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STRUCTURE OF AMERICAN NATIONAL SECURITY ATTITUDES

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Director's Division
CIVIL DEFENSE RESEARCH PROJECT

STRUCTURE OF AMERICAN NATIONAL SECURITY ATTITUDES*

Davis B. Bobrow and Allen R. Wilcox⁺

OCTOBER 1967

OAK RIDGE NATIONAL LABORATORY
Oak Ridge, Tennessee
operated by
UNION CARBIDE CORPORATION
for the
U.S. ATOMIC ENERGY COMMISSION

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STRUCTURE OF AMERICAN NATIONAL SECURITY ATTITUDES*

by

Davis B. Bobrow and Allen R. Wilcox⁺

INTRODUCTION

This project has two objectives. The first is to analyze American public opinion to clarify the relationships of the general population to active and passive defense. The second is to increase behavioral science knowledge of the ways in which the American people relate themselves to issues of national security policy and indeed of public policy in general. Although the organization of and data used in this report are most germane to the first objective, they should have at least heuristic value to those concerned with the second. The next section summarizes our major intellectual premises. Subsequent sections discuss these ways of explaining differences in defense opinions: (1) general interest in defense policy; (2) general values for the future international world; (3) dispositions specific to passive defense; and (4) dispositions specific to active defense.

MAJOR PREMISES

Activists in the debate over continental defense, particularly over passive defense, are fond of talking about the relationships of these policies to the American people. As on many other points, the opponents and proponents have strikingly incompatible views. If the discussion is about initiating a major program, one group argues that Americans "just wouldn't stand for it;" the other, that they "want protection." If the discussion is about the consequences of a major program, one group says

* This report is not written particularly for professional social scientists, and our inclusion and presentation decisions reflect this.

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that "shelters will make people think that nuclear war is inevitable and acceptable," the other, that "shelters will make people alert to the full horror of nuclear war." Individuals less committed to any particular continental defense position, especially individuals in public office, tend to suspect, and sometimes argue, that the American people really do not relate themselves to defense policy at all, or if they do, have neither intellectual tools nor motivation to develop any reasonable or relevant position.¹ These debates continue and with them come more public opinion surveys.

We assume that issues about the relationships of the American people to continental defense are subject to an empirical resolution. We also believe that a fruitful strategy to achieve this for continental defense will be equally fruitful for similar questions about any other major area of public policy. Other papers have developed this perspective at some length.² Here it suffices to present three major premises and their principal implications.

First, our problem is to come to understand the "buzz and confusion" of specific opinions in ways that let us locate a limited number of hypothetical dispositions that not only (a) account powerfully for variance in that particular set of opinions, but (b) can be expected to account also for variance in opinions collected on the basis of questions which differ slightly from the first set but presumably relate to the same general domain.

The cross-tabulation of responses to several survey questions or the frequency of different answers to any one question provide quantitative measures of behavior in a particular situation, i.e., of responses to specific questions in an interview situation. Accordingly, we have no strong reason to treat such data as if they were measuring properties of the interviewees with relevance beyond the exact question asked. In other words, cross-tabulation and frequency data may well be "trivial" (epiphenomenal) in the development of useful generalizations and theories about the relationship of the American public to national security policies. The survey analyst can tell little from the relationship between two specific opinions or respondent characteristics; if he is to learn much about his subjects, he has to isolate and evaluate hypothetical dispositions or

basic factors. The variables represented by answers to specific survey questions are thus primarily useful as indicators of these hypothetical dispositions.³

The fact that we need such structural knowledge, whether we call it pattern or hypothetical disposition or factor, to make sense of the "buzz and confusion" of specific opinions is indicated by the way all of us keep making implicit assumptions about underlying structure. For example, the policy proponents and opponents who voice views such as those 'quoted' above assume that the American people structure their opinions in terms of a policy option which they are "for" or "against." Those who deny that the American people really relate themselves to defense policy argue that citizens lack relevant dispositions. Yet we have seen no solid evidence which supports either of these alternative assumptions about structure. In other words, we argue not only that survey analysts in general need to exploit specific answers to arrive at structures, but that those interested in defense opinions have to do so before we will have any evidential basis for discussing the relationship of the American people to national security affairs.

We have already suggested that understanding structure will powerfully affect our ability to understand what responses to large number of specific questions do and do not imply. Aside from simplification (reduction), structural findings involve two other major advantages. The first is that knowing about hypothetical dispositions gives us the opportunity to locate a subset of opinions which indicate the set of opinions. If we know that opinion X indicates a hypothetical disposition around which opinions A through Y cluster (i.e., A-Y are strongly associated with each other, but not with other opinions), knowledge of X can give us probability estimates about A through Y.

The second is that structural knowledge helps us to predict the effects of change in one specific opinion on other opinions. Our reasoning here is based on the work of the cognitive balance theorists.⁴ According to these psychologists, an individual who holds incompatible opinions experiences strain or feels pressure to achieve harmony among these opinions only when: (a) he relates the opinions to each other; and (b) he is aware that they are incompatible. If we apply these requisites to the structure of opinions

held by an aggregate (e.g., the respondents to a national survey) it seems to us that the extent to which opinions are associated on a particular structural element has import for opinion change greater than that provided by relationships between any two variables. Specifically, the presence of opinions in the same cluster suggests a cultural tendency to relate them to each other and association between these opinions also suggests a cultural tendency to see some of them as incompatible with others. When we find both of these attributes in our data, we suggest that one has an opinion situation relatively open to change. Even if we only find the first, association in a common cluster, we can rank order opinions in terms of the likelihood that they will be affected by change in an opinion which is in the cluster. The other opinions in the cluster are more likely to be affected than are opinions in other clusters.

The basic and necessary implication of the first premise for our research strategy is that we use a multi-variate approach and, whenever possible, formally multi-variate techniques. The use of survey data to formulate hypothetical dispositions of an aggregate is in this sense no different from formulating dispositions of an individual. A disposition can be hypothesized with more certainty on the basis of a number of observations, and this is what a multi-variate approach provides. The formal technique we employ in this paper is that of factor analysis.⁵ This tool seems appropriate to us for cutting through large bodies of data to find structures that account for large amounts of variance in the data mass.

The reader unacquainted with factor analysis can have sufficient "feel" for its value if he uses the analogy of a bunch of grapes. When factor analysis is reported in matrix form, it shows us a varying number of bunches of grapes (i.e., dimensions, factors, or clusters of variables) which can be distinguished in terms of the nature of the grapes (content of the variables), and the number of grapes on and the tightness of their attachment to the cluster (number and loading of variables on a particular factor). We can also tell whether there are in essence a lot of loosely attached grapes around (low communalities for variables and low percentage of total variance accounted for by reported factors). The reader should also remember one important artifact of the factor analysis method. This is that its mode of calculation allows contrasting subsets of relationships

between variables in the raw data to cancel each other out, as far as the results generated are concerned. The analyst cannot tell from the factor analysis output whether two variables are in no strongly patterned relationship to each other or in two drastically opposed but strong patterns of relationship for equal subsets of the population.

Our second premise is that we can answer more questions about public opinion more powerfully by secondary analysis of a large number of previous surveys than by conducting another survey. Briefly, the use of even one old survey allows us to focus our energies on analysis rather than on data collection. The use of numbers of old surveys provides what is often an analytically necessary enlargement of: the opinion coverage of the questions, the size and thus meaningful number of sub-samples of interviewees, and the time span for which we have data. We have already realized the implication of this premise by developing an extensive working file of 121 surveys of American public opinion conducted since the first use of nuclear weapons.

Third, we should attend to findings that account for large amounts of variance in public opinions and characteristics. In other words, we assume that the common practices of absolutely null hypotheses and statistical tests of significance are not fruitful for our purposes (see Appendix A for basic scientific reasons), especially in the initial stages of the branch process of investigation, i.e., when the fundamental problem is to separate mountains from molehills.

Before we discuss examples of our work, conducted according to these premises, we should explicate the relationships between our research strategy and those of other researchers in the same area. Our strategy is based on a certain set of intellectual assumptions, resource situation, and conceptions of professional responsibility. Those who use different research strategies for working on similar problems may do so because of differences in intellectual assumptions, resources, or conceptions of responsibility. We are in potential disagreement with other researchers only when the differences in strategy derive from differences in intellectual assumptions.

