DEPARTMENT OF SOCIOLOGY
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PERCEIVED EFFECTIVENESS OF AMERICA'S DEFENSES

BY

DOROTHY V. BRODIE

FOR

OFFICE OF CIVIL DEFENSE
OFFICE OF THE SECRETARY OF THE ARMY

RESEARCH SUBTASK 48-21-C
OCD-PS-64-61

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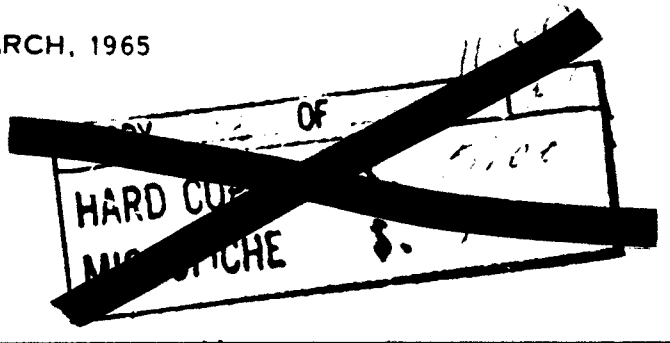

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A SUMMARY

OF

IMPACTS RESEARCH

THE OBJECTIVES OF IMPACTS RESEARCH. The Office of Civil Defense is charged with the responsibility of provision of a system to protect life and property in the United States in the event of an enemy attack. In an era where such an attack may assume the form of a massive nuclear strike at the American homeland, the technological and organizational requirements levied upon such a protective system are unprecedented. The vast scope of both the threat and the nation's response to that threat raises two fundamental questions concerning the impact of the threat on the American social system and possible responses to that threat. These can be summarily expressed as:

1. What are the possible and what are the likely consequences of alternative civil defense systems for the American as an individual and for his social structure and its values, institutions, and functions?
2. What is the societal context into which alternative CD systems would be introduced? What are the nature and dynamics of public and institutional support, opinion, and information?

Research on the impact of Civil Defense on society must address itself to the specification of these fundamental questions and to provision of responsible answers within the constraints of available information and methodologies. Where present information and methodologies are not adequate this must be spelled out and criteria established for the development of future studies as may be required. An innovation of the magnitude of a comprehensive Civil Defense program will have definite and pervasive consequences for the individual as well as the larger society, as, indeed, does any major effort on behalf of the public welfare. It will not be possible to determine fully all possible and probable effects of the proposal,

introduction and implementation of a variety of alternative CD systems with existing social science techniques and methodologies. But, within these limits, some answers can be provided and the boundaries of our ignorance delineated.

In addition to evolution of methodologies for present and future application, impacts research has been concerned with a variety of substantive inquiries. Some of these are listed below.

1. What is the nature of the public controversy centered around Civil Defense and related Cold War issues?
2. Provision of a general frame of reference for the specification of the acceptance process of any major system innovation and the application of this paradigm to Civil Defense.
3. What is the present perception of the American public of the consequences of Civil Defense for certain basic personal and social values?
4. What are the social institutions and customs upon which <u>any</u> innovating federal program might have an impact of consequence? What might be the impact of a variety of alternative CD programs be on each component of such a check list?
5. What is the flow and dynamic of information and opinion concerning Civil Defense and Cold War issues? Who are the opinion influentials that may determine acceptance and support of a program?
6. Are there ecological and socio-structural differences in American society with regard to Civil Defense and Cold War issues?
7. Have there been any trends over time with regard to selected CD and Cold War issues?

8. What has been the American perception of the threat and the response to it to date?

THE METHODOLOGY OF IMPACTS RESEARCH. As comprehensive an endeavor as the examination of present and future impacts of existing and possible innovations for a complex social structure necessarily entails a wide range and variety of methodology and associated techniques. Concepts and approaches have been drawn from system design, sociology, economics and political science and have been implemented via a number of specific support technologies including statistical and computer applications. The integration of this diversity has been effected in terms of the relationship among elements of system design criteria with structural sociological theory, especially in terms of Dr. Firi Nehnevajsa's Outcomes methodology. Part One of the 1963 final report, Civil Defense and Society provides an extensive overview of impacts methodology.

Some specific techniques and their applications are listed below. In addition to the social-science oriented modes of data collection and analysis which comprise the core of impacts research, reference has also been made where necessary to "hard" data that comprise the "reality" of nuclear war and Civil Defense programs.

Content Analysis. For a five year publication period, an extensive literature search was made in professional and lay journals, books, etc., to extract all major propositions and arguments bearing on Civil Defense systems, their implementation and postulated impact on society. Specific propositional statements concerning Civil Defense and its possible relation to American traits and values were abstracted and codified. These formed the base of the opposition-acceptance paradigm of the final report, Civil Defense and Society.

In addition to the examination of the available literature, an ongoing compilation of news and editorial content of a number of American newspapers is being conducted on all aspects of Civil Defense, the Cold War, and military technology.

Survey Research. The Data Bank of the Research Office of Sociology contains some 400 study references and approximately 300,000 IBM punch cards from surveys containing material of interest to impacts research. In addition to OCD sponsored studies, this file includes material dating back to the nineteen-forties from surveys conducted by the American Institute of Public Opinion, the National Opinion Research Center, the University of Minnesota and others. This material is essential for assessment of the direct impact of issues, events and programs on the American public. The range and scope of the date available permit a wide range of analysis both over time and topic.

Historiography. The Research Office staff includes an historian who applies the special techniques of his discipline in a variety of applications, including the tracing of American value patterns and the investigation of archival materials.

The final result of the application of the above methodologies is to be a mapping of the American value system and social structure, for the present and to some distance into the future, with regard to the relevant stress elements that may pertain to the innovation of alternative CD systems. Once identified, a variety of techniques will be applied to specify the consequences of proposal, adoption and implementation of CD alternatives into such system environments.

EFFECTIVENESS. The report on Threat Perception specifies the acceptability of the initial system goals of possible CD systems. Perceived Effectiveness of America's Defenses examines the effectiveness attributed by Americans to past, present and future defense systems. Once consensus has been established on the nature of the overall objectives of a proposed system, the next critical issue for its adoption and implementation is its capability to attain these objectives. The very nature of Civil Defense systems necessarily requires any judgement of their effectiveness to be estimates. By the time any CD system would be operationally tested, it would be far too late to modify it. In such a context, the effectiveness perceived by those the system is to service assumes greater than usual importance. Not only are people unlikely to support a system they think ineffective, regardless of the "realities" of the situation, but they are also unlikely to attempt to use such a system, thus rendering it ineffective no matter what its assumed technological capability.

Fortunately, Americans have, over time, had confidence in the defenses provided them by their government. There appear to be no major schisms in the American social structure with regard to such estimates of effectiveness. There also emerges a rather high level of realism in recent public assessments of the nature of the threat and of what comprises an effective response to that threat. Fallout is seen as the prime threat posed by the possibility of nuclear war and fallout shelters are seen as a viable, if not total, response to that threat.

Successful implementation of an innovative system must occure in a context where it is felt not only that "something should be done" but also that "something can be done.". Generally, such appears to be the case.

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ABSTRACT

The public's opinions about the effectiveness of America's defenses have considerable impact on the implementation of an effective civil defense system. Attributed effectiveness was examined, therefore, for effects it may have on public acceptance of civil defense programs.

The analysis of defense effectiveness included the public's estimates of America's active defense capability; their estimates of passive defense capability, entailing the consideration of evacuation programs, shelters, warning time problems, evaluation of local civil defense programs, consideration of the cost effectiveness question, and estimates of effectiveness of civil defense programs against types of weapons' effects. Because of the growing importance in national policy planning of the interactions between civil defense and active defense systems, the need for an analysis of these two in combination is quite clear.

Available public opinion on the above issues was specified for various sample populations. This data was drawn from the University of Pittsburgh's data bank which contains a collection of empirical studies on attitudes concerning civil defense. The core of the analysis was the discrete identification of these populations along such social and personal attributes such as education, geographical location, religion, age, socio-economic status, etc. Within limitations of the data, a trend analysis establishing the basic chronology of public opinion on the major issues was provided.

The research supports the fact that the American public has, over the years, had confidence in the country's active defense system and that it would be effective against enemy attack. Under close examination, when defenses against specific types of enemy measures were evaluated, we found little significant sub-group differences. The majority of people, no matter what their place in the social structure, consider our missile and bomber defense to be quite effective. If a summary statement had to be made about low estimates of our missile and bomber defense capability, we could say that they tend to be associated with: higher levels of education, higher status occupations such as professional, sales, and managerial; older age levels; higher levels of perceived world tensions; and a pessimistic view about chances for survival in people's local communities.

It should be remembered that any differences found are only a matter of degree rather than direction of opinion. The majority of people consider our missile and bomber defense to be very effective.

In early studies, in the '50s, the public expressed little need for civil defense when they thought an effective active defense program was in existence. Recent data, however, show that there is not a total reliance upon active defenses. And, in its place, we find that people have realized a need for civil defense measures as companions to active defense programs.

Only a small proportion of the nation considered evacuation seriously, even during its era of relative popularity in the 1950s. An important factor, obviously, is the reluctance of people to favor any program which entails leaving one's home, family and familiar surroundings.

There is evidence to show that Americans feel that fallout shelters enhance survival. The proportion of the population with this opinion has increased over the years. Expressions of shelter ineffectiveness in later studies tend to correlate with higher levels of education; no political party preference; older age levels; residents of large metropolitan areas; and, people residing in the New England and Middle Atlantic states.

By employing more analytic variables in our examination, we found that people who think survival chances, even if housed in fallout shelters, would be bad, are more likely to be those who worry little about a nuclear war; and, subsequently, feel another World War is unlikely; feel that if war occurs, all nuclear weapons would be used at once; expect less than fifteen minutes warning time; expect certain or great local danger in case of an attack; view shelters unfavorably; and, are reluctant to use shelters in the event of an attack.

Examination of the warning time expected by the public revealed that, over the years, people have increased their estimates of the amount of time they expect.

There is some evidence to suggest that a sizeable portion of the public has not been satisfied with the civil defense efforts in their local communities. It is difficult to determine whether this is a result of a lack of civil defense activity or whether it stems from ineffective communication between local civil defense officials and the residents of the community.

The public feels that something can be done to protect against the secondary effects of thermonuclear warfare. Most people consider fallout shelters to be one answer, as long as they are far enough away to escape the blast effects. It appears to be widely held that nothing much can be done to protect against blast and heat.

I. INTRODUCTION

Since the advent of enemy nuclear capability, in 1949, the American public has been aware that the prospect of war entails the threat of a nuclear attack on its homeland. How much confidence does the public have in the total defense system? Do they consider the system effective? The answers to these and a number of related questions must be examined closely in the decision-making process associated with implementing an effective civil defense policy in the United States. For, differential levels of confidence in America's defenses result in differing levels of popular support for the programs that comprise the total defense system. The examination of these questions shall be the purpose of this report.

This process requires that information be available regarding the population's opinions about the effectiveness of the perceived system even though an extensive nation-wide program may not actually be operational. We believe the system assessed by the public is perceived rather than objective. In the 1963 University of Pittsburgh nation-wide study of attitudes toward the Cold War and civil defense, the respondents were asked how much they thought the nation was spending annually for civil defense. The respondents, as a whole, gave estimates which were drastically higher than what civil defense programs actually have been costing. The data pointed out that sizeable portions of the population were suggesting programs which exceeded the $1 billion yearly range; and, many, about one in five, thought that the government's civil defense spending was more than $4 billion annually. At that time, i.e., 1963, these cost levels only went with the most elaborate civil defense systems thus far seriously considered by the government and had not been actually proposed for Congressional adoption.[1] We have no recent data on hand that would lead us to conclude that the public's estimates are any different now than they were in 1963; therefore, we conclude that the population, as a whole, feels that a more elaborate system has been implemented than actually does exist.

Before an analysis of effectiveness can be undertaken, a working definition of what we have termed "total defense system" must be specified. For the purposes of this report, a total defense system against a strategic enemy attack is that which operates to hinder the efficacy of an attack and/or mitigates the consequences of that attack. Since we are dealing only with that which gets the country through the period of hostility, the terminal situation of a post-war environment is excluded from our definition.

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1. Nehnevajsa, Jiri - "Cost of Civil Defense: A Study of Public Views," in Nehnevajsa, Jiri et al., Some Public Views on Civil Defense Programs, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, December, 1964.

An analysis of the effectiveness attributed to the total defense system of the United States, therefore, must consider the specific programs which attempt to satisfy the goals of the system as we have so defined it. In this report, we shall use the public's estimates of effectiveness to examine the following questions:

1. How good are our active defenses (anti-aircraft and anti-missile defense systems)? Evaluations of civil defense programs in relation to active defense systems will be included.

2. How good are our passive defenses? This will include the following topics:

   a. evaluation of evacuation programs

   b. evaluation of fallout shelters

   c. consideration of warning time problems

   d. evaluation of local civil defense programs

   e. consideration of the cost effectiveness question

   f. effectiveness of civil defense programs against types of weapons effects.

Because of the growing importance in national policy planning of the interactions between civil defense and active defense systems, the need for an analysis of these two in combination is quite clear.

Before a detailed analysis is conducted on these topics, a preliminary examination is necessary. This, therefore, is the object of this report. The core of the analysis will be a multi-variate examination of the data using such demographic variables as age, sex, religion, geographic location, political preference, etc., and other variables whenever they seem pertinent. Also, whenever the data permit, we shall provide a trend analysis establishing the basic chronology of public opinion on the major issues to be considered in this report.

