trust, and efficacy helps to alleviate some of the confusion in the literature as to the significance of each to political behavior. Governmental performance shapes political trust which in turn affects one's sense of efficacy. Such analysis helps to confirm, as well, that the voter does indeed base his attitudes about government in general on performance factors. This evidence might once again lend partial credibility to rational notions of voting, but more work is necessary before reaching final conclusions. Researchers should also pay heed to the negative impact of governmental performance on voter turnout. During periods of general
public dissatisfaction with government, we can expect voter turnout levels to be somewhat depressed, although the relationship is not an extremely strong one.

Most recent analyses of voter turnout conclude that the decline in party identification is largely responsible for declining levels of participation. The research design in this study not so much weighs the factors responsible for electoral decline as it identifies specific factors positively related to voter turnout. The long-term model does confirm the importance of partisan intensity to the voter turnout process. We are left concluding that partisanship is an important factor in stabilizing electoral participation; we can only speculate from this analysis that its decline in recent years has lowered its impact on voting. Indeed, other analyses, more specifically aimed toward that research question, reach such a conclusion with convincing validity.

Perhaps the logistic regression analysis provides some insights into the perplexing problem of the decline in the strength of party identification. When converting the estimates of the logistic regression into probabilities, we learn that partisan intensity produces the greatest probability associated with voting. When the computations are performed for each level of partisan intensity, we can see the differences weak versus strong partisanship can have for voter turnout. For instance, the probability of a
politically independent person voting in 1980 was 64.5 percent. The probability of a weak partisan voting was 76.8 percent, and the probability of a strong partisan voting was 85.9 percent. Clearly, the potential effects of partisan intensity for turnout are pronounced.

In summary, this research indicates that civic duty, "external" political efficacy, and level of partisan intensity can provide insights into the reasons for high or low voter turnout. These are complex, temporally developed attitudes which are normally formulated through political socialization processes. If such feelings are declining among the electorate, the results provided by this particular model would posit crucial effects on levels of turnout. Perhaps future research should address the reasons for the decline in the positive levels for each in order to seek the fundamental reasons for voter turnout decline.

\[ \text{These probabilities were computed using the following equations: first, the estimate for partisanship was } 0.60; \text{ this represents the probability for the category coded as a one for that variable (in this case, independents). To compute the probabilities for the other two levels of partisanship, the estimate was multiplied by the value of the variable code for that level of partisanship, and the antilog taken of that value. To derive the actual probability, the antilog was divided by itself plus one. Thus, party identification was coded as (1) independent, (2) weak partisan, and (3) strong partisan. The estimate derived for weak partisans was computed as follows: the antilog of } (0.60 \times 2) = 3.32. \text{ This is then divided by itself plus one: } 3.32/4.32 = 0.768. \]
The second hypothesis investigated involves the effects of the short-term, or election specific factors. It is hypothesized that such factors could only serve as limited predictors of voter turnout. The results from the analyses on the short term model lead us to reject this hypothesis. Short-term influences on voter turnout can be significant and may also explain not only the general decline in voting but fluctuations from election to election. Among the short-term factors investigated in the hypothesized model, interest in the campaign emerges as the most important predictor variable. This conclusion supports many of the recent studies in voter turnout research, and does indicate the importance of an informed and alert electorate.

In addition, media exposure is found to be significantly related to voter turnout. Obviously, being exposed to campaign stimuli heightens interest and concern about the election, which can, in turn, increase the probabilities of casting a vote. Of course, the research in this area is far from conclusive. Merely being exposed to political information does not necessarily tell us the type of information to which eventual voters pay the most attention, nor does it indicate how the information is used in calculating the importance of the vote. The hypothesis tested and confirmed by this analysis, however, does indicate that high levels of media usage do indeed heighten
interest and concern about presidential contests.