The rest of this report presents examples of the analyses which are based on our three major premises. Our objective is to understand variations in U.S. public relationships to different aspects of national security, specifically to active (e.g., ballistic missile defense) and passive (e.g., blast shelter) defense systems. Accordingly, we are looking for explanatory routes that (a) account for large amounts of variance in citizen defense opinions, and (b) are methodologically efficient for predicting from very partial information about appraisals relevant to national security to a wide range of appraisals and behaviors. We will illustrate three explanatory routes here not because they are obviously superior to other alternatives, but because they are promising and feasible research directions. To revert to the language of hypothetical dispositions, these routes represent, respectively, dispositions to be interested* in defense policy, to value* certain international outcomes, and to have certain attitudes* toward particular strategic hardware (in our case, that of active and passive defense). The first two types of dispositions are attempts to explain variations in active and passive defense opinions as symptoms of more general orientations toward national security. The third is an attempt to arrive at powerful generalization about active and passive defense beliefs through the use of appraisals about epiphenomena (i.e., answers to questions about extremely specific aspects of continental defense). The first two forms of explanation can usefully be seen as attempts to understand an attitude micro-system (continental defense) in terms of an attitude macro-system (e.g., interest in defense policy). The third form represents an attempt to understand a micro-system in itself, although we try to do this in ways that give us hypotheses applicable to other opinion micro-systems.

The organization of the rest of the paper is as follows:

Explanation No. 1 -- Variance in defense opinions in general and continental defense opinions in particular can largely be accounted

* Although the concepts of "interest," "value," and "attitude" may appear to be used loosely here, we are using them as members of a larger set of concepts, the purpose of which is let us describe variations in individuals adequately. The ideas involved in this larger set and what we are trying to get them to do for us are alluded to in a little more detail in S.B. Bobrow's, The Responses of Influentials to Negative Contingencies. The sources which work out these ideas in much more detail are also referenced there.

for by interest or lack of interest in defense policy (i.e., Americans are interested in all defense systems or in none).

Explanation No. 2 -- Variance in defense opinions in general and continental defense opinions in particular can largely be accounted for by alternative general values for the future of the international system, particularly for the future resolution of the cold war. The formulation here is that if P values X international future, then he has Y attitudes toward Z defense system.

Explanation No. 3 -- Variance in continental defense opinions can be accounted for by the hypothetical dispositions which underlie these intra-defense system opinion domains. For this explanatory route, it is useful to consider separately sets of survey question indicators for passive defense and for active defense.

We emphasize that the analysis of these three forms of explanation in this report is extremely incomplete in that (a) we do not explore the forms fully either in terms of details of one method or a variety of methods, and (b) we use only a small fraction of the data in our survey data base. The data used come from three surveys: NORC 110 (June, 1963); NORC-SRS 330 (December, 1963); and NORC 640 (June, 1964).⁷

When we report data, the reader will note that we commonly divide the survey respondents into a college graduate and a less educated subsample. We have done this to pursue in the realm of defense policy public opinions a number of important findings about structural differences in public opinion about domestic matters associated with educational differences.⁸

THE DEFENSE INTEREST EXPLANATION-THE POLICY PUBLIC

When we try to explain variance in defense opinions by means of a hypothetical disposition to be interested in national security affairs, we are pursuing essentially the same tack as analysts who look for a "policy public." The notion is to find an empirical rule for partitioning the American population into those who do and do not pay attention to the policy area, on the assumption that if we know on which side of the dividing line Americans fall, we have significantly reduced the number of possible explanations for their specific survey answers and their political behavior. More specifically, the

interest disposition as reflected in policy public membership or non-membership indicates two things. The first is what groups of Americans are likely and are not likely to be aware of and to respond in some fashion to government actions in the policy area. The second is the context with which those who are attentive tend to think about a particular policy, e.g., to know whether, when they think about weapons acquisition policies, they relate them to (tend to consider their implications for) arms control policies. Of course, if we find that a policy public exists, we can only exploit this finding feasibly if we can also find predictors of membership in that public. Without these predictors, the investigator cannot locate members of the public efficiently or estimate the political significance of the density of membership in different population groups.

Our particular concern here, then, is with the extent to which opinions about continental defense can be understood in terms of a general interest in defense policy. In other words, to what extent are those American interested in defense policy disposed to be interested in continental defense and vice-versa? We use here an imperfect but suggestive set of questions from NORC-SRS 330.* These ask for estimates of self-informedness on the cold war, the effects of nuclear weapons, arms control/disarmament and civil defense. Unfortunately, we have no comparable questions on active defense and, accordingly, can only examine the relationship between interest in the three defense policy areas listed above and civil defense. The relationships between the responses are reported in Table I.

The data in the table suggest two particularly important findings.

(1) Membership in a particular defense policy public accounts only moderately for membership in the publics for other defense policies. Accordingly, although we do not deny the usefulness of a hypothetical general interest disposition, it does not account for enough variance for us to treat the construct as accounting for more than a moderate amount of variation. The

* These are questions 30A, 30B, 30C and 30D.

Table I. Passive Defense Public and Defense Policy Public*

	A. For College Graduates:		B. For Other Americans:	
	Mean Correlation	Mean Proportion of Variance	Mean Correlation	Mean Proportion of Variance
1. Relationship between cold war, effect of nuclear weapons, arms control/disarmament, and civil defense items.	.41	.17	.47	.22
2. Relationship between cold war, effect of nuclear weapons, and arms control/disarmament items.	.47	.22	.51	.27
3. Relationship of civil defense item to other items.	.35	.12	.43	.19

* All entries rounded off to the second decimal digit.

top row of Table I is particularly relevant to this conclusion, and, within that row, the columns which report the mean proportion of variance.* Since we find that variance in membership in our four specific defense policy publics is only accounted for to the extent of .17 for the college and .22 for the less educated subsample, we draw the following implications for the relationships of the American people to national security affairs. First, a large proportion of Americans attend to different defense policies to a differential degree. Second, as a result, even if the members of the different policy publics all become aware of a government action, they are likely to categorize the same complex defense policy differently because they will assimilate it to the defense issue area to which they are most attentive (e.g., arms control, passive defense). Third, on the basis of these two tendencies, it follows that different Americans are likely to disagree about the bases on which the policy should be evaluated and on the policies with which it is competitive.

(2) Members of the civil defense public are less attentive to other defense policies than are those Americans who are in the audience for general cold war policies or for arms control and disarmament. When contrasted with members of our other three defense issue area publics, the civil defense attentives are relatively unlikely to be in the audience for discussions which stress arms control, cold war, or nuclear weapons effects issues. In other words, Americans generally attentive to civil defense seem likely not to see civil defense in a broad national security context. As a comparison of row 2 with row 3 of Table I indicates, this tendency holds for both of our subsamples. This finding suggests that the "reasons" people have for attending to civil defense are different from those which account for interest in the other defense issues in the Table. To the extent that the above inferences are warranted, they suggest (a) that members of the civil defense public will be relatively uninterested in establishing for

*In interpreting correlational results, it is often useful to square the value of the correlation coefficient, because the resulting value, called the coefficient of determination, is more easily interpreted, i.e., it states the proportion of the total variation in the one variable(s) explained by the other(s).⁹

those with whom they communicate the relationship of civil defense to such general problems as the cold war; and (b) that the stimuli which arouse interest in members of other defense policy publics are not optimal for arousing interest in civil defense.

In order to locate predictors of membership in the civil defense policy public, we looked for the relationships between self-informedness on this issue and thirteen social group characteristics.* None of our thirteen social group traits account for as much as 4% of the variance in civil defense self-informedness for either the college graduate or less educated subsamples. The weakness of social group predictors suggests that the civil defense public is not distributed according to the traditional clusters of electoral or policy constituencies. To the extent that this inference is correct, one expects citizen members of the civil defense public to be: (a) relatively difficult to organize or involve with specially tailored policies; and (b) relatively weak even as a latent political force. The relative impotence of traditional social group variables also implies that if we want to locate citizen civil defense attentives, we will probably have to turn to variables other than demographic predictor variables. In turn, this implies that if we want to interview a well-drawn sample of members of this particular policy public, we will have to make basic innovations in the survey sampling frames now in use.