A thorough examination was made of the available empirical data in the data bank of the Research Office of Sociology at the University of Pittsburgh. Relevant information was extracted and reproduced. A variety of public opinion studies were the source of this data. These include community samples and nation-wide probability samples. Whenever possible, national samples have been the focus of our analysis. Not only was our analysis based upon published reports but also upon a number of studies for which

we have the actual data, i.e., cards, tapes, etc. For instance, all data used from the American Institute of Public Opinion was obtained from the Roper Public Opinion Research Center at Williams College, Williamstown, Massachusetts. At the end of each major section of this report, the pertinent tables are collected and are referenced in the body of the text by the table number. In addition to the bibliographic reference at the foot of each table, a fully annotated list of citations is included, alphabetized by title source. Directly underneath the bibliographic material of each of these annotated citations is a short statement of sample size and design and the actual date of data collection.

II. ACTIVE DEFENSES

The nature of the threat that an enemy poses to our country has changed since World War II. During the 1950s, our active defense system was designed to hinder the efficacy of an enemy bomber attack. Anti-aircraft installations and interceptor aircraft were the operational components of the system. Defense against bombers is still an important consideration; but, since 1960, there has been concern with enemy missile capability. Today, surface-to-air missiles such as the Nike series, in addition to anti-aircraft installations and interceptor aircraft, are the operational parts of the current system.

Therefore, during the past 10-15 years, the active defense system being assessed by Americans in public opinion studies has changed according to the change in the nature of the threat. But, this change has not been as drastic as some people perceive it to have been. In the University of Pittsburgh's 1964 nation-wide study of attitudes toward the Cold War and civil defense, the respondents were asked the following question: "As far as you know, does the United States already have these anti-missile missiles ready for action?" Eighty-seven percent of the interviewees who answered the question responded in the affirmative.[2] But, as recently as June of 1964, the current status of the anti-missile missile system was described as follows:

> "The development of defensive systems has now reached the point at which serious decisions have to be made. It is not enough to repeat the slogan 'there is no defense' and leave it at that. The engineers now offer us systems which have a definite, although limited, military effectiveness. Until now, all the work on anti-missile missiles has been developmental; that is, design and construction of prototype models only. The question which now faces us is whether to deploy; that is, whether to build an operational system for the actual defense of our cities."[3]

Therefore, even though an operational anti-missile missile system is non-existent, a substantially large proportion of the American people perceive it to be ready for action. Keeping this in mind, then, the public's estimates of effectiveness should be assessed with some caution.

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2. Civil Defense and Cold War Attitudes: Data Book for the 1964 National Probability Sample, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, December, 1964, p. 57.

3. Dyson, Freeman J. "Defense Against Ballistic Missiles", Bulletin of the Atomic Scientists, June, 1964, quoted in Public Opinion and Ballistic Missile Defense, TEMPO, General Electric Company, September 30, 1964.

A. Chronology of Opinion

A survey of available public opinion data for the past fourteen years points up the fact that the American people have considered our active defenses to be generally effective over the years. In September and October, 1950, a study was conducted by the Survey Research Center of the University of Michigan in the eleven largest cities of the United States in which the respondents were asked the following question:

> "All in all, would you say the Army and Air Forces could protect our cities completely, protect them from heavy damage, or wouldn't be able to prevent heavy damage?"

About four in ten respondents said that the Army and Air Force could, at least, prevent heavy damage in cities (Table 1). In probing for reasons why they estimated the effectiveness of the Armed Forces as they did, it was found that confidence in the Army and Air Force was cited, most frequently, as a reason for belief. Thirty percent of the respondents said that our defenses were good (Table 2).

When the belief in Armed Forces' protection was examined more closely in relation to expectations of bombing, it was found that as atomic bombing of cities was seen as being more unlikely, confidence in the protective ability of the Armed Forces became greater. And, as shown in Table 3, as bombing of cities is seen as more likely, the lack of confidence in the Army and Air Force's protective ability increases substantially. (Thirty-nine percent of people who felt cities were certain to be bombed said that the Army and Air Force could not prevent heavy damage as compared to 17 percent of people who felt bombing of cities was unlikely.)

In this 1950 study, there was a strong inverse relationship between confidence in the protective ability of the Armed Forces and need for civil defense. Table 4 shows that as confidence in the Armed Forces increased, from poor protection to complete protection, there was a definite decrease in the number of people who felt there was a strong need for civil defense (from 30 percent to 11 percent, respectively).

A similar relation exists when willingness to give time for civil defense work was examined by confidence in the Armed Forces (Table 5). Fifty-two percent of people with the belief that our Armed Forces could only protect our cities poorly were willing to give time for civil defense work whereas only 41 percent of those who felt they would have complete protection said they would give time for such a cause. Table 5 summarizes these findings.

In summary, then, of this 1950 study, it was found that 48 percent of the total sample felt that the Armed Forces could give complete

protection or prevent heavy damage from air attacks on cities. These people were less likely than others to express a need for civil defense and, also, were less willing to give time for civil defense work. That is, civil defense was of little importance when there was confidence in the active defense system.

In a subsequent study conducted during the summer of 1951 in the same eleven largest cities of the U.S., with the sample extended to include the suburban area surrounding these cities, the Survey Research Center of the University of Michigan found that confidence in our Armed Forces increased from their 1950 study. Sixty-eight percent of the respondents felt that the Army, Navy, and Air Force could give our cities complete protection or protection from heavy damage as compared to the 48 percent with this belief one year earlier. In addition, there was a significant decline in the proportion of the sample that was uncertain. Table 6 summarizes these findings.

A question similar to the one pertaining to the need for civil defense asked in the 1950 study was asked of the respondents in the 1951 sample. The interviewees were asked to assess the importance of civil defense as a community problem (Table 7). And, similar to the findings of the 1950 study, the proportion of those people who felt that the Armed Forces could give complete protection from air attacks who rated civil defense first or second was much smaller (29 percent) than those who felt that the Armed Forces would not prevent heavy damage (50 percent) or those who felt that heavy damage would be prevented but complete protection would not be possible (53 percent).

In a nation-wide study conducted by the American Institute of Public Opinion in 1953, the findings of the 1950 and 1951 studies of the University of Michigan were replicated. There were 1545 respondents asked: "Do you think Russia would be able, now, to knock out the United States with a surprise all-out atom bomb attack?" Note here that this question is somewhat different from the question asked in the previous studies cited here. For the first time, the type of weapon is mentioned--atom bomb. However, it is primarily measuring the estimate of the effectiveness of our defenses at that time--the same intent of the Michigan questions.

The results were as follows:

Yes	17.2 percent
No	71.8 percent
No opinion	10.5 percent
Other	0.5 percent

More than seven out of every ten persons answering this question expressed confidence in our defenses.[4]

In March, 1954, the University of Michigan conducted their fourth civil defense study, this time on a national sample. (Their third study, done in April, 1952, is not included in this report although some of the findings of this study are summarized in the material extracted from the 1954 report.) In an attempt to assess the public's confidence in America's military defense, the researchers asked the following question of the respondents. Table 8 presents the results.

> "Suppose that enemy planes tried to make a surprise attack on the U.S. How many of the enemy planes do you think would get through and bomb our cities? Would you think most of them would get through, only a few would get through or what?"

The majority of the population felt that attrition of the enemy bombers involved would be substantially great. Sixty percent of the sample in 1952 and 50 percent in 1954 felt that one-third or less of the bombers would get through. This confidence in our military defense is a widespread feeling occurring among both metropolitan and rural residents (Table 9).

Those who lacked confidence in our military defense, i.e., who felt that one-half to more than two-thirds of the enemy planes would get through in case of an attack, were, generally, people with higher education (past high school) and, related to this, in the professional and managerial occupation classes. As would be expected, there was a steady increase in the number of people with this opinion as one moved up the income scale. Men tended to be somewhat less confident than women, and, people under 20 years of age and over 65 expressed more confidence in our military defenses than did those respondents in the other age brackets.[5]

In March, 1963, the Bureau of Applied Social Research at Colombia University conducted a study in nine northeastern communities in which they asked the following questions:

> Q. 34 As far as you know, can the United States successfully defend itself against a nuclear missile attack?

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4. A.I.P.O., 517, July, 1953, (Unpublished).

5. Survey of Public Knowledge and Attitudes Concerning Civil Defense, Survey Research Center, Institute for Social Research, University of Michigan, September, 1954, pp. 146-148.

It can be seen in Table 10 that 71 percent of the 1380 respondents who answered the question expressed confidence in our military defenses by responding in the affirmative. For the first time, we are dealing with the idea of a nuclear missile attack. This, however, did not change the respondents' attitudes toward our defense system. They were as confident, if not more so, that our defenses were effective against nuclear missiles as they had been about the defense against plane-delivered bombs.

Those who said that the United States could successfully defend itself against a nuclear missile attack were asked how. Table 10 points out that our active defense systems were cited by only 25 percent of these respondents. Our retaliatory or deterrent forces were mentioned by 48 percent and 35 percent responded with a general expression of faith or confidence in our ability to defend ourselves but mentioned nothing specific.

We cannot say this particular effectiveness evaluation is solely in terms of defense measures in an ongoing attack which is what we are really trying to measure. The public thinks of defense as the sum total of capability of all forces. The public has confidence in deterrent strategy. This is evident when we review the findings of the preceding question. Twenty-five percent of the respondents cited active defense systems as means by which the U.S. could successfully defend itself against a nuclear missile attack. Forty-eight percent mentioned our retaliatory or deterrent forces.

B. Descriptive Analysis of Perceived Effectiveness

During the summer of 1964, the Research Office of Sociology of the University of Pittsburgh conducted a nation-wide survey to probe information levels and attitudes in the general public regarding civil defense, active defense systems such as ballistic missile defense and certain other related issues. The interviewees were asked to express their opinions about the current capabilities of United States' defenses against three types of enemy attack--bombers, guided missiles and submarines. Table 11 summarizes these opinions.

Defenses against each of the three types of enemy attack were rated along an eleven-point scale ranging from zero, if the respondents thought the defenses were very bad, to ten which represented very good or almost perfect defense. The majority of the sample thought defenses against enemy attack, no matter which of the three types considered, to be quite effective (Table 11).

For clarity in our analysis, we have combined the response categories to obtain three degrees of effectiveness--low (ratings 0 through and including 3), medium (4 through and including 6), and high (ratings 7 through and including 10). Analysis of the public's estimates

of United States' defense capability will be based on these three groups--low, medium, and high effectiveness.

Although as previously mentioned, the majority of respondents found our defenses effective no matter what the type of attack, we find in Table 12 that, while more than eight in ten Americans consider enemy bomber defense to be quite effective, fewer people consider missile and submarine defenses to be as good (65 percent and 69 percent, respectively). Also, missile defense was considered ineffective by more people (10 percent) than bomber defense (3 percent) and submarine defense (7 percent).

By employing certain demographic characteristics such as size of residence, geographic location, race, age, marital status, political party affiliation and others, we shall try to identify that portion of the public who feel our defenses are poor. This will, at the same time, make possible the identification of the majority of the population who expressed confidence in our defense system. Due to the unspecified nature of the question about enemy submarines, we shall treat that data only marginally and not submit it to detailed analysis.

Few significant subgroup differences exist in the estimates of effectiveness of our defense against enemy bombers and missiles. And, those that do occur in relation to the defense against enemy guided missiles. This could be a function of the public's confusion regarding the issue of anti-missile missiles. There has been effective publicity about enemy bomber attacks and defenses against them which has resulted in a crystallization of public opinion on the topic of bomber defense. This is not the case with the missile defense issue.

Size of community makes little difference in the respondents' estimates of effectiveness of bomber defense. The percentage of respondents ranking bomber defense low in effectiveness for each community size is quite small in number; and, conversely, in each of the city breakdowns, more than 80 percent of the residents feel that this defense is quite good (Table 13).

The respondents' estimates of effectiveness of the defense against enemy missiles differ, but only slightly. Of all those people residing in the largest of the metropolitan areas such as New York City, Philadelphia, Chicago, St. Louis, Los Angeles, and others, 12 percent feel that missile defense is rather poor while 10 percent of those residing in other metropolitan cities, 9 percent in areas with a city of 10,000 or more and 10 percent in areas with no city of 10,000 feel that way. Also, fewer residents in these largest metropolitan areas rate missile defense as being highly effective--61 percent (Table 13).

When we consider where these people live, slight differences do occur. Table 14 provides the geographical distribution of the respondents relative to their estimates of effectiveness of missile and bomber defenses. More people residing in Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut (the New England states) rate bomber defense low in capability than in any other section of the country (7 percent). But, in all except the East South Central states, more than 80 percent of the residents feel that the bomber defense is quite good.

More people living in the South Atlantic states (Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia and Florida) and the New England states consider the defense against enemy missiles to be poor than do those residing in other areas of the country (14 percent and 12 percent, respectively). Similarly, fewer people in these two areas of the country think missile defense is highly effective (70 percent of the respondents in each of the two areas). Once again, people in the East South Central section of the country do not consider this type of defense as effective as do the rest of the respondents. Fifty-eight percent of these people say that missile defense is highly effective; this is 7 percentage points below the national figure of 65 percent (Table 12).

There are sharp racial differences among estimates of bomber defense effectiveness. The percentage of Negroes that give a 0 through 3 rating to this defense is more than double the proportion of whites (7 percent as opposed to 3 percent). And, 14 percent of the Negroes sampled said that missile defense was low in effectiveness as compared to 10 percent of whites sampled.

Little difference exists when bomber defense capability is characterized by sex; but, the percentage of men that rate the missile defense low on the scale is double the proportion of women (14 percent compared to 7 percent). Also, the percentage of women that consider this defense highly effective is 15 percentage points more than the proportion of men who think so (71 percent as opposed to 56 percent).

No sharp pattern emerges when we examine effectiveness by age group. However, Table 15 points out the fact that there is <u>some</u> relation between age and estimates of effectiveness both for bomber and missile defense. More people from 20-29 years of age find the bomber defense highly effective (87 percent) as compared to 74 percent of those 70 years of age and older. Similarly, confidence in the missile defense declines as age increases. (Eighty-two percent of the 10-19 age group and 69 percent of the 20-29 year olds rate this defense highly effective as opposed to 60 percent of the 50-69 year olds and 63 percent of respondents who are 70 years of age and older.)