It should also be noted that current partisan intensity, age and education are shown to have significant effects on voting within this short term model as well. They serve primarily as exogenous variables for specification purposes; nevertheless, they effectively demonstrate their contribution to voter turnout within this causal arrangement. The preliminary models constructed with short term factors also reveals that perceived closeness of the election outcome and short-term economic aspects of the election have very little to do with voting. This is surprising, given the importance attached to the proximity factor by earlier rational models and the general conclusion that the shape of the economy prompts individuals to the polls. Concern over the outcome of the election plays a somewhat more limited role, perhaps indicating that people who vote may view the importance factor as a result of interrelationships with interest, efficacy and partisanship.

The last model tested in this dissertation depicts a rational choice voting calculus. This model produces new insights into the intertwining roles of partisanship intensity, candidate orientations, and policy evaluation differences among the candidates. A similar model has already been demonstrated to be an effective predictor of vote choice. It appears that a rational-oriented evaluation
scheme may also be an effective predictor of voter turnout as well. Partisan intensity, comparative candidate evaluations, and comparative policy differences are all found to be significantly related to voter turnout, even though the overall explained variance in turnout is relatively small in comparison to the short-term and long-term models. The implications for future research in this area are quite important. The reciprocal linkages between these traditional variables of political behavior are confirmed, indicating that past research might have overestimated the impact of one item when used alone in a regression analysis.

While both comparative policy differences and partisan intensity produce strong, positive effects on turnout, candidate evaluations actually have a negative effect on voter turnout. This indicates that many voters are indifferent toward candidates and issues or that they rate both presidential candidates equally. Nevertheless, this model demonstrates the inadequacy of past recursive models to accurately depict the relationships between these variables and their subsequent impact on voting. Researchers in the future should remember the dual dimensions associated with this type of voting scheme. As such, the third hypothesis is confirmed.

Regardless of the success of these models in explaining voter turnout, the validity and reliability
tests indicate that this area of research is in desperate need of new indicators for the measurement of complex social attitudinal structures. Analysts will not be able to put much confidence in their results if they do not use measures proven to be reliable and valid indicators for the underlying concepts they are supposed to measure.

In addition, the validity tests for the dependent variable help to confirm years of research on voting behavior utilizing respondent's self-reported turnout. It is noted that these measures usually differ from actual turnout results by as much as 15 percent. A central question raised among researchers in American politics concerns the validity of using such a contaminated measure. The results presented within this study indicate that past research findings are indeed reliable. Misreporters in surveys -- those who report voting but who did not actually do so -- are found to be more closely related to the voting group of which they claim to be a part. As such, analysts can assume some confidence that results produced using this measure are methodologically sound. The analyses presented in this research are conducted on both self-reported and validated vote data. However, as expected, the results differ. In general, the relationships between the predictor variables and the voter turnout measure are not quite as strong when the validated measure is used. However, the differences are not acute enough to
warrant the disposal of the self-reported measure and the substantive conclusions remain unchanged, regardless of the measure chosen.

Suggestions for Future Research

In uncovering factors affecting voter turnout, a researcher faces the enormous task of sifting through a myriad of potential sources. The range of items believed to affect voter turnout ranges from complex attitudinal components to more simple factors such as acts of weather. Political scientists have investigated such factors with great care and persistent effort. The results have been fruitful, providing useful information for those concerned about the healthy status of a constitutional democracy.

Much of the groundwork in empirical studies of voting behavior was established long ago. Lazarsfeld, Campbell, Key, and their associates provide rich analyses from which future hypothesizing and theorizing could be conducted. Indeed, much more is known about conditions that improve and depress voter turnout than at any time. Legal and structural factors, for instance, have been known for many years to depress turnout. However, empirical analyses of the effects of these particular components of the voting process have convincingly verified and estimated what their impact can be in an election. Wolfinger and Rosenstone, for instance, demonstrate that turnout in the presidential
election of 1972 would have been nine percentage points higher if registration laws across the country had been as permissive as the most permissive states. In a similar vein, Richard Boyd effectively demonstrates the negative impact on voting turnout caused by the explosion in the number of elections that Americans are typically asked to participate in each year. Therefore, the structural and legal effects of many of the processes involved in the voting process itself have been effectively demonstrated.

However, it is the psychological or attitudinal dimension of voting behavior that creates great concern among political researchers. How can we better understand the internal decision processes of the individual as they relate to voting? If certain attitudes do depress voter turnout, it is important to know their contribution in relation to the structural factors already known to affect turnout levels. It is for this reason that the focus of this research on voting turnout has been directed toward psychological dimensions of decision-making.