THE VALUED INTERNATIONAL FUTURE EXPLANATION

In the last section, we found that a hypothetical defense interest disposition does not have notable explanatory power for understanding variance in continental defense opinions. In this section we explore the possibility that the structure which underlies

*The characteristics are: education, income, perceived social class, political party, religious denomination, religiosity, military service, age, number of children 12 or under, number of children 13-21, number of children 21 and over, race, sex, and urban/rural.¹⁰

opinions about preferred international futures powerfully accounts for variance in opinion about active and passive defense. To the extent that we find a strong association between general international and specific defense policy opinions, the need for the latter type of information declines. Powerful prediction of opinions about defense hardware* can follow from knowledge of hypothetical dispositions toward international futures. As the reader is aware, much of the "bird talk" now in vogue ("hawk," "dove" and the thinking man's "hove") assumes such a pattern of association. For example, those who seek a domination outcome from international conflict supposedly are the hardware buyers; those who seek a conciliation or at least a non-dominant solution are against deploying more military hardware. The accuracy of such statements is an empirical question, which we can investigate for active and passive defense and simultaneously for international future preferences.

From NORC 640, we assembled a set of survey questions whose subsets pertain to: the desirability of ten different cold war outcomes; the desirability of active defense; the desirability of passive defense; and the extent of agreement between perceived personal, U.S. and Soviet disarmament preferences. (See Appendix B for a summary of the question content and the answers which are associated with the top of the response scale.) We report in Tables II and III the results of factor analyses** based on answers to these questions. Tables II and III, and the subsequent tables in this report, contain the following information: (1) identification of the opinion variable by card and column so that it can be looked up in the appendices to this report and in the data book prepared by the survey organization (see reference 7); (2) the heavy factor loadings

* We include shelters and other civil defense equipment in the category of defense hardware.

** For the technically interested reader, all the factor matrices referred to in this report are of the orthogonal rotation type.

Table II
International Future and Continental Defense Preferences
(College Graduate Subsample)

CARD	COLUMN	FACTOR							h ²
		1	2	3	4	5	6	7	
1	21				45				41
1	24				64				45
1	27				74				59
1	30					78			68
1	33		44			43			58
1	36						78		70
1	39						85		76
1	42							85	74
1	45							42	40
1	48		44						53
1	59	85							75
1	62	86							82
1	65	73							61
1	68	83							80
1	71	78							67
1	74	81							70
2	11	56							48
3	67		81						80
3	68		79						73
5	10			87					79
5	11					48			40
5	12			84					75
% of Common Variance		32.6	15.1	11.5	10.3	10.1	11.3	9.2	
% of Total Variance		20.9	9.7	7.4	6.6	6.5	7.3	5.9	

Table III
International Future and Continental Defense Preferences
(Less Educated Subsample)

CARD	COLUMN	FACTOR							h ²
		1	2	3	4	5	6	7	
1	21		52						28
1	24		63						46
1	27		71						51
1	30						50		39
1	33					70			51
1	36					58			43
1	39					62			45
1	42						88		79
1	45		67						45
1	48					70			55
1	59	85							74
1	62	84							75
1	65	77							61
1	68	85							75
1	71	79							66
1	74	79							66
2	11			47					39
3	67			85					75
3	68			88					78
5	10				87				79
5	11							95	91
5	12				88				80
% of Common Variance		31.7	13.4	13.4	11.6	13.5	3.5	7.8	
% of Total Variance		19.4	8.1	8.2	7.1	8.2	5.2	4.8	

(i.e., those greater than or equal to .40) rounded off to the second decimal digit and multiplied by 100; (3) the proportion of variance of a particular variable accounted for by the factors reported (the h^2 column); (4) the percentage of variance accounted for by a particular factor out of the amount of variance accounted for by the reported factors (the second from the bottom row); and (5) the percentage of variance accounted for by a particular factor of the total variance in the matrix (the bottom row).

Tables II and III tell us that:

(1) Continental defense opinions are not strongly associated with hypothetical dispositions to value different international futures or to perceive different patterns of agreement on disarmament. In other words, opinions on active and passive defense cluster on separate attitude dimensions. With two minor exceptions, this conclusion applies to both the college graduate and less educated subsamples. Accordingly, we are not justified in assuming that preferences for particular international futures (whether these be conflictful or peaceful) have any clear implications for the perceived desirability of weapons systems. Our data leave open the question of whether this finding is unique to continental defense or is only one instance of a lack of connection between perceptions of our military hard-war posture and evaluations of American foreign affairs objectives. If the former is the case, the disjunction we find in Tables II and III could result either from polarized views of continental defense (the method artifact noted earlier), lack of knowledge or conviction about the implications of continental defense, or beliefs that it has little to do with what one hopes the future international environment will be like. Whichever of these possibilities are correct, the immediate import of the Tables is that if we are to understand variance in continental defense opinions, we will have to search for structure within the universe of opinions about the relevant defense systems themselves. Before we do so, it seems useful to relate Tables II and III to some frequently heard assumptions about how the American public thinks about national security affairs.

(2) American preferences for alternative international futures are not structured in "hard" (victory, war, national dominance) versus "soft" (disarmament, the evolution of Community states toward Western social forms) preferences for international futures. Our data do not support the assumptions that the American people primarily relate to international tensions

in terms of dispositions toward conflict or towards conciliation. With reference to Tables II and III, if Americans did so, we would expect the hard and soft international outcomes to load heavily on the same factor(s) with opposite signs (i.e., desirability evaluations). Instead of the hypothetical dispositions which the "hawk" and "dove" labels presuppose, we find for both the college graduate and less educated subsamples, a number of clusters each of which contains a small number of international outcomes. The differences, and they are considerable, between the content of the clusters for the two subsamples need not concern us here. What is important to note is that the fragmentation is not marked by the presence of contrasting evaluations. That is, in no case do we see the loadings which suggest that Americans who see one international future as desirable tend to see another as undesirable and vice-versa. This absence of a pattern of support for/opposition to alternative futures and the presence of clusters with a small number of opinions suggests that the American people are: (a) unlikely to be sensitive to charges that, for example, arms buildup and arms reduction policies undercut each other; (b) unlikely to view the relationships between American domination of Communists and peace as a value trade-off. Since the American public relates few national security goals to each other, the probability that they will see the goals they hold as contradictory to each other is relatively low. Given the lack of relatedness in public opinion about international futures, it seems unlikely that the American people will perceive or be disturbed by government policies which are not clearly related or perhaps incompatible. Accordingly, we suggest that American public opinion as described in this section imposes only minor constraints on the official who desires to pursue a multi-faceted foreign policy. However, those officials and agitators* who argue from or try to organize support for a singular set of international future preference and opposition to all others will find it difficult to secure consistent support from the American people.

* We use the term "agitators," not pejoratively, but to designate Americans who are primarily interested in arousing public support for or opposition to policy alternatives, not in the analysis of alternatives of their implementation.

We have seen that the valued international future macro-structure does not conform to current political ornithology and does not account for variance in opinions about continental defense. Tables II and III also have a crucial implication about where we should look next for explanations which account for large amounts of variation in continental defense opinions. The Tables show that opinions about the two major components of continental defense, i.e., passive and active defense, are most thoroughly explained by distinct factors or dispositions rather than by the same factor or disposition. Accordingly, when we shift to micro-explanations of continental defense opinions, it seems useful to investigate passive and active defense opinions separately in order to establish underlying structures.

THE STRUCTURE OF PASSIVE DEFENSE OPINIONS

The opinions under analysis in this section represent responses to questions explicitly about passive defense. In order to understand these opinions and to generate implications for the study of other opinion subsets, it seems useful to look explicitly for the extent to which a number of structural concepts used by social scientists and public officials let us account for variance in the data.* We will assess the relevance of the following six structural concepts for explaining variance in passive defense opinions. In other words, we want to see the extent to which differences in passive defense opinions are a function of certain, different kinds of frameworks for organizing opinions in this issue area. For each concept, we indicate what we mean by the brief label, what data configuration signified its relevance or lack of relevance, and what import the concept, if relevant, has for our purposes.

* Social science readers may want to note that we use these concepts to ask questions of data whose collection was not designed to answer our questions. In a limited sense, these data are more appropriate for a realistic test of the relevance of the concepts than would be the results of data collection organized with them in mind. The analogy appropriate here is to the analysis of behavior observed in the field as contrasted with that of behavior stimulated in the laboratory according to a structured plan which the analyst already has in mind.¹¹

1. Options -- the disposition to appraise an issue area in terms of the policy alternatives available for handling it (e.g., evacuation, fallout shelters, blast shelters). The option concept applies when opinions cluster together in terms of particular policy alternatives or subsets of policy alternatives. If the American people are disposed to think about passive defense in terms of options, we have one necessary condition for treating public opinion as organized in policy alternative support - opposition frameworks.