People who are married find bomber defense more effective than do people never married, divorced, widowed, and separated. Eighty-four percent of the married respondents ranked the bomber defense capability high as opposed to 78 percent of those never married, 78 percent divorced, 81 percent of the widowed, and 83 percent of people separated. However, the differences are rather small. More of the people who are separated rank missile defense as highly effective than those with other marital status (Table 16).

Confidence in missile defense is inversely related to amount of education (Table 17). As the amount of education increases, estimates of missile defense capability decline. Twenty-three percent of people having higher than a college education feel that United States' missile defense is rather ineffective as compared to 10 percent of the people with no schooling or just grammar school, 8 percent with some high school, and 8 percent of those who have completed high school. No clear pattern emerges when we examine bomber defense by education. However, as stated previously, this could be a result of a greater degree of public knowledge-ability on the topic of defense against enemy bombers.

Two variables which are closely related to education are income and occupation. The inverse relationship between education and estimates of missile defense capability is replicated when we examine missile defense by occupation (Table 18). More people in the professional, sales, and managerial occupation classifications (14 percent, 17 percent and 14 percent, respectively) estimate a low degree of effectiveness of the U.S. missile defense than people in the other categories. This, also, seems to hold true for bomber defense although the differences between occupation classes are somewhat smaller.

Similarly, more people at the upper end of the income range, i.e., $10,000 a year and over, rank missile defense at the low end of the effectiveness scale and, conversely, fewer of these people show up at the upper end of this scale. Table 19 summarizes these results.

We have found, therefore, that low estimates of missile defense capability tend to be associated with:

- higher levels of education
- higher status occupations such as professional, sales, and managerial
- older age levels
- and, slightly related to the Northeast and South Atlantic areas of the country.

For reasons already discussed, estimates of bomber defense are not as discretely defined by these descriptive variables as are estimates of missile defense capability.

From the discussion of the University of Pittsburgh's 1964 study, we have a very general concept of the kinds of people, small in number, who view the U.S. bomber and missile defense programs as lacking in effectiveness. Their place in the social structure has been vaguely defined. But, obviously we have not been able to discover any reasons with which we can explain their opinions. Are these few people in our society anxious about the prospect of a nuclear attack on the United States? Do they feel that World War III will be a reality in the near future? Because of their place of residence, are they fearful of being a target for the enemy? Could these be reasons for questioning the effectiveness of our active defense system?

We might expect that people who lack confidence in our active defense system are those who perceive an extremely tense world situation. That is, people who objectively assess world affairs as being tense might feel that our active defenses could not offset the armed conflict they anticipate. On the other hand, people assessing the world situation as being low in tensions might feel that our defenses would be quite effective because an armed conflict is quite improbable.

Table 20 presents the results when we examine perceived tension levels by estimates of bomber and missile defense effectiveness, as measured by the 1964 University of Pittsburgh National Survey. Our speculation holds true when we look at confidence in bomber defense. That is, more people with a low degree of confidence in bomber defense feel that the level of world tensions is high (74 percent) as opposed to 54 percent of those with a medium degree of confidence in bomber defense and 59 percent with a high degree of confidence. However, the pattern of responses for missiles is not as clear. There are more people of the low effectiveness group who assess the world situation as being highly tense (57 percent) than there are of the medium effectiveness category (53 percent). But, more of those who assign a high degree of confidence in our missile defense assess the world situation as being highly tense (61 percent) than either of these two groups.

In the same study, when asked how much they worried about the possibility of a nuclear attack on the United States, more people who expressed little confidence in our bomber defense said they worried just a little or not at all than did people having more confidence. Conversely, less of them worried some or a great deal than those having more confidence (Table 21). Table 21 also

shows that 47 percent of the respondents who said our missile defense was good worried at least some about nuclear war as compared to 39 percent of people who felt it was only fair and 40 percent who said it was poor.

No matter how effective the public feels our bomber and missile defenses are, the majority of the people feel that another World War is unlikely (Table 22). However, it is interesting to note that in trying to identify people who feel it is likely, we find more people who assess missile defense capability as being good who feel this way than others.

Differences do exist when we examine perceived local danger by estimates of defense effectiveness. Table 23 shows that of all those people who assess the effectiveness of bomber defense as low, 59 percent say that there is certain or great danger that their area would be a target. This is compared to 47 percent of the people who have a fair degree of confidence in our bomber defense and 55 percent expressing a high degree of confidence. Similarly, more of those lacking confidence in our missile defense say that there is certain or great danger that their area would be hit than of those with medium or high confidence levels (Table 23).

Not only do more people lacking confidence in the active defense system feel that their area is likely to be hit, they, also, have a pessimistic view about the chances for survival in their local communities (Table 24). Seventy-three percent of people having a low degree of confidence in bomber defense feel that chances for survival in their area would be fairly bad, very bad or none at all as compared to 65 percent having a fair amount of confidence and 62 percent having a great deal of confidence. The difference is not as dramatic for missile defense (67 percent, 64 percent, and 62 percent, respectively).

A third factor should be introduced into the analysis to see if it does serve an explanatory function. Size of residence seems to operate directly upon the perceived degree of local danger in case of a nuclear attack. Table 25 shows that of all people residing in the largest metropolitan areas and other metropolitan areas, 74 percent and 62 percent respectively feel that there is, at least, a great danger that their city would be a target. Note that in the two smaller places of residence, the proportion of people who feel this way is substantially less (32 percent in each).

Size of residence seems to operate upon chances for survival, also. More urban residents see their chances for surviving nuclear attack as bad or nonexistent than do rural people (76 percent in the largest metropolitan areas, 65 percent in other

metropolitan areas, 51 percent in areas with a city of 10,000 or more, and 52 percent in areas without a city of 10,000). Table 26 presents this data.

If we look again at Table 13, we see that people's estimates of effectiveness did not vary significantly according to size of residence. Even though more people with a lack of confidence in our active defense system feel that their city would be a target and that chances for survival would be bad; and in examining the demographic characteristics of the people in our sample who answered that their city would be a likely target and chances for survival would be bad, we find that they reside in the largest metropolitan areas and other metropolitan areas, we cannot conclude that, therefore, people who lack confidence in our military defense system reside in these areas. Table 13 does not support this. Further investigation of this seems warranted.

The respondents were asked to rank four different objectives an enemy might have when planning an attack. The four purposes were destroying our military bases, destroying our factories and transportation centers, destroying our cities, and destroying our people. Most people rank destruction of military bases and destruction of factories and transportation centers as most important or next most important enemy targets, no matter what the level of effectiveness attributed to bomber and missile defense.

Most people ranked the destruction of cities as third in importance to the enemy (Table 27). But, if we look more closely, we see that more of those with little confidence in our missile defense (28 percent) rank the destruction of cities as either most important or next most important to the enemy than those with a fair amount of confidence or those with a great deal of confidence in our missile defense. This same relationship holds when we consider defense against enemy bombers. However, the differences are not as great.

Table 28 shows that the difference among levels of confidence is quite striking. Fourteen percent of those respondents with a low degree of confidence in bomber defense feel that destroying our people is the most important objective to the enemy. Moreover, the number of people lacking confidence in missile defense who rank this as the most important objective is double that of either those with a fair amount of confidence or a great deal of confidence (10 percent compared to 5 percent and 6 percent, respectively).

One last variable should be employed here to see if further differences can be identified. All respondents were asked to agree or disagree with the following statement: "Such missiles will cost too much money to be worthwhile." Missiles, here, refer

to the United States' anti-missile missile program. Table 29 shows that for both bomber defense and missile defense, more of those lacking confidence either strongly agree or agree with the statement than in the other two levels of confidence. In all cases, however, the majority of people tend to disagree with the statement.

C. Relation of Civil Defense to Active Defense Systems

The preceding discussion of active defenses is valuable, in and of itself. However, for purposes of this report and in light of our objectives stated in the Introduction, we are most interested in active defenses in relation to civil defense measures. We have found that, over the past fourteen years, people have generally considered active defense measures to be quite effective. In the early '50s, people placed their confidence in active defenses and saw very little need for civil defense measures. However, we think it should follow that as the nature of the threat has changed, i.e., changes in the types of weapons from bombs to guided missiles, people have realized that total reliance upon active defense measures is foolhardy and have begun to feel more of a need for certain of the civil defense measures.

In the 1964 University of Pittsburgh study, some measures of the public's feelings about active defenses in relation to civil defense were obtained. Table 30 shows that when asked to agree or disagree with the statement, "If we have anti-missile missiles around our cities, there will be less need for fallout shelters," 42 percent agreed and 46 percent disagreed. Twelve percent of the respondents were undecided. The respondents were then asked: "If we have anti-missile missiles around our cities, we will need fallout shelters even more than we need them now." The response pattern was almost identical to the previous statement. Forty-one percent agreed with the statement; 46 percent disagreed and 13 percent were undecided (Table 31).

When asked to agree or disagree with the statement, "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," 84 percent of the respondents agreed (Table 32). And, when presented with, "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," 64 percent either agreed or agreed strongly (Table 33).

We find, then, that when conditions are spelled out, that is, when it is explained why there would be fallout around our cities, even with anti-missile missiles installed, most people agreed that

there is a definite need for shelters as a companion to anti-missile missiles. This seems to reflect some confusion about anti-missile missiles. If the public knew what they were, how they worked, etc., they would have responded differently when asked initially about them and fallout shelters. (It was already pointed out that the public thinks an anti-missile missile program is operational when, in fact, it is not).

In summary, then, there is evidence that the American public consistently has had confidence in this country's active defense system. However, there is a question as to whether they are indeed evaluating defenses in an ongoing attack or whether they are expressing confidence in our retaliatory and deterrent strategy.

Under close examination, when defenses against specific types of enemy measures were evaluated, we found little significant sub-group differences. The majority of people, no matter what their place in the social structure, consider our missile and bomber defense to be quite effective.

In an attempt to identify those people who did express a lack of confidence in missile and bomber defense, we found that low estimates of effectiveness tend to be associated with: higher levels of education; higher status occupations such as professional, sales, and managerial; older age levels; higher levels of perceived world tensions; and a pessimistic view about chances for survival. It is important to remember, however, that these differences are only a matter of degree rather than direction of opinion.

In the early '50s, people who felt that active defenses could give fairly good protection from attacks on cities were less likely than others to express a need for civil defense. Recent data, however, show that the public feel there is a definite need for certain civil defense measures as companions to an effective active defense system.

II. ACTIVE DEFENSES

Table 1

Table 23

"All in all, would you say the Army and Air Forces could protect our cities completely, protect them from heavy damage, or wouldn't be able to prevent heavy damage?"

Protect completely	9%
Prevent heavy damage	39
It depends	4
Not prevent heavy damage	21
No protection at all	2
Don't know	11
Not ascertained	14
	100%

Public Thinking About Atomic Warfare and Civil Defense, Public Affairs Group, Survey Research Center, Institute for Social Research, University of Michigan, January, 1951, p. 49.

Table 2

Table 24

Reasons for Belief and Lack of Belief
in Protective Ability of Armed Forces

Reasons for belief in defense	
Our defenses -- Army, Air Force -- are good; they have shown they're good; confidence in them	30%
United States well prepared; enough and good equipment, planes	23
American manpower good, adequate; trained, high calibre	11
Radar will detect the enemy	5
Reasons for lack of belief in defense	
American defenses not developed enough yet; not enough equipment, radar	14
United States hasn't enough men for this job	2
American military inefficiency	2
Russia well prepared; fast, many, good planes	4
Russia would strike without warning; sneak attack	2
Sabotage; Russia will sneak in bombs	1
No complete defense possible	10
Don't know	8
Not ascertained	14
	*

* The total is more than 100 percent because some respondents gave more than one reason.

Public Thinking About Atomic Warfare and Civil Defense, Public Affairs Group, rvey Research Center, Institute for Social Research, University of Michigan, January, 1951, p. 50.

Table 3

Table 26

Relation between Expectation of Bombing and Belief in Armed Forces' Protection

In case of war, our Army and Air Force could:	"Do you think our cities are likely to be hit with atomic bombs?" Certain, very likely	Likely	Depends, unlikely
Protect cities completely or prevent heavy damage	47%	56%	63%
Not prevent heavy damage or give no protection at all	39	30	17
Don't know; not ascertained; it depends	14	14	20
	100%	100%	100%
Percent of total sample	15	46	31

Public Thinking About Atomic Warfare and Civil Defense, Public Affairs Group, Survey Research Center, Institute for Social Research, University of Michigan, January, 1951, p. 53.

Table 4

Table 69

Relation between Expectations of Protection and Feelings of Need for Civil Defense

Feeling of need for civil defense	To what extent could our armed forces protect our cities from air attack damage? Completely	Moderately (prevent heavy damage)	Poorly (not prevent heavy damage)	Don't know
Strong	11%	22%	30%	13%
Moderate	70	69	55	62
Weak	13	6	11	13
Don't know	3	1	*	6
Not ascertained	3	2	4	6
	100%	100%	100%	100%
Percent of total sample	9	39	27	11

* Less than half of one percent.

Public Thinking About Atomic Warfare and Civil Defense, Public Affairs Group, Survey Research Center, Institute for Social Research, University of Michigan, January, 1951, p. 109.

Table 5

Table 131

Relation between Willingness to Participate in Civil Defense and Belief in Protection from Air Attacks

Willingness to give time for civil defense work	"To what extent could our armed forces protect our cities from air attack damage?" Completely	Moderately (prevent heavy damage)	Poorly (not prevent heavy damage)	Don't know
Willing	41%	45%	52%	34%
Mixed feelings	19	26	24	17
Unwilling	30	22	20	38
Don't know	--	--	1	2
Not ascertained	10	7	3	9
	100%	100%	100%	100%

Public Thinking About Atomic Warfare and Civil Defense, Public Affairs Group, Survey Research Center, Institute for Social Research, University of Michigan, January, 1951, p. 200.