In accepting the challenge of such research, we often find ourselves frustrated at the inability to directly probe the inner workings of the mind itself. Social


researchers are often forced to rely upon survey instruments filled with questions designed to tap attitudes of primary interest to their particular research concern. While samples may be drawn and subjected to rigorous testing for their representativeness of the population from which they are selected, designing questions which adequately tap complex attitudes and beliefs can be problematic. Such difficulties present particularly acute drawbacks for social research in that conclusions based upon unreliable or invalid variable constructions are subject to questionable generalization. Therefore, political scientists, and other social scientists, must become more concerned with the limitations of survey research in adequately measuring complex attitudinal processes. More attention must be focused upon the construction of reliable indicators which can measure underlying cognitive processes with greater precision. Still, current indicators should be carefully scrutinized so as to instill more confidence in their abilities or inabilitys to tap cognitive processes.

As this research demonstrates, political scientists can gain much from the study of attitudinal political behavior by constructing explicit causal models of voting processes. Powerful statistical techniques are available for the estimation of such models which lend greater confidence in the results. The use of nonrecursive modelling
has also been demonstrated in this research. Without question, the process of determining temporal causal sequences is complicated, especially among attitudinal components. Only recently have political researchers shown the utility of reciprocal causal linkages between variable concepts. This is not to say that it simplifies the causal process; however, it does more accurately represent the realities involved in behavioral processes. More importantly, one does not rule out plausible alternatives by assumption.

Regardless of the inability of voter turnout models to explain large percentages of the variance in voter turnout, we must remember that the effects of the variables of interest may be small in magnitude but still of great substantive importance. Therefore, given the fact that most elections are decided in the 40 percent to 60 percent range, small effects can dramatically affect election outcomes. Without a doubt, for many questions of substantive interest in the field of voting behavior, our models and data as of now are inadequate in many respects. It is to these questions that new research must be addressed. Not only should new experimental methods of question designs and formats be tested, but the theoretical and methodological developments must advance as well.

Researchers in the future can build upon the findings presented in this study by incorporating into specific, testable models long-term, short-term, and structural
factors. As the results of this research demonstrate, theories associated with each set of these factors supplement rather than substitute for each other. Definite cross model linkages exist which can be subjected to further testing. The utility of positing reciprocal causal linkages is demonstrated for the rational choice process involving the evaluations of candidates and issues and subsequent linkages to partisanship. Such reciprocal linkages may very well be suitable for the attitudinal processes proposed in this and future studies. When combined with powerful estimation techniques that can recognize and minimize the impact of measurement error, researchers are offered the empirical tools to investigate theoretical propositions with greater clarity.

The conclusion that voter turnout cannot be readily explained is not something new. Three theoretically important models cannot, individually, explain more than one-quarter of the variance in voter participation. Such evidence points to the fact that new theories of electoral participation are in order. If the voting act is not simply a random decision act based upon idiosyncratic factors, then there must be other variables that cause some to vote and others to abstain. If such factors are measurable, our survey instruments must become more discriminating.
However, it may be that factors exist which affect turnout in ways that have gone largely unexamined. For instance, as a short-term factor, the type of information, opposed to the amount or the source, may be important in prompting the individual to vote. Within the social realm, group interactions may play a larger role than in the past. In short, the "costs" involved in voting may not yet be fully understood by political scientists. From the rational choice perspective, the costs of voting might involve factors not considered by scholars in the past and could involve not only the cost of registering, but such items as the embarrassment of not knowing where to vote and how to use new voting machines. These questions suggest future research possibilities.
APPENDICES
## APPENDIX I

### TABLE I

**CORRELATION MATRIX FOR POLITICAL EFFICACY ITEMS**

<table>
<thead>
<tr>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No say about what government does</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Public officials don't care</td>
<td>.362</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>3. Congressman lose touch with people</td>
<td>.248</td>
<td>.425</td>
<td>1.00</td>
</tr>
<tr>
<td>4. Parties only interested in votes</td>
<td>.287</td>
<td>.467</td>
<td>.441</td>
</tr>
</tbody>
</table>

\[ n = 1205 \]