2. Actors -- the disposition to appraise the issue area and/or its policy alternatives in terms of the players seen to be involved in them (e.g., oneself, neighbors, the President, the Soviet Union). The actors concept applies when opinions cluster together in terms of particular actors or subsets of actors. If the American people are disposed to think about passive defense in terms of actors, we would expect their responses to the issue area to be significantly affected by the images of the players and of the sources of communications about the policy alternatives.

3. Perceived consensus -- the disposition to treat the issue area as one in which diverse actors agree or disagree with each other (e.g., reference groups and reference individuals are seen as all agreeing or disagreeing with each other and with oneself). As we use it here, the perceived consensus concept applies when the opinions attributed to all the actors cluster together and the subsets of opinions attributed to each actor are uniformly negative or positive.* If the American people are disposed to think about passive defense in terms of the presence or absence of consensus, we have one necessary condition for treating public opinion as primarily organized in terms of affiliation with or differentiation from other Americans.

4. Responsibility locations -- the disposition to appraise the issue area and/or its policy alternatives in terms of where the obligation to cope with them is assigned (e.g., to individuals, to communities, to state governments, to the federal government). The responsibility location

* With appropriate data, it would be desirable to use alternative criteria such as--all reference individuals or all policy influentials.

concept applies when opinions cluster together in terms of parts of the political system. If the American people are disposed to think about passive defense in terms of responsibility locations, we have one necessary condition to treat public opinion as organized in terms of general beliefs in the distribution of rights and obligations within the political system, e.g., in terms of such notions as self-help and state's rights.

5. Situations -- the disposition to appraise the issue area and/or its policy alternatives in terms of the social contexts to which they might be relevant (e.g., detente, crisis). The situations concept applies when opinions cluster together in terms of a particular context or subset of contexts. If the American people are disposed to think about passive defense in terms of situations, we have one necessary condition for assuming that public opinion changes as the context within which a policy alternative is discussed alters.

6. Problem effectiveness -- the disposition to appraise the issue area and/or its policy alternatives in terms of problems recognized as centrally relevant to it. (e.g., for passive defense, implications for the probability of surviving a nuclear attack). The criteria of relevance come from the statements and actions of experts, officials and agitators about the issue area and/or its policy alternatives. The problem effectiveness concept applies when opinions cluster together in terms of a particular (or subset of) cost(s), gain(s) or cost-gain tradeoff(s). If the American people are disposed to think about passive defense in terms of problem effectiveness, we have one necessary condition for assuming that additional information about the costs or gains from a policy alternative will affect public opinion about that alternative.

We explore these different concepts of the hypothetical dispositions which may underlie passive defense opinions in two subsequent sections. The first section deals with the first five concepts; the second, with the sixth. For the first five concepts, we use three batteries of questions from NORC 110 conducted in the summer of 1963. (See Appendix C for a summary of question content and the answers which are associated with the top of the response scale.) In each of the batteries, the respondent is asked about the desirability of a similar set of passive defense

policies. Each battery includes verbal cues germane to a variety of options, responsibility locations, and situations. The difference between the batteries is that the first asks about desirability for the respondent; the second, for his or her neighbors; and the third, for the President. These differences inject variation in the actor involved and allow for a perceived consensus disposition to emerge. The factor analysis results are reported in Tables IV and V for the college graduate and less-educated subsamples, according to the rules stated when we presented Tables II and III.

Tables IV and V indicate that:

(1) Opinions cluster much more within than they do across actor categories. Americans in aggregate apparently are disposed to associate opinions involving a single actor strongly, i.e., opinion involving oneself or one's neighbors or the President. The perceived consensus concept, as indicated by the presence or absence of associations between opinions which involve several of these actors, is relatively unhelpful, especially for the college graduate subsample where only two of the nine dimensions contain opinions about the view's of more than a single actor. At least for passive defense, conformity or dissent explanations of public opinion are not particularly appropriate, and we cannot expect to make powerful predictions of the perceived preference of one actor for passive defense from the perceived preference of other actors.

(2) Opinions cluster much more by responsibility location (as indicated by source of finances) than by passive defense policy option. Americans apparently are overwhelmingly more disposed to associate the desirability of passive defense programs with the classic locations of responsibility in American political discourse (person, community, state, federal) than they are to assemble them around policy options. For example, the perceived desirabilities to self and neighbors of privately financed home fallout shelters are not in a cluster with (i.e., on the same factor as) shelters with any form of governmental financing. We draw two implications: (a) data about American opinions toward citizen-funded home fallout shelters and changes in these opinions have no strong implications for whether Americans will or will not favor other forms of

Table IV
Passive Defense Opinions
(College Graduate Subsample)

CARD	COLUMN	FACTOR									h ²
		1	2	3	4	5	6	7	8	9	
2	13				77						66
2	16	72			54						70
2	19	52									71
2	22	78									75
2	25	77									74
2	28	59									60
2	31	52						57			70
2	34				60						58
2	37	79									74
2	40	44					65				70
2	43	69									67
2	44				68						65
2	45			74							60
2	46								80		79
2	47			75							74
2	48			68							77
2	49			42							62
2	50							51			65
2	51							73			54
2	52										60
2	53			57				47			79
2	54			68			84				58
2	55					62				41	74
2	56		67								72
2	57					82					78
2	58		85								75
2	59					78					78
2	60		52							48	60
2	61		56								61
2	62									80	71
2	63		77								69
2	64		44				60				70
2	65		62								70
% of Common Variance		20.1	14.3	15.0	11.0	9.3	8.4	8.6	6.3	7.0	
% of Total Variance		13.8	9.8	10.3	7.6	6.4	5.8	5.9	4.3	4.8	

Table V
Passive Defense Opinions
(Less Educated Subsample)

CARD	COLUMN	FACTOR								h ²
		1	2	3	4	5	6	7	8	
2	13		71							60
2	16	57				40				59
2	19	47	44							52
2	22	71								66
2	25	70								63
2	28	66			43					64
2	31	64			43					64
2	34								73	71
2	37	66								57
2	40	50						61		65
2	43	68								62
2	44		81							68
2	45					66				56
2	46		56							48
2	47					71				66
2	48					65				53
2	49				73					65
2	50				66					64
2	51								78	72
2	52					58				53
2	53							77		73
2	54					48				52
2	55						69			65
2	56			74						62
2	57						78			69
2	58			80						69
2	59						56			57
2	60				66					57
2	61				62					54
2	62						49		56	60
2	63			81				65		70
2	64									62
2	65			49						47
% of Common Variance		20.1	10.6	12.6	12.7	15.0	10.6	9.5	8.9	
% of Total Variance		12.3	6.5	7.7	7.8	9.2	6.5	5.8	5.5	

passive defense shelter or shelter financing; and (b) Americans will not be responsive to arguments that they set aside the problem of "who pays" when deciding if passive defense is desirable or undesirable.

The major implication of both findings 1 and 2 above is that the American people are disposed to think of passive defense in terms customarily applied to domestic, but not to external, policy. Passive defense is not thought of in terms of the national collectivity vis-a-vis other nations, but in terms of the relationships between parts of the American system. The evidence for a lack of "collectiveness" in citizen thinking in this issue area is the data in Tables IV and V which show that neither opinions involving several actors nor all the responsibility locations in our federal system are strongly associated (account for large amounts of variance). If we are correct in inferring that passive defense is evaluated in domestic issue terms, we can expect Americans to be sensitive to the plethora of concerns about payment, administrative honesty and efficiency, and personal benefits that are common in discussions of welfare programs. We can also expect American appraisals of passive defense to be relatively insensitive to (a) notions of self-sacrifice; (b) actions of foreign governments (e.g., level of Soviet passive defense); and (c) arguments that passive defense, like other defense programs, is the only way to buy the security essential for achieving all other national goals.

(3) Opinions about the only passive defense policy in our survey questions which is specific to a situation (crisis) cluster together, but not with policies whose context is not stated. Specifically, respondent's opinions about how desirable different actors think evacuation is in "tense situations" load on a distinct factor. This is true for both the college graduate and the less-educated subsamples. This pattern seems to us an instance of a disposition to use situational rather than option concepts, i.e., an appraisal of a passive defense policy in relation to possible and imminent disaster. This finding implies that a more extensive set of questions which specify situations might locate a structure or hypothetical disposition far more powerful than those of particular actors and responsibility locations.