Table 6

Table 11

"All in all, would you say the Army, Navy, and Air Forces could give our cities complete protection, protect them from heavy damage, or wouldn't be able to prevent heavy damage?"

	September 1950	August 1951
Complete protection	9%	16%
Prevent heavy damage	39	52
Depends	4	1
Not prevent heavy damage	21	20
No protection at all	2	1
Don't know	11	4
Not ascertained	14	6
	100%	100%

The Public and Civil Defense: A Report Based on Two Sample Surveys in Eleven Major Cities, Survey Research Center, University of Michigan, March, 1952, p. 12.

Table 7

Table 39

Relation Between Confidence in Air Raid Protection and Importance Accorded Civil Defense

Importance accorded Civil Defense as a Community problem	Expectations of Air Raid Protection		
	Complete Protection	Prevent Heavy Damage	Not Prevent Heavy Damage
Rated First	17)	28)	31)
Rated Second	12) 29%	25) 53%	19) 50%
Rated Third or Fourth (not mentioned)	49	32	35
Rated Last	22	15	15
	100%	100%	100%
No. of cases	157	508	205

The Public and Civil Defense: A Report Based on Two Sample Surveys in Eleven Major Cities, Survey Research Center, University of Michigan, March, 1952, p. 31.

Table 8

Confidence in Military Defense

Table 4-9

Q.: Suppose that enemy planes tried to make a surprise attack on the U.S. How many of the enemy planes do you think would get through and bomb our cities? Would you think most of them would get through, only a few would get through, or what?

	April 1952	March 1954
Most or many or all (2/3 or more)	13%	12%
About half (between 1/3 and 2/3)	3	4
Few or not many (1/3 or less)	60	50
None or one or two	5	10
Don't know	14	14
Not ascertained	5	*
	100%	100%

*Less than one percent

Survey of Public Knowledge and Attitudes Concerning Civil Defense, Survey Research Center, Institute for Social Research, University of Michigan, September, 1954, p. 60.

Table 9

Table 4-10

CONFIDENCE IN MILITARY DEFENSE BY URBAN-RURAL DIFFERENCES

	Metro	Metro sub.	Over 50,000	Under 50,000	Rural
Most	13%	18%	11%	11%	11%
A.lf	15	16	14	13	12
Few	40	43	49	55	57
None	15	13	10	8	8
Don't know	16	10	16	13	12
Not ascertained	1	*	-	*	*
	100%	100%	100%	100%	100%

* Less than one per cent

Survey of Public Knowledge and Attitudes Concerning Civil Defense, Survey Research Center, Institute for Social Research, University of Michigan, September, 1954, p. 60.

Table 10

Q. 34 As far as you know, can the United States successfully defend itself against a nuclear missile attack? (What's your best guess?)	Cross Section	
I - Col. 66; (s.p.)	N	%
0 - No answer	2	XX
1 - Yes	983	71
2 - No	266	19
3 - Don't know	131	10
	1382	100% (1380)

Q. 34 - A. How?	Cross Section	
V - Col. 47 (May be m.p. 1-6 only)	No.	%
1 - Mentions active defense systems that will prevent enemy weapons from reaching U.S. targets	245	25
2 - Mentions our retaliatory or deterrent forces	464	48
3 - Mentions warning devices (DEW line, radar, NORAD, etc.)	214	22
4 - Mentions nonmilitary means (e.g. political or diplomatic)	17	2
7 - General expression of faith or confidence in our ability to defend ourselves--but mentions nothing specific	344	35
8 - Doesn't know, can't say	38	4
9 - Other, unclassifiable	5	XX
X - Not asked	6	XX
Y - Does not apply	399	XX
	1382	a (972)

Fallout Shelter Study, Codebook Number Five,, Survey of Publics in Nine Communities, Bureau of Applied Social Research, Columbia University, August, 1963, pp. 82-83.

Table 11

ESTIMATES OF ACTIVE DEFENSE CAPABILITY*

In Percent

Defense Against:	Very Bad 0	1	2	3	4	5	6	7	8	9	Almost Perfect 10	N
Bombers	0.7	0.5	0.8	1.5	1.4	6.9	5.0	9.0	21.1	18.1	35.1	1429
Missiles	2.4	1.5	2.9	3.4	3.5	11.9	9.9	13.0	18.7	13.0	19.9	1420
Submarines	1.5	1.0	1.6	3.1	3.7	12.6	7.3	12.4	19.5	13.4	24.1	1419

* Note: In this report, all stated percents and related calculations are based on the actual number answering each item or set of items. The N given is the basic one for each table.

Civil Defense and Cold War Attitudes: Data Book for the 1964 National Probability Sample Study, Research Office of Sociology, Department of Sociology, University of Pittsburgh, December, 1964, pp. 53-55.

Table 12

ESTIMATES OF ACTIVE DEFENSE CAPABILITY

	In Percent*			
Defense Against:	Low (0-3)	Medium (4-6)	High (7-10)	N
Bombers	3.4	13.4	83.2	1429
Missiles	10.1	25.3	64.6	1420
Submarines	7.2	23.6	69.4	1419

* Note: Categories were combined for purposes of this report.

Civil Defense and Cold War Attitudes: Data Book for the 1964 National Probability Sample Study, Research Office of Sociology, Department of Sociology, University of Pittsburgh, December, 1964, pp. 53-55.

Table 13

ESTIMATES OF DEFENSE CAPABILITY
BY SIZE OF COMMUNITY

In Percent

By Size of Community:	Defense Against Enemy Bombers				Defense Against Enemy Missiles			
	Low	Medium	High	N	Low	Medium	High	N
Largest Metropolitan Areas (2,000,000 and over)	3.6	12.7	83.8	338	11.8	27.0	61.2	338
Large Metropolitan	3.8	13.1	83.1	565	9.9	22.8	67.4	562
Non-metropolitan areas with city of 10,000 or over	2.4	16.0	81.7	219	9.3	24.8	66.1	218
Non-metropolitan areas with no city of 10,000	3.7	12.7	83.7	307	9.6	28.5	61.9	302

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Summer, 1964.

Table 14

ESTIMATES OF DEFENSE CAPABILITY
BY GEOGRAPHICAL LOCATION

In Percent

Geographical Location:	Defense Against Enemy Bombers				Defense Against Enemy Missiles			
	Low	Medium	High	N	Low	Medium	High	N
New England	6.8	10.9	82.1	73	12.2	17.6	70.3	74
Middle Atlantic	4.0	12.8	83.2	250	10.8	23.4	65.7	248
East North Central	2.0	12.6	85.3	246	8.4	21.6	69.9	246
West North Central	4.3	13.5	82.1	163	6.8	28.5	64.6	161
South Atlantic	3.5	12.2	84.4	230	13.7	26.5	59.8	226
East South Central	2.9	24.3	72.9	70	7.1	34.3	58.5	70
West South Central	4.2	14.6	81.2	164	10.5	23.9	65.7	163
Mountain	2.2	8.7	89.0	46	6.6	28.2	65.2	46
Pacific	2.1	13.4	84.6	187	10.9	28.5	60.8	186

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Summer, 1964.

Table 15

ESTIMATES OF DEFENSE CAPABILITY BY AGE

In Percent

Age:	Defense Against Enemy Bombers				Defense Against Enemy Missiles			
	Low	Medium	High	N	Low	Medium	High	N
10-19	0	5.9	94.1	17	5.9	11.8	82.4	17
20-29	4.9	9.7	87.2	236	7.7	23.8	68.5	235
30-39	4.0	10.1	85.8	324	11.2	23.3	65.6	322
40-49	3.9	16.0	80.1	301	13.4	25.7	61.0	300
50-59	1.6	15.4	83.0	253	8.0	26.4	65.6	250
60-69	5.4	11.9	82.7	168	10.8	29.8	59.5	168
70 and over*	3.4	22.7	73.9	119	9.3	27.2	63.2	117

* Two categories, 70-79 and 80-89, were combined in one.

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Summer, 1964.

Table 16

ESTIMATES OF DEFENSE CAPABILITY BY MARITAL STATUS

In Percent

Marital Status:	Defense Against Enemy Bombers				Defense Against Enemy Missiles			
	Low	Medium	High	N	Low	Medium	High	N
Single - never married	4.6	17.7	77.6	107	12.2	32.1	55.7	106
Married	2.7	13.1	84.3	1092	9.9	24.8	65.3	1085
Divorced	5.7	17.7	77.8	54	11.2	20.5	68.6	54
Widowed	6.4	12.9	80.7	140	11.6	27.4	61.2	139
Separated	8.4	8.4	83.4	36	5.6	19.5	75.0	36

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Summer, 1964.

Table 17

ESTIMATES OF DEFENSE CAPABILITY
BY EDUCATION

In Percent

Respondent's Education:	Defense Against Enemy Bombers				Defense Against Enemy Missiles			
	Low	Medium	High	N	Low	Medium	High	N
No schooling and grammar school*	4.8	14.3	80.7	369	10.2	22.9	66.8	365
Some high school (9-11 yrs.)	1.0	13.9	85.0	294	7.5	25.3	67.2	293
Completed high school (12 yrs.)	3.2	11.8	84.9	424	8.1	23.7	68.2	421
College, incomplete	4.1	12.9	82.9	193	13.1	28.6	58.4	192
College graduate	3.6	13.0	83.6	85	14.1	34.1	51.7	85
Higher than college	4.9	16.3	78.8	61	23.0	27.8	49.2	61

* Two categories, no schooling and grammar school, were combined into one.

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Summer, 1964.

Table 10

ESTIMATES OF DEFENSE CAPABILITY BY OCCUPATION

In Percent

Occupation	Defense Against Enemy Bombers				Defense Against Enemy Missiles			
	Low	Medium	High	N	Low	Medium	High	N
Professional	4.5	17.1	78.4	181	13.9	30.1	56.2	180
Farmers and farm managers	0.0	20.6	79.4	34	6.1	39.4	54.5	33
Managers, officials and proprietors	3.6	13.6	82.7	191	14.2	23.6	62.1	190
Clerical	4.6	8.3	87.1	109	7.3	22.9	67.9	109
Sales	1.6	12.6	86.0	64	16.9	29.3	53.8	65
Craftsmen, foremen, and kindred workers	1.9	14.3	83.9	267	10.3	24.9	64.8	261
Operatives and kindred workers	2.3	8.6	89.2	221	5.9	25.8	68.4	221
Service workers	3.8	16.0	80.1	113	12.3	20.7	67.2	131
Farm laborers and foremen	4.4	14.3	81.4	91	6.6	23.1	70.4	91
Laborers	6.4	13.7	79.9	140	6.4	23.5	69.7	139

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Summer, 1964.

Table 19

ESTIMATES OF DEFENSE CAPABILITY
BY INCOME LEVEL

In Percent

Income:	Defense Against Enemy Bombers				Defense Against Enemy Missiles			
	Low	Medium	High	N	Low	Medium	High	N
Under $3,000	4.6	14.2	81.1	281	10.8	23.7	65.6	279
$3,000 to $4,999	1.1	15.3	83.7	268	5.9	23.2	70.7	267
$5,000 to $7,499	4.0	10.1	85.7	364	9.2	24.1	66.7	360
$7,500 to $9,999	2.8	12.2	85.1	221	13.2	25.9	61.1	221
$10,000 to $14,999	4.2	13.3	82.5	165	11.6	29.3	59.2	164
$15,000 to $24,999	3.6	22.8	73.8	57	21.1	38.6	40.4	57
$25,000 and over	6.3	18.8	75.2	16	18.9	31.3	50.1	16

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Summer, 1964.

Table 20

PERCEIVED WORLD TENSIONS
BY ESTIMATES OF DEFENSE CAPABILITY

In Percent

	Level of World Tensions Now			
	Low (0-3)	Medium (4-6)	High (7-10)	N
Bomber Effectiveness:				
Low (0-3)	2.0	24.0	74.0	50
Medium (4-6)	4.2	41.9	53.9	191
High (7-10)	5.0	36.3	58.7	1184
Missile Effectiveness:				
Low (0-3)	2.1	41.4	56.6	145
Medium (4-6)	4.2	43.0	52.8	358
High (7-10)	5.6	33.3	61.1	913

Unpublished data from the 1964 Survey of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 21

WORRY ABOUT NUCLEAR ATTACK
BY ESTIMATES OF DEFENSE EFFECTIVENESS

In Percent

	Worry About Nuclear Attack				
	Great deal	Some	A little	Not at all	N
Bomber Effectiveness:					
Low	14.0	26.0	32.0	28.0	50
Medium	14.7	30.5	23.7	31.1	190
High	15.7	28.4	26.4	29.5	1185
Missile Effectiveness:					
Low	16.6	23.4	25.5	34.5	145
Medium	11.5	27.1	29.3	32.1	358
High	16.9	29.7	25.3	28.1	913

Unpublished data from the 1964 Survey of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 22

LIKELIHOOD OF WORLD WAR III
BY ESTIMATES OF DEFENSE EFFECTIVENESS

In Percent

	Likelihood of World War III				
	Very likely	Fairly likely	Fairly unlikely	Very unlikely	N
Defense Against Enemy Bombers:					
Low effectiveness	12.8	25.5	34.0	27.7	47
Medium effectiveness	17.1	28.7	28.2	26.0	181
High effectiveness	13.4	26.9	31.5	28.2	1159
Defense Against Enemy Missiles:					
Low effectiveness	12.9	21.4	35.7	30.0	140
Medium Effectiveness	10.7	27.1	37.8	24.5	347
High effectiveness	14.9	27.9	27.9	29.2	891

Unpublished data from the 1964 Survey of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 23