*Pearson Product-Moment Correlations (R)*
### TABLE II

**CORRELATION MATRIX FOR POLITICAL TRUST ITEMS***

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(1) Trust government to do what is right?</strong></td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>(2) Government run by few big interests or benefit of all?</strong></td>
<td></td>
<td>0.345</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>(3) People running the government mostly crooked or not?</strong></td>
<td></td>
<td>0.311</td>
<td>0.308</td>
</tr>
</tbody>
</table>

*Pearson Product-Moment Correlations (R).*

---

n = 1423
<table>
<thead>
<tr>
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<th>(1)</th>
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<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Voting is not important when your party can't win.</td>
<td></td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) So many vote in national elections that voting doesn't matter.</td>
<td>.314</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) If a person doesn't care then that person shouldn't vote.</td>
<td>.152</td>
<td>.188</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>(4) A good many local elections aren't important enough to bother with.</td>
<td>.278</td>
<td>.347</td>
<td></td>
<td>1.00</td>
</tr>
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</table>

n = 1528

*Pearson Product-Moment Correlations (R).
### TABLE IV

CORRELATION MATRIX FOR GOVERNMENT PERFORMANCE RATING ITEMS*

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
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<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) How good a job is being done for the country by the federal government?</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) How good a job is being done for the country by the presidency?</td>
<td>.548</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>(3) How good a job is being done for the country by the Congress?</td>
<td>.581</td>
<td>.533</td>
<td>1.00</td>
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</table>

*Pearson Product-Moment Correlations (r)*

n = 1238
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<tr>
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<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Listen to speeches</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>on radio?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Read about campaign</td>
<td>.119</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>coverage in magazines?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Watch campaign</td>
<td>.114</td>
<td>.119</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coverage on television?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) Watch the presiden-</td>
<td>.121</td>
<td>.121</td>
<td>.317</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>tial debate on television?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5) Read about campa-</td>
<td>.145</td>
<td>.313</td>
<td>.241</td>
<td>.136</td>
<td>1.00</td>
</tr>
<tr>
<td>ghn in newspaper?</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>n = 1390</td>
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</tbody>
</table>

*Pearson Product-Moment Correlation (R).
TABLE VI
CORRELATION MATRIX FOR POLITICAL ACTIVITIES ITEMS*

<table>
<thead>
<tr>
<th></th>
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<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Try to persuade others politically?</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Attend political meetings or rallies?</td>
<td>.178</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Worked for candidates or parties?</td>
<td>.199</td>
<td>.367</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) Wear campaign button or display car sticker?</td>
<td>.184</td>
<td>.268</td>
<td>.337</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>(5) Belong to any political organizations?</td>
<td>.119</td>
<td>.265</td>
<td>.224</td>
<td>.094</td>
<td>1.00</td>
</tr>
</tbody>
</table>

n = 1402

*Pearson Product-Moment Correlations (R).
### TABLE VII

**CORRELATION MATRIX FOR ECONOMIC ITEMS**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) You (and family) better/worse off financially than you were a year ago?</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Nation's economy gotten worse/better/same over last year?</td>
<td>.125</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Expect economy to get worse/better/same the next 12 months?</td>
<td>.095</td>
<td>.149</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) Business conditions better or worse than a year ago?</td>
<td>.123</td>
<td>.203</td>
<td>.134</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>(5) Family income kept up with cost of living the past five years?</td>
<td>.390</td>
<td>.038</td>
<td>.146</td>
<td>.088</td>
<td>1.00</td>
</tr>
</tbody>
</table>

n = 1176

*Pearson Product-Moment Correlations (R).*
APPENDIX II

The following questions are used to construct the comparative policies scale. Respondents were asked to locate themselves on these scales as well as the major candidates in the election.

1. "Some people feel the federal government should take action to reduce the inflation rate, even if it means that unemployment would go up a lot. Others feel the government should take action to reduce the rate of unemployment, even if it means that inflation would go up a lot."