We can now turn to the sixth type of concept -- problem effectiveness. The questions available pertain to the extent to which passive defense desirability opinions are related to "insurance" implications, i.e., to aspects of surviving a nuclear attack. Of course, if Americans primarily assess the problem effectiveness of passive defense in terms of consequences for deterrence (i.e., avoiding a nuclear attack), the data we use here are irrelevant. Our analysis is based on the three desirability batteries manipulated above and a fourth set of questions about the probabilities of physical survival (of self and of nation) and cultural survival (of American values and of civilization). The findings reported come from similar sets of factor matrices for the college graduate and the less educated subsamples. For each subsample, we generated three orthogonal rotation matrices: personal desirability - survival, neighbor desirability - survival, and presidential desirability - survival.

(4) Opinions about the desirability of passive defense are not related to opinions about surviving a nuclear attack. Not even one member from each of these variable subsets loads heavily on the same factor in any of the three "less educated" matrices. The exceptions to this finding for the college graduate subsample are minor, although these are interesting and will be discussed below. Since the American people are not disposed to evaluate passive defense in terms of its survival implications, the state of American opinions about nuclear war survival or changes in that state have no clear implications for American opinions about the desirability of passive defense.

The absence of association which we report above raises several important questions about the prospects for popular support of passive defense. These questions seem sufficiently important to state here, even if we do not now have analyses to answer them. If Americans do not see passive defense as desirable on insurance grounds (i.e., as helping them to survive deterrence failure), on what grounds might they see it as competitive with or prior to other national security policies? Other recurrent bases for evaluating national security policies are how effectively the policy prevents war or defeats (harms) an enemy in war. Passive defense would not seem to be as attractive a policy on the latter two bases as offensive general and conventional war forces and arms control programs. If Americans

place civil defense in the domain of domestic issues, we ask on what bases it might be seen as competitive with or prior to other peacetime domestic welfare policies? Here it seems difficult to envision it as competitive by itself, although it might be "carried in on the coattails" of a peacetime facility (e.g., urban transportation) which might be judged as competitively effective.

(5) The two exceptions to finding 4 suggest that Americans most probably aware of national policy (i.e., college graduates) are disposed to use a problem effectiveness concept when the U.S. government has adopted a passive defense option. The exceptions in our data occur on one factor in each of two college graduate subsample matrices: personal desirability-survival, and presidential desirability-survival. In the first exception, appraisals of the desirability of the marking-stocking program are positively associated with the probability of physical survival. That is, if Americans are for the program, they think that they can, in the most literal sense, survive nuclear attack; if they are against the program, they do not. In the second and rather surprising exception, the perceived desirability of marking-stocking and of school shelters to the President is negatively associated with the chances for cultural survival. That is, if Americans thought that the President was for these two programs, they also thought that Americans would not perform credibly under the stress of nuclear attack and that American values would not survive nuclear attack. If they thought that the President did not want these programs, they had more optimistic survival expectations. The data in Table IV do not indicate whether the relevance of the problem effectiveness concept would increase: (a) for less-educated persons if they were aware of current government passive defense policy; and/or (b) for college graduates if the government were to adopt other passive defense options.

In sum, we argue that the structure of American public passive defense opinion is fundamentally that of a "domestic" issue area. We have already shown how findings 1 and 2 imply this conclusion. The general lack of association between the desirability of passive defense and the "insurance" concept (which we do not consider a "domestic" idea) is compatible with our principal conclusion. However, findings 3 and 5

imply that the "domestic" concept is less relevant in international crisis situations and in cases where the passive defense option has become government policy. At this point we do not know whether these modifications operate only for the specific instances noted above or are more general.

STRUCTURE OF ACTIVE DEFENSE OPINIONS

In our analysis of the structure of active defense opinions, we use four concepts from the previous section which are relevant to the active defense survey data. The concepts are:

1. Options;
2. Actors;
3. Situations;
4. Problem Effectiveness.

For each concept, the definition and the general implications are the same as those stated earlier. However, the operational indicators of these concepts have active rather than passive defense content, the exact nature of which will be stated as we discuss the relevance of the different concepts.

To explore the structure of American public active defense opinions, we use 55 questions from NORC 640. The questions ask for appraisals of: the desirability of an urban ABM deployment, the nature of the nuclear war threat, Soviet targeting priorities, the quality of existing American active defense, the interaction between active and passive defense, the consequences of ABM deployment for peace and arms control, the consequences of ABM deployment for the climate of American national security attitudes, citizen reaction to possible local costs of deployment, and citizen reaction to deployment around some cities and not others. (See Appendix D for a summary of the content of questions and the answers which are associated with the top of the response scales.) We factor analyzed the correlations between the responses to the questions by members of the college graduate and less-educated subsamples, respectively. The matrices are presented in Tables VI and VII according to the rules stated for Tables II and III.

TABLE VI
ACTIVE DEFENSE OPINIONS
(College Graduate Subsample)

CARD	COLUMN	FACTOR														h ²
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1	50					74										69
1	53									75						69
1	54									72						69
1	69-70										47					40
1	71												42			56
2	37														72	77
2	38										78					68
2	39														75	74
2	40-1				84											75
2	42-3				79											75
2	44-5				75											72
2	52	84														85
2	53	93														91
2	54	94														91
2	55	87														81
2	56	94														92
2	57	89														88
2	58	94														92
2	59	93														91
2	60	68														77
2	61	57														64
3	26			48										42		61
3	67	64														75
3	68	75														74

TABLE VI (Cont.)

CARD	COLUMN	FACTOR														h ²
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
5	06													40		53
5	20															46
5	22							72								74
5	23							-53								55
5	24							-66								69
5	25							-69								59
5	26															63
5	27		79													74
5	28		64						42							66
5	29		47													60
5	30		71													63
5	31		73													63
5	32													-44		66
5	33										42					55
5	34		59													63
5	35											74				75
5	36											74				76
5	37								74							66
5	38													77		73
5	39													48		71
5	40												75			67
5	41													54		66
5	42						90									85
5	43															63

TABLE VI (Cont.)

CARD	COLUMN	FACTOR														h ²
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
5	44			57												73
5	45			77												72
5	46			80												70
5	47												-71			73
5	48						92									86
5	49															59
5	50			76												72
% of Common Variance		25.2	9.5	9.6	6.0	3.8	6.0	5.4	4.3	4.7	4.2	5.4	5.2	6.4	4.3	
% of Total Variance		17.7	6.7	6.7	4.1	2.7	4.3	3.8	3.1	3.3	3.0	3.8	3.6	4.5	3.1	

TABLE VII
ACTIVE DEFENSE OPINIONS
(Less Educated Subsample)

CARD	COLUMN	FACTOR															h ²
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	50													66			55
1	53										75						66
1	54										78						67
1	69-70															75	61
1	71															66	55
2	37							82									81
2	38												94				89
2	39							81									82
2	40-1				80												67
2	42-3				83												70
2	44-5				77												61
2	52	64															58
2	53	90															86
2	54	91															86
2	55	82															73
2	56	90															85
2	57	88															83
2	58	91															88
2	59	90															87
2	60					77											75
2	61					75											70
3	26			48													59
3	67					52											56
3	68	55															57
5	06													72			62
5	20																23
5	22						70										62
5	23						78										64
5	24																47

TABLE VII (Cont.)

CARD	COLUMN	FACTOR															h ²
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
5	25						59										53
5	26						56										50
5	27		70														54
5	28		63														51
5	29		50														39
5	30		70														55
5	31		69														53
5	32																55
5	33																55
5	34		59														46
5	35											82					74
5	36											81					73
5	37			58						40							61
5	38									63							53
5	39									60					52		50
5	40									50							50
5	41																51
5	42								89								81
5	43														69		56
5	44			78													64
5	45			73													61
5	46			54													41
5	47									67							64
5	48								89								82
5	49									62							57
5	50			62													63
% of Common Variance		20.8	8.6	8.6	5.9	7.4	5.7	4.5	5.1	8.4	4.1	5.6	3.6	3.8	4.3	3.8	
% of Total Variance		13.1	5.4	5.4	3.7	4.7	3.6	2.8	3.2	5.3	2.6	3.5	2.2	2.4	2.7	2.4	

(1) American active defense opinions fragment into a large number of clusters in each of which there are only a few opinions, and therefore we cannot predict from one opinion about active defense to many other opinions about active defense. The American people either are not disposed and/or do not have the concepts to organize their views of this complex area in terms of a few major considerations. We base this complex area in terms of a few major considerations. We base this inference on the presence of 14 factors in the college graduate and 15 in the less-educated factor tables. This finding severely limits the degree of relevance that any of our four concepts can be expected to have. The reason is that, given the range of question content, relatively few questions pertain to any one concept. Accordingly, indicators of any one concept cannot dominate 14 or 15 opinion clusters. What we can look for is the extent to which (a) opinions which pertain to a particular concept are strongly related with and only with other opinions that pertain to that concept; and (b) opinions pertinent to a particular concept are strongly related to the dependent variable of principle interest, i.e., the desirability of deploying anti-ballistic missiles around American cities.