PERCEIVED LOCAL DANGER BY ESTIMATES OF DEFENSE EFFECTIVENESS

In Percent

	Degree of Local Danger							
Defense Against Enemy Bombers:	Never will happen	Certain danger	Great danger	Some danger	Little danger	No danger at all	No local danger	N
Low Effectiveness	-	26.5	32.7	22.4	12.2	6.1	-	49
Medium Effectiveness	1.1	19.1	28.2	29.8	15.4	5.3	1.1	188
High Effectiveness	0.5	21.9	32.7	26.9	13.2	4.0	0.8	1182
Defense Against Enemy Missiles:								
Low Effectiveness	-	22.9	36.8	18.1	16.0	4.9	1.4	144
Medium Effectiveness	0.6	23.3	29.8	27.0	14.9	4.2	0.3	356
High Effectiveness	0.7	20.9	32.4	28.4	12.5	4.3	0.9	910

Unpublished data from the 1964 Survey of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 24

CHANCES FOR SURVIVAL IN LOCAL AREA
BY ESTIMATES OF DEFENSE CAPABILITY

In Percent

	Chances for Survival							
	Never will happen	Very good	Fairly good	50-50	Fairly bad	Very bad	No chance at all	N
Defense Against Enemy Bombers:								
Low Effectiveness	-	8.3	16.7	2.1	25.0	39.6	8.3	48
Medium Effectiveness	-	5.3	18.2	11.2	20.3	36.9	8.0	187
High Effectiveness	0.3	4.4	22.2	11.4	21.2	34.1	6.5	1171
Defense Against Enemy Missiles:								
Low Effectiveness	-	5.6	15.4	11.9	21.7	35.7	9.8	143
Medium Effectiveness	-	4.5	19.2	12.4	21.5	35.3	7.7	354
High Effectiveness	0.3	4.4	23.1	10.7	20.7	34.6	6.2	900

Unpublished data from the 1964 Survey of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 25

PERCEIVED LOCAL DANGER BY
SIZE OF RESIDENCE

In Percent

Size of Residence:	Degree of Local Danger							
	Never will happen	Certain danger	Great danger	Some danger	Little danger	No danger	Everywhere will be hit - no difference	N
Largest metropolitan areas (2,000,000 or over)	1.1	30.5	43.1	17.8	4.6	1.7	1.1	348
Other metropolitan areas	0.5	26.4	35.3	26.4	8.6	2.1	0.7	569
Non-metropolitan with city of 10,000 or over	0.5	12.7	19.5	34.4	24.9	6.3	1.8	221
Non-metropolitan with no city of 10,000	-	9.1	23.3	32.7	25.2	9.7	-	309

Unpublished data from the 1964 Survey of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 26

CHANCES FOR SURVIVAL IN LOCAL AREA
BY SIZE OF RESIDENCE

In Percent

	Chances for Survival							
Size of Residence:	Never	Very Good	Fairly Good	50-50	Fairly Bad	Very Bad	No Chance At All	N
Largest metropolitan areas (2,000,000 or over)	0.3	4.3	11.5	7.5	20.2	43.2	13.0	347
Other metropolitan areas	0.4	3.2	20.2	11.5	22.2	37.5	5.0	563
Non-metropolitan with city of 10,000 or over	-	5.1	25.0	19.0	15.7	30.1	5.1	216
Non-metropolitan with no city of 10,000	-	7.5	31.1	9.5	23.6	23.3	4.9	305

Unpublished data from the 1964 Survey of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 27

IMPORTANCE OF DESTRUCTION OF CITIES
BY ESTIMATES OF DEFENSE CAPABILITY

In Percent

	Importance of Cities as a Target				
	Most important 1	2	3	Least important 4	N
Defense Against Enemy Bombers:					
Low Effectiveness	8.0	22.0	52.0	18.0	50
Medium Effectiveness	7.4	22.1	53.7	16.8	190
High Effectiveness	5.5	12.8	67.1	14.6	1170
Defense Against Enemy Missiles:					
Low Effectiveness	9.1	18.9	55.9	16.1	143
Medium Effectiveness	6.2	15.3	65.7	12.7	353
High Effectiveness	4.9	13.2	66.2	15.7	906

Unpublished data from the 1964 Survey of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 28

IMPORTANCE OF DESTRUCTION OF PEOPLE
BY ESTIMATES OF DEFENSE CAPABILITY

In Percent

	Importance of People as a Target				
	Most important 1	2	3	Least important 4	N
Defense Against Enemy Bombers:					
Low Effectiveness	14.3	6.1	12.2	67.3	49
Medium Effectiveness	9.6	5.3	16.0	69.0	187
High Effectiveness	5.0	5.5	13.0	76.5	1151
Defense Against Enemy Missiles:					
Low Effectiveness	10.0	5.0	13.6	71.4	140
Medium Effectiveness	5.2	4.6	12.4	77.9	348
High Effectiveness	5.5	5.7	13.8	75.0	991

Unpublished data from the 1964 Survey of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 29

EVALUATION OF COST OF MISSILES BY ESTIMATES OF DEFENSE CAPABILITY

In Percent

	Missiles Will Cost Too Much to be Worthwhile					
	Strongly agree	Agree	Disagree	Strongly disagree	Undecided	
Defense Against Enemy Bombers:						
Low Effectiveness	6.1	16.3	59.2	8.2	10.2	
Medium Effectiveness	1.6	12.2	50.3	8.5	27.5	1
High Effectiveness	2.4	10.8	60.7	10.8	15.3	11
Defense Against Enemy Missiles:						
Low Effectiveness	4.2	12.6	53.1	13.3	16.8	1
Medium Effectiveness	3.1	11.7	57.1	10.6	17.5	3
High Effectiveness	1.9	11.0	61.1	10.0	16.0	9

Unpublished data from the 1964 Survey of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 30

Ques. 53: Var. 94 - If we have anti-missile missiles around our cities, there will be less need for fallout shelters.

Card 3: Col. 11	N	%
Strongly agree	98	6.8
Agree	506	34.9
Undecided	177	12.2
Disagree	559	38.6
Strongly disagree	108	7.5
No answer	16	XX
TOTAL	1464	1448

Civil Defense and Cold War Attitudes: Data Book for the 1964 National Probability Sample Study, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, December, 1964, p. 63.

Table 31

Ques. 54: Var. 95 - If we have anti-missile missiles around our cities, we will need fallout shelters <u>even more</u> than we need them now.

Card 3: Col. 12	N	%
Strongly agree	154	10.7
Agree	438	30.3
Undecided	186	12.9
Disagree	615	42.5
Strongly disagree	53	3.7
No answer	18	XX
Total	1464	1446

<u>Civil Defense and Cold War Attitudes: Data Book for the 1964 National Probability Sample Study</u>, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, December, 1964, p. 63.

Table 32

Ques. 56: Var. 97 - 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.

Card 3: Col. 14	N	%
Strongly agree	256	17.8
Agree	953	66.1
Undecided	114	7.9
Disagree	102	7.1
Strongly disagree	17	1.2
No answer	22	XX
Total	1464	1442

Civil Defense and Cold War Attitudes: Data Book for the 1964 National Probability Sample Study, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, December, 1964, p. 64.

Table 33

Ques. 57: Var. 98 - 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.

Card 3: Col. 15	N	%
Strongly agree	174	12.1
Agree	746	51.7
Undecided	209	14.5
Disagree	289	20.0
Strongly disagree	24	1.7
No answer	22	XX
Total	1464	1442

Civil Defense and Cold War Attitudes: Data Book for the 1964 National Probability Sample Study, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, December, 1964, p. 65.

III. PASSIVE DEFENSES

The nature of the threat that an enemy poses to our country has effected a change in our passive defense system as well as active defenses. Recalling our definition of a total defense system, it is that which operates to hinder the efficacy of an attack and/or mitigates the consequences of that attack. Passive defenses attempt to satisfy, almost entirely, the second part of our definition, i.e., mitigating the consequences of an enemy attack. During the early 1950s, any civil defense planning was done with enemy bombers in mind. However, the advances made in methods of delivering modern weapons necessitated more realistic thinking in civil defense planning. Shelters were originally designed as protection from blast and fire, warning time was much less of a problem, and the issue of cost differed in the 1950s. The advent of the hydrogen bomb and the new methods of delivering a weapon to its target resulted in the planning of shelters as protection against fallout as well as blast and fire, and as protection against chemical, bacteriological, and radiological warfare.

1. Effectiveness of Evacuation Programs

One civil defense program mentioned rather frequently during the 1950s was evacuation. In case of an enemy attack, target areas would be emptied with the residents evacuating to outlying areas where provisions had been made to house them in private homes and/or in large storage units. The feasibility of an evacuation program has declined because of the decrease in available warning time for the most commonly expected modes of attack. Evacuation has become heavily dependent on warning time with the advent of intercontinental missiles. Because of this modern method of delivery, warning time has been drastically compressed over the past six years; and, as a result, the evacuation program has decreased in importance. It is, therefore, a program only suitable for certain types of threat, i.e., a nuclear war only in Europe, a limited war of some type, or any other situation in which the American public would have a substantial amount of time in which to leave their homes and their cities.

In the 1954 University of Michigan national study, the respondents were asked questions about their behavior in case of an attack on the U.S. Most people said they would remain in town (Table 34). The proportion who said they would evacuate was only eight percent of the population. We see in Table 35 that the proportion leaving town is slightly higher in metropolitan cities (11 percent) than in the suburbs of the metropolitan cities and towns with 50,000 people and more. There were some people (5 percent) who, even though they

lived in rural areas, planned to evacuate in case of an attack. Of the eight percent of the sample who said they would evacuate in case of an attack, one-fourth of them resided in metropolitan areas even though the proportion of the sample drawn from metropolitan areas was only 15 percent (Table 36).

It is quite probable that even in 1954, these responses were influenced by the warning time problem. When the people were asked how much time they thought they would have from an initial warning until actual attack, the most frequent figure given was under ten minutes for metropolitan residents, those living in the suburbs of large cities and in towns with a population of over 50,000 (Table 37). As Table 38 shows, warning time did influence the evacuation choice. As the amount of warning time increased, there was an increase in the number of people who said they would evacuate. Even when two or more hours of warning time was expected, however, a relatively small proportion of the respondents chose evacuation (18 percent).

It should be mentioned here that there seem to be two aspects of perceived effectiveness, one of which has not been mentioned and should not be overlooked. We have, thus far, examined various programs from the public's point of view of whether or not they would work. But one variable which seems to us to be a prerequisite for any defense planning whatsoever is whether or not the public will cooperate with the program. It does little good to have a system which operationally "works," but is ineffective due to a lack of public cooperation. In an interview situation, however, interviewees tend to say they will cooperate with most anything, especially something sponsored by the Federal or local government. To some, not cooperating would be "un-American."

Evacuation did not meet with too much resistance with respondents living in metropolitan areas when it was presented in terms of a trial or practice evacuation. As seen in Table 39, 53 percent of city-dwellers sampled in the University of Michigan study said they would take part without hesitation, and an additional 9 percent would with some hesitation.

In a study conducted by the American Institute of Public Opinion in 1954, the respondents were asked what they would do if, in a war with Russia, there was an air raid alert in their city, knowing that there was a strong chance that an atomic or hydrogen bomb would be dropped. Of those who answered, only 10 percent mentioned leaving the city if possible (Table 40). Remaining at home, in the basement or a similar part of the house, was the course of action most frequently stated.

In the 1956 University of Michigan study, the respondents were asked the following question:

"Say an attack had hit some town near here but no damage had occurred around here. If you were asked to house, for awhile, some people who had children, or older people, or people of another race or religion, or very poor people, or fairly rich people--how would you feel about having your home open to some of these kinds of people?"

Approximately 90 percent of the respondents who gave an answer said that they would have no objections to anyone, all people would be welcome (Table 41). However, Table 42 gives us a slightly changed measure of cooperation. In the previous question, the town had been hit and the people leaving the city were in need of immediate attention. However, Question 27 states that there was only a warning of attack, not an actual strike, and people would be evacuated as a safety precaution. The respondents were less cooperative in this situation. Of those answering the question, most of them still said that they would have no objections to housing anyone but the proportion expressing this view was smaller, 81 percent, than in the previous question, 90 percent. Also, more people said that they would have some objections and a greater percentage of them said they would object to housing anyone at all than in response to the previous question (12 percent and 7 percent as opposed to 8 percent and 2 percent, respectively). In other words, the public said that if the city was attacked, people leaving the area of disaster could find shelter in their homes. But, if there was only a warning of an impending attack and people were not homeless, and in need of immediate attention, the public was less enthusiastic about housing them for a period of time.

More than half of the respondents said they favored a program of evacuation of people out of a city during an attack without reservations (52 percent of those who gave an answer). Table 43 summarizes this finding. However, as previously stated, respondents tend to say that they favor most anything which is "for the good of the country." The findings of the 1954 University of Michigan study and the 1954 study done by the American Institute of Public Opinion, both just discussed, lend support to this. In both, only a very small proportion of the respondents mentioned leaving the city when they were asked specifically what they would do in the event of an attack. Also, when the 1956 University of Michigan respondents were asked what could be done to save lives in case of an attack, of those who answered, only two percent mentioned evacuation plans and practice and, when probed for any other ways, only an additional two percent said evacuation (Table 44).

It appears, then, that in a forced choice situation, i.e., when the respondents were presented with evacuation and asked to evaluate it as to its merits, the public responded favorably. However, in an open-end situation, when they had to suggest their

own solutions to the problem they were rather negative in their estimates of the value of evacuation programs. In other words, the issue of evacuation seemed to lack saliency for the public. To them, evacuation was not one of the more seriously considered civil defense programs, even during its era of relative popularity.