   (A) "Where would you place yourself on this scale, or haven't you thought much about this?"

   (B) "Where would you place Jimmy Carter?"

   (C) "Where would you place Ronald Reagan?"

   1. REDUCE INFLATION EVEN IF UNEMPLOYMENT GOES UP A LOT.
   2. REDUCE UNEMPLOYMENT EVEN IF INFLATION GOES UP A LOT.

2. "Some people believe that we should spend much less money for defense. Others feel that defense spending should be greatly increased."

   (A) "Where would you place yourself on this scale, or haven't you thought much about this?"

   (B) "Where would you place Jimmy Carter?"

   (C) "Where would you place Ronald Reagan?"

   1. GREATLY DECREASE DEFENSE SPENDING.
   2. GREATLY INCREASE DEFENSE SPENDING.

3. "Some people think the government should provide fewer services, even in areas such as health and education, in order to reduce spending. Other people feel it is
important for the government to continue the services it now provides even if it means no reduction in spending."

(A) "Where would you place yourself on this scale, or haven't you thought much about this?"

(B) "Where would you place Jimmy Carter?"

(C) "Where would you place Ronald Reagan?"

1. **GOVERNMENT SHOULD PROVIDE MANY FEWER SERVICES; REDUCE SPENDING A LOT.**
2. **GOVERNMENT SHOULD CONTINUE TO PROVIDE SERVICES; NO REDUCTION IN SPENDING.**

4. "Some people feel the government in Washington should see to it that every person has a job and a good standard of living. Others think the government should just let each person get ahead on his own."

(A) "Where would you place yourself on this scale, or haven't you thought much about this?"

(B) "Where would you place Jimmy Carter?"

(C) "Where would you place Ronald Reagan?"

1. **GOVERNMENT SEE TO A JOB AND GOOD STANDARD OF LIVING.**
2. **GOVERNMENT LET EACH PERSON GET AHEAD ON OWN.**

5. "Some people feel it is important for us to try very hard to get along with Russia. Others feel it is a big mistake to try too hard to get along with Russia."

(A) "Where would you place yourself on this scale, or haven't you thought much about this?"

(B) "Where would you place Jimmy Carter?"

(C) "Where would you place Ronald Reagan?"

1. **IMPORTANT TO TRY VERY HARD TO GET ALONG WITH RUSSIA.**
2. **BIG MISTAKE TO TRY TOO HARD TO GET ALONG WITH RUSSIA.**
6. "Some people feel that the government in Washington should make every effort to improve the social and economic position of blacks and other minority groups, even if it means giving them preferential treatment. Others feel that the government should not make any special effort to help minorities because they should help themselves."

(A) "Where would you place yourself on this scale or haven't you thought much about this?"

(B) "Where would you place Jimmy Carter?"

(C) "Where would you place Ronald Reagan?"

1. GOVERNMENT SHOULD HELP MINORITY GROUPS.
2. MINORITY GROUPS SHOULD HELP THEMSELVES.

7. "Recently there has been a lot of talk about women's rights. Some people feel that women should have an equal role with men in running business, industry, and government. Others feel that women's place is in the home."

(A) "Where would you place yourself on this scale or haven't you thought much about this?"

(B) "Where would you place Jimmy Carter?"

(C) "Where would you place Ronald Reagan?"

1. EQUAL ROLE.
2. WOMEN'S PLACE IN HOME.
APPENDIX III

The following set of questions is used to construct a "candidate qualities" index. Responses coded as either a (1) or (2) are counted for each respondent for each question and summed to produce a scale from 0 to 7.

"I'm going to read a list of words and phrases people use to describe political figures. For each, please tell me whether the word or phrase describes the candidate I name extremely well, quite well, not too well, or not well at all? You can just tell me the number of your choice.

"How well do you think the following phrases describe Jimmy Carter, Ronald Reagan as president?"

Responses = 1. extremely well
            2. quite well
            3. not too well
            4. not well at all

(a) moral
(b) dishonest
(c) weak
(d) knowledgeable
(e) power-hungry
(f) inspiring
(g) solve our economic problems
(h) provide strong leadership
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