(2) Opinions about a particular option are strongly related to other opinions about that option, but not to opinions about other options. The options on which Tables VI and VII bear are urban deployment of ABM and a fallout shelter program to accompany ABM deployment. This finding needs to be related to conclusions in earlier sections of this report. First, the lack of relatedness between opinions about the two options supports the conclusion in the section on VALUED INTERNATIONAL FUTURE that the American people do not think in terms of a comprehensive continental defense posture; they tend to treat active defense as distinct from passive defense. Second, the greater relevance of the policy option concept to active, as opposed to passive, defense opinions may indicate that Americans are disposed to use it when the options placed before them are very general and not to use it when specific programs, the differences between which may be apparent only to those extremely well-informed about an issue area, are placed before them.

(3) Opinions which involve a particular actor are likely to be related only to other opinions about that actor, but not to all

of these. As with passive defense, there seems to be no cultural consensus about an integrated image of particular actors -- whether these are the Russians, the "enemy," or the self. We also have no strong evidence that the American public generalize their appraisals of one actor to another, or even see one actor as responsive to another in any patterned way. In other words, we do not tend to find opinions about more than one actor in the same cluster, i.e., loading heavily on the same factor -- with one exception, there are no patterned associations between the properties attributed to several actors.

(4) Opinions which involve a situational ingredient are likely to be related only to other opinions with the same ingredient, but not to all of these. Our questions refer to responses to two situations: residence in a city which has ABM protection and residence in a city which does not. This finding implies that the American people have no culturally shared, powerfully integrated image of these situations. Accordingly, their opinions about how they would feel if they lived in a protected or unprotected city are probably not a reliable basis for predicting how they will feel if such situations occur. In terms of Dollard's classic criteria for predicting behavior from opinions,¹² we are discussing here an instance of opinions which were elicited about situations for which Americans as an aggregate have inadequate images. In other words, should these situations occur, the public will confront elements which they did not take account of in the formation of their present opinions.

(5) When we look at the interactions between the problem effectiveness concept and our data, we find that:

- (a) Opinions about the implications of ABM for a particular problem are associated with some of the other opinions about implications for that problem (if they are strongly related to any other opinions), but these are not related to the desirability of ABM deployment.
- (b) With one interesting exception, opinions about the implications of ABM deployment for different problems are not related.

- (c) Opinions about the desirability of ABM if it is accompanied by certain costs are related to opinions about the desirability of ABM, costs and gains unspecified.

These three findings suggest the following conclusions. The American people seem disposed to use the problem effectiveness concept in at least a fragmentary way, i.e., they put some implications of ABM for certain problems together (finding a). However, as an aggregate, their effectiveness appraisals do not account for variance in their "summary" desirability judgments about urban ABM deployment (finding a). This finding and the data on which it is based do not let us decide whether this is because Americans do not use problem effectiveness elements as critical elements to arrive at decisions about an option or because they are using other problem effectiveness appraisals which the survey questions did not measure. This disjunction between appraisals of ballistic missile defense and appraisals of costs and gains occurs for an extensive set of problems, problems which those of us interested in strategic analysis surely find important for evaluating the desirability of ABM deployment. These problems are: the consequences of nuclear attack and what the Soviets will try to destroy if they do attack; the adequacy of current defenses; the arms race and arms control; deterrence of a potential attacker; the relative rate of improvement in offense and defense; the climate of American national security concerns; and personal feelings toward nuclear attack and defense against it. Finding (b) implies that citizens also do not tend to relate the perceived implications for several of these problems. Finally, finding (c) suggests that the degree to which Americans want an ABM deployment seems to be dispositional, i.e., constant across a range of contingencies which involve local inconvenience (costs) and alternative levels of intercept capability (gains).

On the basis of these conclusions, we can suggest still other inferences. First, since the desirability of ABM does not depend in any clearly patterned way on our alternative measures of its expected effectiveness, changes in American public perception of the probability of any of the large number of costs and gains which ABM deployment may have are not likely to have strong implications for the desirability

of ABM to the public. Second, changes in the implications perceived for any one of the problems listed above do not clearly require changes in the implications perceived for other problems. Third, public support for ABM does not seem to depend on the level of anticipated interception performance, a question central to the discussions of experts.

Fourth, we suggest that the data reported in Tables IV and V, particularly the lack of relatedness between desirabilities and probabilities, reflect general dispositions among the American people toward national security affairs. The dispositions hypothesized below should be regarded as hypotheses compatible with, but not directly supported by, the data presented in Tables VI and VIII. Three hypothetical dispositions seem particularly important to us, and we will state these in propositional form.

(a) The American people are disposed to assume a division of labor with regard to thinking about national security affairs. They may believe that it is for the public to organize their views in terms of personal preferences and willingness to accept directly felt costs, e.g., local inconveniences. Experts and/or responsible officials are supposed to estimate probable consequences whose range extends beyond the life-space of the citizen and to relate these to each other and to policy alternatives. To the extent that this disposition operates on American public opinion about active defense, we would expect to find just what we have reported above. Citizen opinions are strongly related in terms of policy desirability and acceptability of direct effects; problems are scattered and in no clear pattern of association with policy preferences. In other words, our dispositional hypothesis represents a set of implicit reasons for the empirical finding. These are that Americans believe that in some ways it is inappropriate or unrewarding for them to think about complex and removed implications of national security policies and feel that they have discharged their proper obligations and exercised their proper rights without doing so.

(b) The American people are disposed to hold blanket beliefs about the desirability of acquiring complex technologies; mechanical gadgets are viewed as magical in either a beneficial or harmful sense.

If this disposition is present, opinions about the desirability of the weapons system do not need to be systematically related to its probable problem effectiveness. Technology is "good" or "bad" in general. If it is good in general or if it is bad in general, American opinions about the desirability of acquiring weapons in general should be the same as those on acquiring weapons at different levels of cost and performance. The data in Tables VI and VII are compatible with this hypothesis.

(c) The American people are disposed to reduce anxiety about deterrence failure by not relating opinions about the desirability of active defense (and, in large part, passive defense) to opinions about the problems presented by nuclear weapons. Although the data in Tables VI and VII reveal this lack of relatedness clearly and are therefore compatible with our anxiety-reduction hypothesis, they are also compatible with alternative hypotheses. We offer this hypothesis even more tentatively than the previous two.

This hypothesis depends on the following reasoning. Let us start by assuming that the American people (i) believe that if nuclear weapons are used, they will be catastrophic in their effects; and (ii) are unable to tolerate the possibility that they are vulnerable to a threat of this magnitude. These two assumptions create a situation in which no association between active defense and the nuclear threat is credible and tolerable. If we review the possible forms of association, this conclusion becomes clearer. To the extent that desirability appraisals of ABM are efficacy appraisals, seeing ABM as efficacious is not credible in relation to images of the nuclear threat. However, seeing ABM as not efficacious and nuclear war as catastrophic are not tolerable beliefs if they are related. The individual can avoid both of these dilemmas by not relating beliefs about the desirability of ABM and nuclear war problems.

APPENDIX A
CRITERIA FOR A FINDING

(From: Lesley Kish. Survey Sampling, New York: John Wiley, 1965, p. 588)

"Statistical intervals based on standard errors can also be translated to construct common tests of significance of null hypotheses (D. R. Cox, 1958). However, I think that those tests are especially inappropriate when applied to the results of large sample surveys. Yates (1951), after appraising Fisher's classic Statistical Methods, makes the following observations on the use of tests of significance:

"Second, and more important, it has caused scientific research workers to pay undue attention to the results of the tests of significance they perform on their data, particularly data derived from experiments, and too little to the estimates of the magnitude of the effects they are investigating.