B. Effectiveness of Shelter Systems

1. Chronology of Opinion

Examination of available public opinion data on shelter systems reveals recurrent inquiries as to the public's positive and negative feelings about shelters--do people favor shelters, do they like them or do they dislike them. Little data exist, however, on whether people think shelters would be effective in saving lives in case of an attack. There is no reason to assume that, because a person likes shelters, he would also think they would save his life in an attack situation. These are two totally different variables. In only those instances where we lack sufficient data on the effectiveness of shelters will we use data on the public's feelings about them.

The 1956 University of Michigan study included several questions which pertain to shelter effectiveness. In Table 44, we found that evacuation plans and practices were mentioned by only a small proportion of the respondents as valuable in saving lives in case of an attack. However, many more people felt that shelter planning and construction at that time could aid survival in case of attack. Thirty-two percent mentioned shelters initially; and, when probed for anything else that might help, an additional 5 percent mentioned them (Table 44).

These respondents were then asked what sorts of things might be done that would be a waste of time and money. The results of this question are presented in Table 45. Of those who gave an answer (70 percent of the total sample did not answer the question), the most frequent response was that nothing would be a waste of time and money (70 percent). However, we also find that 16 percent of the people felt that shelters would be a waste and only 6 percent of them felt this way about evacuation plans. This appears to be contradictory in view of the fact that in the previous question, many more people said that shelters would save lives than did those who mentioned evacuation plans. This could be explained, perhaps, by a point just discussed in the section on evacuation. We mentioned there that even though programs of evacuation were at their highest peak of popularity during the time of the survey, they seemed to lack saliency. Therefore, when asked what would be a waste of time and money, it is quite natural that the respondents mentioned shelters more than they did evacuation programs.

In a 1961 nation-wide survey done by the American Institute of Public Opinion, an attempt was made to obtain the public's views on a nation-wide shelter program (Table 46). We see that of those who answered, although more people said that such a shelter program was not a waste of time and money than did those who agreed with the statement, the difference between the two groups was not substantial (45 percent as opposed to 36 percent).

In a 1961 University of Michigan study on the Cold War, the respondents were asked what could be done to make an attack on the U.S., if it should come, less damaging. As seen in Table 47, 37 percent of the interviewees spontaneously mentioned shelters. The remaining 63 percent of the sample responded in other terms. However, this sizeable portion was then asked specifically about the protection factor of shelters, i.e., would shelters help to protect from rays, fallout, radiation, etc., that would come after an atomic explosion. More than half of the people who had answered originally in other terms did feel that shelters would be of help in the protection of people from these secondary effects. Fourteen percent of the sample said that shelters would be of no help.

We see in Table 48 that two out of three persons felt that a program of fixing shelter areas in buildings would save lives and help survival; and, only a very small proportion felt there were no advantages to such a program (six percent). Undoubtedly, reference was being made to large public shelters. The most frequently mentioned disadvantage was shelter characteristics--overcrowding, confinement, etc. Forty-seven percent of the sample felt this to be an important drawback of the program. Only 12 percent felt that shelters in buildings would not save lives. And, 19 percent said that there were no disadvantages in such a program.

The 1963 Fallout Shelter Study done by the Bureau of Applied Social Research at Columbia University contained several questions pertinent to our area of inquiry in this paper. We see in Table 49 that only 23 percent of the public felt that the chances of survival in their neighborhood were good. More than half of the respondents, 59 percent, said that chances of survival would be bad or non-existent. A major shift in the answers occurred, however, when the respondents were asked what the chances of survival would be if people in the neighborhood were in fallout shelters. More than half of them thought chances would be good if people were housed in shelters (53 percent). And, only 27 percent felt that chances would be bad or that there would be no chance at all for survival.

Two out of every three persons responding said that they were either strongly in favor or somewhat in favor of fallout shelters (Table 50). Although this is not a measure of effectiveness, it does reflect the public's sentiment on the subject. Also, we find that more than half

of the interviewees (56 percent) had both community shelters and private family shelters in mind when answering this question (Table 50). Twenty-five percent of the people in opposition to shelters gave structural inadequacies as their reason (Table 51). They felt that shelters were useless, they would never work and would not provide protection due to inherent structural inadequacies.

From the data cited so far, there is evidence to suggest that, over the years, increased numbers of Americans seem to believe that shelters would provide reasonable chances to survive.

2. Descriptive Analysis of Perceived Effectiveness

The 1963 University of Pittsburgh study on Civil Defense and Cold War Attitudes provides us with additional data on shelter effectiveness. In this study, the 1434 respondents were asked to agree or disagree with several statements related to fallout shelters. (Note: Throughout the discussion of these statements, when we speak of disagreement we are referring to people who either disagreed or disagreed strongly with the statement.)

More than nine in ten persons sampled agreed that fallout shelters provide some chance of living through a nuclear war (Table 52). Only nine percent of the respondents voiced disagreement with the statement. We cannot make any assumption as to the degree of effectiveness implied in the responses because there was no qualification as to how much or what kind of chance for survival the fallout shelter provides. We can only say that the majority of the public felt there was some chance. Examination of that portion of the public who disagreed with the statement, small as it is, does reflect some subgroup differences which deserve mention in this discussion.

From Table 53, we can readily see that more of the people residing in the large standard metropolitan statistical areas (11 percent) and in other metropolitan areas (11 percent) did not agree with the statement than those living in non-metropolitan areas. These percentages are higher than the national figure (Table 52), and well above those for the non-metropolitan areas. (Six percent of those living in non-metropolitan areas with a city of 10,000 or more and 7 percent in non-metropolitan areas with no city of 10,000 population disagreed).

It is quite reasonable, therefore, to get the results we do in Table 54. When we examine agreement with the statement by geographical location, we find that more of the residents of the New England states (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont), the Middle Atlantic states (New Jersey, New York, and Pennsylvania) and the states of the East North Central

(Indiana, Illinois, Michigan, Ohio and Wisconsin) disagreed with the statement than did people living in the other parts of the country (12 percent, 12 percent, and 11 percent, respectively). Each of the regions just enumerated contain standard metropolitan statistical areas within their borders. This disagreement could be a function of two related variables--differential threat perception and pessimism. People residing in the large population centers may feel that if an attack cores, their city would be a certain target. And, blast shelters, not fallout shelters, would be the only type of structure that would provide some chance of living through the attack. Or, secondly, if urbanites feel their city would be a certain enemy target, they may feel that nothing, not blast nor fallout shelters, would aid survival.

No significant subgroup differences occur when we examine agreement with the statement by sex or by race. Responses of males and females and whites and Negroes are quite similar for all categories.

In Table 55 we find that older people tend to be a bit more reluctant to agree with the statement than are younger people. Nine percent of respondents between the ages of 20 and 29 as opposed to 15 percent of people 60 years of age and older did not feel that fallout shelters provided some chance of living through an attack.

More people who have education beyond the bachelor's degree disagreed with the statement than did those at any of the other levels of education. In table 56 we find that 16 percent of those with education higher than college said that they did not feel that fallout shelters provided some chance for living through an attack.

More people in the professional, managerial, and the craftsmen occupation categories said that they disagreed with the statement than in the other job classes. We see in Table 57 that 10 percent of the professionals, 12 percent of the managerial, and 10 percent of the craftsmen categories disagreed. However, the differences between these categories and the others are rather small.

Income lends little help in our effort to identify that portion of the public who felt that fallout shelters offered no chance of survival. Table 58 illustrates this fact. More people in the income bracket of $15,000 to $24,999 a year disagreed with the statement than those in other income categories. However, differences among other income levels are quite small.

More people who said they had no political preference and more of those who preferred a party other than the two major ones said that they disagreed with the statement that fallout shelters provide some chance for survival. Fifteen percent of respondents

in the "other" category and 11 percent of those with no political party preference disagreed as opposed to eight percent of the Republicans and nine percent of the Democrats who felt this way (Table 59).

It should be noted here, once again, that even though some subgroup differences exist when we closely examine disagreement with the statement, the majority of people, no matter how they are classified, agreed that fallout shelters do provide some chance of living through a nuclear war.

In the same study, the respondents were asked to express their agreement or disagreement with the statement that people in fallout shelters may not have an easy time of it, but at least they will be alive and able to rebuild after a nuclear war. More than eight out of ten respondents agreed that people in fallout shelters would be alive after a nuclear war (Table 60). Only 17 percent disagreed with the statement. In attempting to identify any subgroup differences among the respondents who disagreed with the statement, we find that they are very similar to those existing among the respondents who disagreed with the previous statement about fallout shelters providing some chance for survival in case of a nuclear attack. Any explanations cited above for the existing differences should, therefore, hold for the following analysis of the statement in question and will not be repeated.

More of the residents, 19 percent, of the largest metropolitan areas such as Philadelphia, Chicago, New York City, Los Angeles, etc., disagreed with the statement than residents of other size communities. However, the differences between the groups are rather small (Table 61).

Similarly, the geographical locations of New England, Middle Atlantic, Pacific, and the East North Central have more residents who say that people in fallout shelters will not be alive after a nuclear attack than other locations in the country (20 percent, 20 percent, 20 percent, and 19 percent respectively). Table 62 summarizes this data.

More whites than Negroes disagreed with the statement (Table 63). Eighteen percent of all white respondents said that they either disagreed or disagreed strongly with the statement while only ten percent of the Negroes expressed the same feeling.

And, more females said that fallout shelters would not keep people alive in the event of an attack than did males (Table 64). Nineteen percent of the women in the sample disagreed with the statement as opposed to 14 percent of all men.

More people in the 50-59 age category, and more of the 60-69 group disagreed than did those in the other age classification (19 percent

and 24 percent, respectively.) The differences between the amount of disagreement in the other age groups were rather small (Table 65).

More people with education higher than college felt that people in fallout shelters would not survive an attack than those at other levels of education (Table 66). Twenty-seven percent of all those with an education beyond college disagreed with the statement.

Since occupational class is more or less determined by level of education, we would expect that, in this instance, the professional and the managerial categories would have more people in disagreement with this statement than the other job categories. We find, in Table 67, however, that this does not hold true. The category of managers, officials and proprietors does have more members in disagreement with the statement (22 percent). However, more people in the farmers and farm managers and clerical job classifications said that they did not feel that people in fallout shelters would survive a nuclear attack than did those classified as professional, (18 percent and 20 percent as opposed to 17 percent).

More Jews (27 percent) said that people in fallout shelters would not survive an attack than did Protestants, Roman Catholics. agnostics, other religions, and people who claimed no religion. (Note: Only two people identified themselves as atheists, thus making projection impossible). But, once again, no matter what the subgroup, the majority agreed with the statement (Table 68).

As shown in Table 69, 22 percent of the respondents claiming no political party preference disagreed with the statement. This is greater than the number of Republicans, Democrats and other minor parties voicing the same feeling.

Expressions of shelter ineffectiveness, as measured in the 1963 University of Pittsburgh study, tended to be associated with: higher levels of education, no political party preference, older age levels, large metropolitan areas; and, the New England and Middle Atlantic states.

In the 1964 University of Pittsburgh study, two questions were included which were quite similar to the questions discussed earlier in this section from the 1963 Fallout Shelter Study done by the Bureau of Applied Social Research at Columbia University. It is clear from Table 70 that the majority of Americans felt that survival chances would be fairly to very bad in their neighborhood if a nuclear war suddenly began. The 56 percent finding of this study is comparable to the reported finding of the 1963 Columbia University study (Table 49). Only 26 percent of the people saw chances for survival as very good or fairly good. No population segment can be singled out as being drastically at variance with this underlying view. The majority of people clustered around two responses--chances would be fairly bad or very bad.

We see a significant shift, however, in these people's attitudes about survivability when the notion of fallout shelters is introduced. The majority of people (66 percent) felt that chances for survival would be, with the mention of fallout shelters, at least fairly good (Table 71). Only 19 percent say that people in their neighborhood would have a poor chance for survival and two percent replied that there would be no chance at all.

Before attempting any analysis on the data, however, we would like to comment upon the wording of these questions and what influence this may have had on the respondents' answers. Repeating the second question--"What if they were in fallout shelters? How good would the chances be then that people in this area would survive?"--we note that the first half of the question assures the respondent that: 1) there would be fallout shelters available in their local area, 2) people would have enough warning time to get to them, and 3) there would be available space in the shelters for them. This is an optimum shelter situation. It removes all these problems from the respondents' minds. In this situation, then, it is quite reasonable that we should get the kind of response we do--66 percent of the population see chances for survival as good.

In an attempt to first descriptively identify these people, we find that some differences do exist within that portion of the population who feel that even if people were housed in fallout shelters during an attack, chances for survival would be bad. Table 72 shows that the highest proportion of people feeling this way reside in the largest metropolitan areas with population of 2,000,000 and over. Twenty-seven percent of these urbanites see chances for survival as being bad or nonexistent, even when protected by fallout shelters.

More of them reside in the New England, Middle Atlantic and the Pacific states than in other regions of the country (Table 73). Thirty percent of residents in New England, 24 percent in Middle Atlantic, and 22 percent in the Pacific area say that survival chances would be bad or nonexistent even if housed in shelters.

As Table 74 points out, more older people in the society feel that chance of survival would be bad even with shelters than do younger persons. Twenty-five percent of people 50-59 years of age, 30 percent of 70-79 year-olds, and 23 percent of those over eighty said that survival chances would be bad or nonexistent.

More "college" people, i.e., attended, completed or schooling beyond college, expressed doubts about surviving a nuclear attack even if housed in a fallout shelter than did people at other levels of education (Table 75).

Level of income varies with amount of education, Table 76 shows that more of the people with salaries over $10,000 a year said that chances for survival would be bad even if people were housed in fallout shelters than those with lower incomes.

The sales and managerial occupational categories had more people who expressed a low degree of shelter effectiveness than any other occupational field. Twenty-eight percent of the managerial group and 28 percent of the sales people said that chances for survival, when in a fallout shelter, would be bad or there would be no chances at all (Table 77).