"Nevertheless the occasions, even in research work, in which quantitative data are collected solely with the object of proving or disproving a given hypothesis are relatively rare. Usually quantitative estimates and fiducial limits are required. Tests of significance are preliminary or ancillary.

"The emphasis on tests of significance, and the consideration of the results of each experiment in isolation, have had the unfortunate consequence that scientific workers have often regarded the execution of a test of significance on an experiment as the ultimate objective. Results are significant or not significant and this is the end of it.

"Yates' remarks about research in general apply even more forcefully to the results of large sample surveys. If the sample is large enough, the weakest and least significant relationship will appear 'statistically significant,' if tested. The results of statistical 'tests of significance' are functions of the numbers of sampling units, as well as of the magnitude of the relationships being tested. The word significance in 'tests of significance' has contributed, I think, to their common misuse for measuring meaningful relations." (Kish, 1959)

"Tests of null hypotheses of zero differences, of no relationships, are frequently weak, perhaps trivial, statements of the

APPENDIX A (Continued)

researcher's aims. In place of the test of zero difference, the nullst of null hypotheses, it is more meaningful to measure the magnitudes of the relationships, attaching proper statements of their sampling variation. The magnitudes of relationships cannot be measured by levels of significance; they can be measured by the difference of two means, or by the proportion of the total variance 'explained,' by coefficients of correlation and regression, by measures of association, and so on.

"Null hypotheses of no difference are usually known to be false before the data are collected; when they are, their rejection or acceptance simply reflects the size of the sample and the power of the test, and is not a contribution to science." (I. R. Savage, 1957)

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APPENDIX B
INTERNATIONAL FUTURE - CONTINENTAL DEFENSE VARIABLES

CARD	COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
1	21	The cold war will continue indefinitely, no end is in sight at all? (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Want To Happen.
1	24	The whole world will become Communistic by people accepting Communism? (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Want To Happen.
1	27	By revolutions, civil wars and small wars, the Communists will come to power in the whole world? (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Want To Happen.
1	30	World War III will end the cold war? (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Want To Happen.

CARD	COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
1	33	The Communists are going to lose due to revolutions, civil wars, and small wars in Communist nations? (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Want To Happen.
1	36	The Communists will accept the Western way of life, and the Communist powers will become like the United States, Great Britain or Sweden? (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Like To Happen.
1	39	The cold war will end through disarmament or reconciliation? (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Like To Happen.
1	42	A third force will emerge in the world able to control the actions of the Communist nations as well as of the United States? (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Like To Happen.

CAFD	COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
1	45	The United States will have to surrender without war because of the development of such weapons by Communist nations that the U.S. could not possibly win. (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Like To Happen.
1	48	The Communist nations will have to surrender without war because of the development of such new weapons by the United States that the Communists could not possibly win? (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Want To Happen.
1	59	All available spaces which provide good protection against fallout will be marked as shelters and stocked with everything necessary for survival. (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Want To Happen.
1	62	There will be fallout shelters available for all Americans, existing spaces will be used, other spaces will be altered to provide protection, and as needed, new fallout shelters will be built? (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Want To Happen.

CARD	COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
1	65	In tense situations which might precede a war, communities near military bases--plus some large cities--will evacuate their people to safer areas where fallout shelters will be available. (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Want To Happen.
1	68	There will be fallout shelters throughout the nation, and also shelters against nuclear blast, heat, and chemical and biological agents in large cities. (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Want To Happen.
1	71	In addition to shelters and existing defenses against bombers, there will be defenses against ballistic missiles around our large cities and military installations? (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Want To Happen.

CARD	COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
1	74	There will be a program for the federal government to pay part of the costs of putting fallout shelters in buildings constructed by non-profit organizations, such as hospitals and schools? (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = An Event The Respondent Would Very Much Want To Happen.
2	11	In general, how do you yourself feel about fallout shelters--Are you strongly in favor of them, somewhat in favor, somewhat opposed, or strongly opposed to them?	Highest = Strongly Opposed.
3	67	With some of the information that you now have, how desirable is it to put anti-missile missiles around our cities? (This statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event.)	Highest = Very Desirable.
3	68	How desirable is it to put anti-missile missiles around your city (city, or cities, nearest you)? (This statement printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = Very Desirable.

CARD	COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
5	10	Constructed index of agreement between perceived personal and Russian desirability of disarmament situations.	Highest = No Agreement.
5	11	Constructed index of agreement between perceived personal and United States desirability of disarmament situations.	Highest = No Agreement.
5	12	Constructed index of agreement between perceived U.S. and Russian desirability of disarmament situations.	Highest = No Agreement.

APPENDIX C
PASSIVE DEFENSE VARIABLES

CARD	PROBLEM COLUMN	PERSONAL DESIRABILITY COLUMN	NEIGHBOR DESIRABILITY COLUMN	PRESIDENTIAL DESIRABILITY COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
2	11-12	13	44	55	Most American families will provide themselves with fallout shelters at their own expense.	Highest = An Event The Respondent Would Very Much Want To Happen.
2	14-15	16	45	56	Most American families will have family fallout shelters with financial help from the government.	Highest = An Event The Respondent Considers Certain Or Just About Certain To Happen.
2	17-18	19	46	57	At their own expense, most cities and towns will provide fallout shelters for their people.	Highest = An Event The Respondent Considers Certain Or Just About Certain To Happen.
2	20-21	22	47	58	With federal aid most communities will provide public fallout shelters to house everyone.	Highest = An Event The Respondent Considers Certain Or Just About Certain To Happen.
2	23-24	25	48	59	With state aid most communities will provide public fallout shelters to house everyone.	Highest = An Event The Respondent Considers Certain Or Just About Certain To Happen.
2	26-27	28	49	60	Schools throughout the United States will have fallout shelters.	Highest = An Event The Respondent Considers Certain Or Just About Certain To Happen.

CARD	PROBLEM COLUMN	PERSONAL DESIRABILITY COLUMN	NEIGHBOR DESIRABILITY COLUMN	PRESIDENTIAL DESIRABILITY COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
2	29-30	31	50	61	Most existing spaces which provide good protection against fallout will be marked as shelters, and stocked with everything necessary for survival.	Highest = An Event The Respondent Considers Certain Or Just About Certain To Happen.
2	32-33	34	51	62	A Federal law will require certain new buildings to include fallout shelters. The builder will pay for this shelter.	Highest = An Event The Respondent Would Very Much Want To Happen.
2	35-36	37	52	63	A Federal law will require certain new buildings to include fallout shelters, federal aid will be given for this added cost.	Highest = An Event The Respondent Would Very Much Want To Happen.
2	38-39	40	53	64	In tense situations which might precede a war, communities near military bases--plus some large cities--will evacuate their people to safer areas where fallout shelters will be available.	Highest = An Event The Respondent Would Very Much Want To Happen.
2	41-42	43	54	65	There will be a program to build not only shelters against fallout but also shelters against nuclear blast, heat and biological and chemical agents.	Highest = An Event The Respondent Considers Certain Or Just About Certain To Happen.

APPENDIX D
PASSIVE DEFENSE VARIABLES

CARD	COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
1	50	How much do you, yourself, worry about the possibility of a nuclear attack on the United States--A great deal, some, only a little, or not at all?	Highest = Not At All
1	53	In case of nuclear war, how great a danger do you think there is that the area around here would be a target--a certain danger, great danger, some danger, little danger, or no danger at all?	Highest = No Danger At All
1	54	If a nuclear war started next week, how good are the chances that people around here would survive--very good, fairly good, fairly bad, or very bad?	Highest = Very Bad
1	69-70	In addition to shelters and existing defense against bombers, there will be defenses against ballistic missiles around our large cities and military installations?	Highest = An Event The Respondent Considers Certain Or Just About Certain To Happen.
1	71	In addition to shelters and existing defense against bombers, there will be defenses against ballistic missiles around our large cities and military installations?	Highest = An Event The Respondent Would Very Much Want To Happen.