Jews, Roman Catholics, and people who have no religious preference are more likely to feel that chances for survival in an attack would be bad or nonexistent even if in shelters than are people with other religious preferences. In Table 78, we find that 35 percent of the Jews in the population, 23 percent of the Roman Catholics, and 23 percent of people with no religious preference expressed this feeling.

If we wish to project to the population, using these descriptive variables, we could say that those persons who are rather pessimistic about survival chances even if housed in fallout shelters tend to be: older; urban residents; from the Northeastern and Pacific regions of the country; members of religious minority groups; more educated; and from high income brackets.

It is interesting to note these descriptive characteristics; but, we feel that this specific group of respondents, i.e., those who feel that chances for survival would be bad even when housed in fallout shelters, should be examined by more analytic variables included in this University of Pittsburgh study.

Table 79 shows that of those who feel survival would be bad, less of them said they worried at least some about nuclear war than did those who felt the probability of survival was greater. However, the differences in the responses are not substantial.

When asked how likely they felt another big World War was in which nuclear bombs would be used, more of the people who said survival would be very bad or there would be no chance at all in fallout shelters saw another World War unlikely than did the other respondents (Table 80). Sixty-seven percent of those who saw practically no probability for survival in fallout shelters felt that another World War was unlikely as compared to 58 percent who said survival chances were very good, 58 percent saying fairly good, 60 percent who felt chances would be fifty-fifty, and 60 percent who said chances for survival would be fairly bad.

If another World War should occur, however, the respondents who felt that the probability of survival in fallout shelters was very bad or zero mentioned, most often, that all nuclear weapons would be used at once in response to the question "Which is the most likely way a world war would be fought?" (Table 81). Thirty-six percent of these people gave this response. In comparison, the

most frequent response of people who felt that chances for survival in fallout shelters were quite good was that many nuclear weapons would be used but some would be kept in reserve. If some people feel that the enemy will use all nuclear weapons at once, it is not surprising that they would be rather pessimistic about survival.

When asked how much warning time we would have in the event of an attack, few people replied that we would have none at all. However, more of those who felt chances for survival in fallout shelters would be very bad or nonexistent gave this answer than did other respondents (Table 82). Almost one-half, 48 percent, of those who view survival as being very bad expect less than fifteen minutes warning time or none at all. This compares to 40 percent of people who felt survival would be very good, 34 percent of those who said chances for survival would be fairly good, 41 percent of the "50-50" group, and 40 percent of the "fairly bad" group.

An inverse relation exists between chances for survival in fallout shelters and degree of local danger in case of a nuclear war. As probability for survival in fallout shelters decreases from very good to very bad, there is a corresponding increase in the proportion of people who view local dangers as either certain or great, i.e., that their area would be a target. We find these proportions increasing rather dramatically from 40 percent to 78 percent as we go from high probability to low probability of surviving in fallout shelters (Table 83).

As discussed earlier in this chapter, the respondents of the 1964 University of Pittsburgh study were first asked what the chances were for survival in their local area if a nuclear war started the next week. Then, they were asked what the chances for survival would be if local people were housed in shelters. Table 84 presents the results obtained when estimates of shelter effectiveness are examined by estimates of survivability without fallout shelters.

We can summarize from the table that people's estimates of survival improved significantly when fallout shelters were introduced. Of all the people who saw survival, generally, as being very bad or not existing at all, more than half (55 percent) said that survival would be, at least, fairly good if people were in fallout shelters--a rather impressive improvement. Also, of those who initially said that survival would be fairly bad, two-thirds of them said it would be, at least, fairly good if in shelters. The mention of fallout shelters did not seem to make much difference, however, to a certain group of people. Eighteen percent of those who initially said survival would be very bad concluded that shelters would make no difference at all.

People who said chances for survival in fallout shelters were bad felt that there would be a greater amount of local fallout danger,

if their area was not destroyed in an attack, than did others (Table 85). Ninety-five percent of those who felt chances for survival would be very bad and 88 percent who felt they would be fairly bad said that there would be, at least, great danger of fallout as compared to 66 percent of people who felt survival chances would be very good and 80 percent who said they would be fairly good.

When we examine favorability of shelters by survival chances if in them during an attack, we find that people who rated survival in fallout shelters as very bad differ rather dramatically from those who felt shelters would be more effective. Table 86 shows that 37 percent of all people in the "very bad or no chance at all" category were opposed either strongly or somewhat to shelters as compared to seven percent in the "very good," eight percent in the "fairly good," four percent in the "50-50," and 24 percent in the "fairly bad" categories.

Fewer people who rated chances for survival in fallout shelters as bad (fairly bad, very bad or no chance at all) said they had thought of using a public fallout shelter as compared to the other respondents (Table 87). A direct relationship exists between these two variables. As estimates of survivability in fallout shelters decline from very good to none at all, there is a decrease in the proportion of people who said that they had thought about using a public shelter (from 62 percent in the "very good" category to 41 percent in the "very bad or no chance at all" classification).

The majority of respondents, no matter how they rated chances for survival, said they would try to use a public shelter in case there was an attack (Table 88). However, many more of those who felt survival chances in shelters would be bad said they would not try to use one than others. Twenty-two percent of people who said survival would be fairly bad and 26 percent who said chances would be very bad or nonexistent replied that they would not use a public shelter if there were one available.

An additional summary statement can now be made about that portion of the population who think survival chances, even if housed in fallout shelters, would be bad. Low estimates of shelter effectiveness tend to correlate with: less worry about nuclear war; unlikelihood of another World War; enemy use of all nuclear weapons at once, if another World War should come; expectation of little warning time; expectations that local area would be a target; feeling that there would be certain or great local fallout danger; unfavorable opinions about fallout shelters; little thought about using a shelter; and, less inclination to use one in the event of an attack.

C. Warning Time Considerations

Up to this point in our report, we have discussed two different modes of protection in case of an enemy attack on this country--leaving the city (evacuation) and shelter systems. Both of these programs are based upon the assumption that there would be sufficient warning time for the population to select their course of action as to whether they will leave the city, go to an established shelter, or remain in their homes and to carry through their plans. We see, then, that warning time is an extremely important consideration and could be a determining factor in how successful either the evacuation or the shelter programs would be in the event of an attack. That is, no matter how well constructed the shelters would be or how well stocked they would be with supplies, if there was insufficient warning of an attack for the population to get to them the shelter program might be a failure.

Warning time, in fact, could be considered as an important reason why less emphasis is currently being placed on evacuation programs. The feasibility of tactical evacuation programs has declined because of the decrease in available warning time for the most commonly expected modes of attack--such as intercontinental ballistic missiles. Because of this modern method of delivery, warning time has been drastically compressed; and, as a result, the evacuation program has decreased in importance.

Warning time, therefore, has been an important consideration in overall civil defense planning. And, public opinion studies about civil defense have made specific inquiries about what the public knows and thinks about warning time.

Several issues pertain to possible ineffectiveness of the national warning system. These are:

1. People do not know the signals so they could not respond to them.

2. They may know the warning signals, but they may not be able to hear them.

Information questions about warning time and warning signals have been included in many public opinion surveys, some of which will be reported here. In the 1954 nation-wide survey done by the Survey Research Center at the University of Michigan, the following question was asked of all respondents:

"Do you know what the warning signal is which tells people that enemy planes are headed for your city (town)? What is it? Do you know the signal that says the danger has passed? What is it?"

Table 89 provides the national distribution relative to the total sample to this question. The 1954 data reveal that some 41 percent of the respondents lived in communities without an available warning system. In the nation, 9 percent knew both the alert and the all-clear signal correctly; an additional 7 percent knew only the warning signal; and, 4 percent knew only the all-clear. Thirty-nine percent of the public either did not know the signals or reported them incorrectly to the interviewer.

In the 1956 University of Michigan study, about 18 percent of the interviewees who answered the question knew the alert signal; about as many said that they knew the signal but were wrong although their area did have an operational warning system. More than one in two subjects in this research did not know the signal (Table 90).

In 1961, the University of Michigan again questioned respondents on their knowledge of warning signals. About one in four knew either the alert, the take cover, or both signals; about two out of every ten respondents were aware of the sources of warning (sirens), but did not know the signals. Fifty-three percent of the population were not aware of the signals at all (Table 91).

We can say, then, that Americans have not, generally, known the warning signals which would provide them with initial information about an impending attack. We cannot measure these findings against the actual state of the warning system throughout the country because we do not have this data. The findings, however, do point up an important consideration which should be taken into account in future civil defense planning--education of the public.

In a study of civil defense drills in Austin, Texas, more than half of the respondents said they were able to hear the warning signals in their homes. Four in ten respondents said they could hear them even with the windows closed; but, the modal reaction to the question of whether the warnings would wake them from their sleep was that they would not (Table 92).

Of those respondents who could identify the warning signal in the 1954 University of Michigan survey, most thought it meant an attack in less than ten minutes. Once again, however, many just did not know the warning signal (Table 93).

In their 1956 study, the Michigan people found that of people who answered, the most frequent response was that they expected less than ten minutes (Table 94).

By 1964, the American public was expecting more warning time. In the University of Pittsburgh's 1964 national civil defense survey, the respondents were asked how much time they thought they would have to know about an enemy attack on this country. Table 95 summarizes the responses to this question. The median response occurred about 15 minutes. Although some of the response categories had more people in them, the number of people in the 15 minute category is particularly meaningful when we realize that the rest of the categories ranged in size anywhere from four minutes to 48 hours whereas the 15 minute category is quite specific--one minute. In order to be included in this category, the respondent had to be exact in his estimate. We could consider those individuals who did give this estimate of warning time more knowledgeable on the subject. For several years, the 15 minute warning time has been aired publicly as being a rather reasonable amount of time between warning and actual attack.

When asked about warning time by 1970, more respondents felt that there would be more, rather than less, time (40 percent as opposed to 24 percent). Thirty-six percent felt that there would be about as much time then as there is now (Table 96). It is not all that unreasonable for people to expect more warning time in 1970. Improvements in detection devices and the use of such systems as satellites could add extra minutes to our warning time.

In late 1963, the University of Pittsburgh conducted a survey to measure the American public's receptivity to a home alerting device--the NEAR system. Since it was thought that willingness to acquire a home alerting system should relate to the respondents' views on the present alerting system, the researchers asked the respondents to evaluate the present alerting system. More people felt that the present system for alerting the public to an enemy attack was poor (20 percent) than believed it to be very good (17 percent). However, the responses are rather evenly split along the scale. A little more than half (53 percent) felt that the system was fair or poor whereas 46 percent thought it was good to very good (Table 97).

In summary, then, our examination of the warning time expected by the public has revealed that, over the years, people have increased their estimates of time. In the mid-50s, the public expected less than ten minutes warning; in 1964, the median response was about fifteen minutes, and people expect more, not less, time by 1970. An evaluation of the present warning system, however, did not yield anything that could be considered conclusive. About as many people said the system was poor as

said it was good. Most Americans clearly do not know the warning signals which would alert them to an impending attack.

D. Cost Effectiveness of Civil Defense Systems

People may consider civil defense objectives to be quite important. And, they may feel that the various programs within the system are effective. But, they may object to the cost of these programs. Their objections could be either that costs are too high irrespective of effectiveness or that for the level of effectiveness implicit in the system, the costs are too high. It would be quite difficult to use the available public opinion data to show that civil defense systems are considered too expensive on either of these two counts.[6]

A 1953 AIPO sample was asked whether they would be likely to build a shelter if they could do so for approximately $200, the figure which civil defense officials had stated. Only two percent of the sample said they would within the next year (Table 98). Ninety-four percent of the respondents stated that they would not. It appears from the data, then, that at that time, $200 was too costly for a family shelter to a vast majority of Americans.

By 1960, however, we find a substantial difference in the opinion of the public. In April of 1960, AIPO conducted another survey in which they asked the respondents whether or not they would be interested in paying to have a home "bomb" shelter built for their family if it could be built for under $500. About 40 percent of them said they would be interested and 47 percent said definitely no (Table 99). Many more people, then, were interested in having one built at this price than at the $200 level in 1953. Several factors could enter into the explanation of this result. It may be that with the advent of modern weaponry such as thermonuclear rather than nuclear weapons, etc., people felt more of a need for shelters than they did in 1953, regardless of price. Also, they may have concluded that in order to obtain adequate protection from such modern weaponry, it would cost more than $200.

In the 1961 Austin, Texas, study, 26 percent of all respondents interviewed said that they did not build fallout shelters because it would cost too much. This is the dominant reply among those who gave any reasons at all (Table 100). There is no indication, however, that these people felt it would cost too much for the amount of protection they would receive from it.

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6. Civil Defense and Society, by Jiri Nehnevajsa et al., Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, July, 1964, Part Three, IV, pp. 292-299.

In the 1963 Columbia University study of nine Northeastern communities, about one-third of the respondents were opposed to shelters, or had reservations about them. Of these people, 11 percent gave cost as their reason for their opposition (Table 101). This is lower than the 1961 finding discussed above. These samples, however, are not directly comparable.

In the same study, people were asked whether they had ever thought seriously about setting up a fallout shelter. More than eight in ten persons said no. When asked why they had not thought seriously about it, 37 percent gave opposition to shelters as their reply. Other reasons were mentioned by 62 percent or 675 persons (Table 102). Of these 675 persons, 404 of them or 60 percent mentioned cost as the reason they had not thought about setting up a shelter. Fallout shelters were seen as too expensive to construct (Table 102).

The data presented above are only for home or private shelter costs, and cover a time span comparable to that in which private shelters were most popular. There is some evidence that people were reluctant to spend the money necessary for an adequate shelter. The issues of public shelters and estimates of Federal spending have not been included in this paper as two recent publications from this Office have covered both topics adequately.[7]

E. Evaluation of Local Civil Defense Programs

Concern with the public's attitudes regarding local civil defense efforts is a critical consideration in the planning of any national effort. In the event of an enemy attack, the local areas constitute survival units for large numbers of people. These units could easily become isolated in crisis periods; they must, therefore, be well organized prior to the emergency so that such problems as lack of communications with the rest of the country could be handled without endangering the possibilities of physical and social recovery. If the residents within these local areas feel that the efforts of their civil defense organization would be ineffective during crises, their criticisms should be taken into account by the planners of the nation-wide system.