CARD	COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
2	37	Destroying our factories and transportation centers? (Respondent handed card with this and three other possible enemy objectives in the event of a major war printed on it. Asked to rank the cards in order according to which he thinks the enemy would consider his most important objective, next most, etc.)	Highest = Least Important
2	38	Destroying our cities? (Respondent handed card with this and three other possible enemy objectives in the event of a major war printed on it. Asked to rank the cards in order according to which he thinks the enemy would consider most important objectives, next most, etc.)	Highest = Least Important
2	39	Destroying our people? (Respondent handed card with this and three other possible enemy objectives in the event of a major war printed on it. Asked to rank the cards in order according to which he thinks the enemy would consider most important objectives, next most, etc.)	Highest = Least Important
2	40-41	How good are our defenses against enemy bombers?	Highest = Our Defenses Against Nuclear Attack Are Very Good Or Almost Perfect.
2	42-43	How good are our defenses against guided missiles?	Highest = Our Defenses Against Nuclear Attack Are Very Good Or Almost Perfect.

CARD	COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
2	52	How desirable is it to put anti-missile missiles around all larger cities in America. (Respondent given card with scale indicating how desirable or wanted something is.)	Highest = Very Desirable
2	53	(If not extremely undesirable to put anti-missile missiles around all larger cities in America) How desirable is it to put anti-missiles around your city (The city, or cities, nearest you)? (Respondent given card with scale indicating how desirable or wanted something is.)	Highest = Very Desirable.
2	54	(If not extremely undesirable to put anti-missile missiles around all larger cities in America) How desirable is it even if real estate values went down a little because of it? (Respondent given card with scale indicating how desirable or wanted something is.)	Highest = Very Desirable.
2	55	(If not extremely undesirable to put anti-missile missiles around all larger cities in America) Even if it involves some risk that these missiles could be fired by accident (How desirable then)? (Respondent given card with scale indicating how desirable or wanted something is.)	Highest = Very Desirable.

CARD	COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
2	56	(If not extremely undesirable to put anti-missile missiles around all larger cities in America) How desirable is it to put anti-missile missiles around our cities even though the radar to go with these missiles may cause poor television reception around here? (Respondent given card with scale indicating how desirable or wanted something is.)	Highest = Very Desirable.
2	57	(If not extremely undesirable to put anti-missile missiles around all larger cities in America) How about shelters? How desirable is it to put anti-missile missiles around our cities if it means that we must set up shelters for everyone? (Respondent given card with scale indicating how desirable or wanted something is).	Highest = Very Desirable.
2	58	(If not extremely undesirable to put anti-missile missiles around all larger cities in America) How desirable is it to go ahead even though there might be some local opposition to putting anti-missile missiles around some cities? (Respondent given card with scale indicating how desirable or wanted something is.)	Highest = Very Desirable.
2	59	(If not extremely undesirable to put anti-missile missiles around all larger cities in America) Even if they take up a lot of acres that could be used differently, how desirable is it to put anti-missile missiles around our cities? (Respondent given card with scale indicating how desirable or wanted something is.)	Highest = Very Desirable.

CARD	COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
2	60	If you knew that these anti-missile missiles could shoot down just about all enemy missiles attacking a city, maybe nine out of ten, how desirable is it to put such weapons around cities? (Respondent given card with scale indicating how desirable or wanted something is.)	Highest = Very Desirable.
2	61	(If doesn't see as extremely undesirable installation around cities of anti-missile missiles that could shoot down all or almost all attacking enemy missiles) and suppose you knew that they could shoot down about one out of three enemy missiles (then how desirable is it to put such weapons around cities)? (Respondent given card with scale indicating how desirable or wanted something is.)	Highest = Very Desirable.
3	26	Not all cities might be defended by anti-missile missiles. Would you rather live in a city, or near one, that is defended by anti-missile missiles or in a city that does not have any such anti-missile missile around it?	Highest = In Unprotected City.
3	67	With some of the information that you now have, how desirable is it to put anti-missile missiles around our cities? (This statement printed on a card, could be placed in one of seven pockets according to how desirable the respondent considered the occurrence of the event.)	Highest = Very Desirable.

CARD	COLUMN	QUESTION	DIRECTION OF RESPONSE SCALE
3	68	How desirable is it to put anti-missile missiles around your city (city, or cities, nearest you), (this statement, printed on a card, could be placed into one of seven pockets according to how desirable the respondent considered the occurrence of the event to be.)	Highest = Very Desirable.
5	6	If another world war should come, when do you think it would happen--within six months, within the next year or two, within five years, ten years, twenty years, or even more?	Highest = Over Twenty Years.
5	20	Of all the things listed on this card, which do you think is the most likely way a world war would be fought if it should come?	Highest = No Nuclear Weapons Be Used At All And The War Would Be Fought By Conventional Means.
5	22	If we have anti-missile missiles around our cities, there will be less need for fallout shelters? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree
5	23	If we have anti-missile missiles around our cities, we will need fallout shelters even more than we need them now? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree

CARD	COLUMN	DESCRIPTION	DIRECTION OF RESPONSE SCALE
5	24	There is no need for anti-missile missiles or for fallout shelters? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	25	If we have such missiles around our cities, we should have shelters to protect people against fallout because some enemy weapons will get through the defense anyway? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	26	Even if cities are defended, enemy attacks on them would produce lots of fallout, so anti-missile missiles make sense only if we have fallout shelters for everyone? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	27	Putting anti-missile missiles around our cities will make people think that war is more likely? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.

CARD	COLUMN	DESCRIPTION	DIRECTION OF RESPONSE SCALE
5	28	Such missiles will make the Russians think that we are going to start a war. Therefore, they might start one? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	29	These missiles will give Americans a false sense of security? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	30	Anti-missile missiles will make Americans more anxious? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	31	Anti-missile missiles will lead to a stepping up of the arms race? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	32	Such missiles will cost too much money to be worth while? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	33	New offensive weapons will soon put anti-missile missiles out of date, so it really is not worth having them? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.

CARD	COLUMN	DESCRIPTION	DIRECTION OF RESPONSE SCALE
5	34	Putting in anti-missile missiles makes it more difficult to reach agreements on arms control and disarmaments? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	35	Anti-missile missiles will make America stronger, and an enemy will be even less likely to attack us than without these missiles? (Respondent handed card with categories and asked to choose one.)	Highest = Strongly Disagree.
5	36	With such missiles around our cities, an enemy will be less likely to try to push us around than he might otherwise do? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	37	(Assuming live in or near city that has anti-missile missiles) I would feel guilty to be in a defended city when other Americans are not defended as well. (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	38	(Assuming live in or near a city that has anti-missile missiles) I would feel that I want to move out of the city? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.

CARD	COLUMN	DESCRIPTION	DIRECTION OF RESPONSE SCALE
5	39	(Assuming live in or near a city that has anti-missile missiles) I would feel lucky that my city is better protected than some other city? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	40	(Assuming live in or near a city that has anti-missile missiles) I would feel worried living in a defended city when other cities are not defended by missiles, because this would mean that my city will surely be attacked in the event of war? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	41	(Assuming live in or near a city that has anti-missile missiles) I would feel angry, because I am opposed to having anti-missile missiles around here. (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	42	(Assuming live in or near a city that has anti-missile missiles) I would feel that I can do nothing about the missiles? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.

CARD	COLUMN	DESCRIPTION	DIRECTION OF RESPONSE SCALE
5	43	(Assuming live in or near a city that has anti-missile missiles) I would feel more secure than if I were living in a city that is not protected with anti-missile missiles? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	44	(Assuming live in a city that does not have anti-missile missile defenses when some other cities do have them) I would feel that it is unfair that some cities are defended when my city is not? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	45	(Assuming live in a city that does not have anti-missile missile defenses when some other cities do have them) I would feel that I want to move to a defended city? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	46	(Assuming live in a city that does not have anti-missile missile defenses when some other cities do have them) I would feel more worried than if I were in a city that is protected by anti-missile missiles. (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.

CARD	COLUMN	DESCRIPTION	DIRECTION OF RESPONSE SCALE
5	47	(Assuming live in a city that does not have anti-missile missile defenses when some other cities do have them), I would feel more secure living in an undefended city because this would mean that my city might not be attacked in the event of a war? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	48	(Assuming live in a city that does not have anti-missile missile defenses when some other cities do have them) I would feel that I can do nothing about the missiles? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	49	(Assuming live in a city that does not have anti-missile missile defenses when some other cities do have them) I would feel lucky that I don't have to put up with missiles around here? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.
5	50	(Assuming live in a city that does not have anti-missile missile defenses when some other cities do have them) I would feel that I ought to do something to make sure that my city also gets missiles like other cities? (Respondent handed card with categories printed on it and asked to choose one.)	Highest = Strongly Disagree.

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