In 1950, people's reactions about the present state of civil defense were investigated by the University of Michigan. There was considerable disagreement about the present capacity of cities to handle the effects of an atomic attack. People who believed in

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7. Civil Defense and Society by Jiri Nehnevajsa et al., Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, 1964, and Jiri Nehnevajsa, "Cost of Civil Defense: A Study of Public Views," in Some Public Views on Civil Defense Programs, by Jiri Nehnevajsa et al., Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, 1964.

their city's ability to take care of people in an atomic attack were far outnumbered by those who did not believe in community ability to meet an attack (Table 103).

Table 104 shows that poor organization, plans, information, and lack of training, communication, and dissemination of information were cited more frequently as reasons why the city would be unable to do a good job of taking care of its people than any other single reason. Only three percent mentioned inadequate shelters.

There was, also, considerable disagreement as to how well the cities were doing in preparing for attacks. Table 105 shows that while there was more favorable opinion than unfavorable, approximately one-half of the respondents felt that there was nothing being done. It should be mentioned that although there was some civil defense preparation going on at the time of this study (fall, 1950), it was on a very small scale.

When we examine the public's evaluations of their cities' current civil defense efficiency by their expectations of atomic attack, we find that no matter how likely they felt it was that cities would be bombed, most people said that their city could not do a good civil defense job (Table 106). However, more people (66 percent) who said it was very likely that cities would be bombed and more (64 percent) who felt it was likely said that their city could not do a good civil defense job than those who said it was not likely that cities would be bombed (53 percent).

People who felt that the Armed Forces could give protection sufficient to minimize danger were, relative to people lacking such belief, more likely to be satisfied with the current ability of their cities to do a good civil defense job (Table 107). We find that 54 percent of those who felt that the Armed Forces could give complete protection and 28 percent of people who felt that heavy damage would be prevented felt that cities could do a good job. (This is opposed to 17 percent of people who felt that the Armed Forces could give only poor protection).

Satisfaction with current civil defense conditions was affected by the geographical location of the respondents. Mid-westerners more frequently showed satisfaction with programs (31 percent) people living along the East Coast were next (28 percent), and West Coast residents were the least satisfied (15 percent). Table 108 summarizes this data.

In the 1951 University of Michigan survey, some of the same questions were repeated with the intent of establishing a trend over time. It was found that in 1951, there was less disagreement about the present capacity of cities to handle the effects of an atomic attack. Whereas in 1950, more than half of the respondents felt that their city could not do a good job, only 38 percent of them felt this way in 1951 (Table 109).

We see in Table 110 that education and evaluation of the city's civil defense program were related. Sixty percent of those having a college education said that their city could not do a good job whereas 49 percent of high school graduates, 41 percent of grade school graduates and 27 percent of those who did not complete grade school felt this way.

An index of atomic bomb information was constructed by Michigan, using data from information questions related to knowledge about the atomic bomb and its effects, and about protection against these effects. The more informed the interviewees were of the effects of the atomic bomb, the less they were inclined to evaluate their city's civil defense program favorably. Of all those people who scored high on the information index, only 27 percent of them said that their city could do a good job. This compares to 42 percent of those people on the low end of the scale. Conversely, more of the well informed (60 percent) said that their city could not do a good job as opposed to 23 percent of the uninformed (Table 111).

When asked to evaluate the progress of their city's civil defense program, the respondents' opinions were about evenly divided between favorable (27 percent) and unfavorable (29 percent). Table 112 summarizes this data.

When the respondents' evaluations of civil defense progress was examined with regard to the amount of knowledge they had about atomic bombs, a relationship occurred. More of the well informed people (those on the upper end of the atomic bomb information index) responded favorably to the progress being made on civil defense programs than did those in the uninformed categories. The bulk of those who were uninformed fell into the "don't know" and "not ascertained" categories. In other words, people who did not know much about the atomic bomb and its effects also did not know what was going on in local civil defense programs (Table 113).

In a 1961 study by the American Institute of Public Opinion, the respondents were asked about how civil defense was being handled in their local areas. Twenty-two percent of the respondents felt that civil defense was being handled well. However, more than half of the interviewees, 59 percent, had little or no knowledge about local civil defense programs (Table 114).

In 1956, the University of Michigan conducted a national survey in which they asked people to assess civil defense, generally. In Table 115, we see that of those who gave an answer, almost eight in ten respondents felt that there definitely should be more civil defense preparation. Only 16 percent felt that the current civil defense status was alright. Between the time of the earlier Michigan studies reported and this survey, much happened on the international scene which could have accounted for the drastic change in people's opinions about civil defense.

Moscow announced the explosion of a hydrogen bomb in 1953, the first aerial H-bomb was tested in May of 1956, and the Hungarian revolt began in October of the same year. In other words, the Cold War atmosphere was a great deal more tense than in 1951.

The results from another question included in the 1956 Michigan survey suggest the area in which these respondents feel that the civil defense effort could be expanded. Table 116 shows that more than eight out of every ten persons answering the question felt that shelters for people who live in areas that might be attacked was a worthwhile endeavor. Only five percent of the sample did not favor this proposal.

There is some evidence to suggest that a sizeable portion of the public has not been satisfied with the civil defense efforts in their local communities. It is difficult to determine whether this is a result of a lack of civil defense activity or whether it stems from ineffective communication between local civil defense officials and the residents of the community.

F. Effectiveness of Civil Defense Systems for Types of Weapons Effects

The Office of Civil Defense has been charged with the responsibility to produce a system to protect life and property in the U.S. in the event of an enemy attack. Civil defense programs operate to minimize damage resulting from successful weapons penetrations. A major consideration in the planning of these programs has to do with the kinds of weapons effects against which the public should be protected. The two kinds with which we shall concern ourselves in this report are:

1. Primary effects

2. Fallout or secondary effects

The Government has placed most of the emphasis, in the past, on protection against fallout rather than the primary effects of an attack such as heat and blast. Shelters have been planned with fallout in mind. Perhaps, the Government and the public do not believe that anything really effective can be done for the protection of those communities under direct attack. A recent publication from this Office disclosed that fallout has been recognized as a major source of casualties in an attack situation.[8] Most people do not feel that much can be done to protect against blast and heat effects of nuclear weapons.

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8. Nehnevajsa, Jiri et al., Civil Defense and Society, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, July, 1964, Part Three, II.

Therefore, most of them think that a concern with fallout is more realistic than programs to cope with the primary effects of weapons. But, nonetheless, the public has no major opposition to programs which attempt to protect them against all effects of weapons.

In the 1956 University of Michigan study, the respondents were asked if they had heard of fallout or atomic dust, or radioactivity or something like that in connection with the bomb. Of those who had heard something, five in ten said that by taking cover in shelters, one could protect himself from these things (Table 117). Only three percent mentioned protection of distance or evacuation.

In the same study, when asked if they knew of anything that could be done to protect oneself against the blast and heat (primary effects), the dominant reply was, once again, shelters. Fifty-four percent of the respondents felt that shelters could protect them from the blast and heat of an H-bomb explosion.

Thirty-seven percent of the respondents in the University of Michigan's 1961 research mentioned shelters spontaneously in answer to a question of whether they could think of anything that might be done to make an attack against the United States less damaging than it otherwise might be (Table 119). People who answered in other terms were asked how good shelters would be in protecting people from rays, fallout, radiation or atomic dust dangers that come after an atomic explosion. Most of them answered that shelters would be of some help. Only 14 percent of the total sample said that shelters would be of no help.

In the 1961 Michigan State survey, estimates of the effectiveness of shelters in escaping radiation sickness were obtained. More than three in four saw at least some chance for people to avoid radiation sickness by being housed in fallout shelters far enough away to escape the bomb blast (Table 120).

Columbia University's fallout shelter study, done in 1963, probed for reasons why some people opposed shelters. Fifteen percent of the respondents said they opposed shelters because the type that was available would not provide protection under direct hit, i.e., would not withstand primary effects (Table 121). An additional 25 percent said shelters "will never work," and "won't provide protection."

About six percent of the respondents in the 1963 University of Pittsburgh nation-wide study disagreed with the notion that

fallout shelters far enough away from the blast would give people a very good chance of surviving (Table 122). More than nine in ten agreed or agreed strongly with the statement. Once again, however, the emphasis is on secondary effects.

The public feels that something can be done to protect against the secondary effects of thermonuclear warfare. Most people consider fallout shelters to be the answer, as long as they are far enough away to escape the blast effects. It appears to be widely held that nothing much can be done to protect against blast and heat.

III. PASSIVE DEFENSES

A. Effectiveness of Evacuation Programs

Table 34

TABLE 7-1

CONJECTURED BEHAVIOR IN THE EVENT OF AN ATTACK ON THE U.S.

Q.: If you heard some Sunday that an A-bomb attack had started on the U.S., what would you do? Stay where you are or go somewhere else?

If needed: Well, what do you think you might do?
- or - What would you do if there were no orders?

Leave town	8% of the population
Remain in town	88
Don't know	3
Not ascertained	1
	100%

(5.5% would try to leave town by car)

Survey of Public Knowledge and Attitudes Concerning Civil Defense: A Report of a National Study in March, 1954, Stephen B. Withey, Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, Michigan, September, 1954, p. 110.

Table 35

TABLE 7-2
CONJECTURED BEHAVIOR IN THE METROPOLITAN CITIES
& ELSEWHERE CONTRASTED

Behavior	Metro	Metro Suburb	50,000 or over	Under 50,000	Rural only
Leave town	11%	10%	10%	6%	5%
Remain in town	86	88	86	89	90
Don't know	2	1	3	3	3
Not ascertained	1	*	1	2	2
	100%	100%	100%	100%	100%

*Less than one per cent

Survey of Public Knowledge and Attitudes Concerning Civil Defense: A Report of a National Study in March, 1954, Stephen B. Withey, Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, Michigan, September, 1954, p. 111.

Table 36

TABLE 7-3

CONJECTURED BEHAVIOR IN THE METROPOLITAN CITIES & ELSEWHERE CONTRASTED

Behavior	Metro	Metro Suburb	50,000 or over	Under 50,000
Leave town	2%	1%	2%	3%
Remain	13	12	20	43
Don't know	-	-	1	2
Not ascertained	-	-	-	1
	15%	13%	23%	49% = 100%

Survey of Public Knowledge and Attitudes Concerning Civil Defense: A Report of a National Study in March, 1954, Stephen B. Withey, Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, Michigan, September, 1954, p. 111.

Table 37

Table 7-5

MEANING OF THE AIR RAID SIGNAL

Q.: If you heard the warning signal, how much time do you think you might have before planes reached here?

Expected Time	Metro	Suburbs	Over 50,000	Under 50,000	For Nation
Less than 10 minutes	31%	44%	24%	7%	20%
Ten up to 20 minutes	14	19	12	4	9
Twenty minutes up to one-half hour	7	3	4	1	3
One-half hour up to 1 hour	10	6	9	1	5
One hour up to 2 hours	7	5	4	1	3
Two hours or over	1	2	3	1	2
Don't know	25	15	22	8	14
Not ascertained	5	3	6	2	3
Does not know warning signal	-	3	16	75	41
	100%	100%	100%	100%	100%

Survey of Public Knowledge and Attitudes Concerning Civil Defense: A Report of a National Study in March, 1954, Stephen B. Withey, Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, Michigan, September, 1954, p. 112.

Table 38

Table 7-6

CHOICE OF EVACUATION BY PERSONS MAKING SOME CHOICE, ACCORDING TO EXPECTED TIME OF WARNING

Among those expecting a period of:	Percent of each group
Less than 10 minutes	7% chose evacuation
10 to 20 minutes	8% chose evacuation
20 to 30 minutes	11% chose evacuation
½ to 1 hour	12% chose evacuation
1 to 2 hours	16% chose evacuation
2 hours or over	18% chose evacuation

Survey of Public Knowledge and Attitudes Concerning Civil Defense: A Report of a National Study in March, 1954, Stephen B. Withey, Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, Michigan, September, 1954, p. 113.

Table 39

Table 7-19

PRACTICE EVACUATION

Q.: How about if they had a practice evacuation; would you take part in it?

Would take part without hesitation	53% of metro population
Would take part with hesitation	9
Would take part with reluctance	1
Would not take part	13
Depends and don't know	6
Not ascertained	2
Could not walk	16
	100%

Survey of Public Knowledge and Attitudes Concerning Civil Defense: A Report of a National Study in March, 1954, Stephen B. Withey, Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, Michigan, September, 1954, p. 128.

Table 40

Suppose we get into a war with Russia. Let's imagine there is an air raid alert in this city (town, community), and we have been warned there's a strong chance they might drop an atom or hydrogen bomb here. What would you do?

	N	%
Air raid shelter	62	5.0
Cellar-basement, hole, low down	431	35.0
Stay indoors, first floor, hall	68	5.5
Find cover or shelter, safe place	273	22.1
Leave city if possible	128	10.4
Get in open, backyard	14	1.1
Follow instructions of Civil Defense Wardens	93	7.5
Report for civil defense duty, help public	60	4.9
Cover head, eyes, protect self	36	2.9
Stay where I was, do nothing	82	6.6
All others	234	19.0
No answer, don't know	185	—
Total	1418	1233*

*The percents total to more than 100% as some respondents gave more than one answer.

A.I.P.O., 531, May, 1954, (Unpublished).

Table 41

Q. 26 Say an attack had hit some town near here but no damage had occurred around here. If you were asked to house, for awhile, some people who had children, or old people, or people of another race or religion, or very poor people, or fairly rich people--how would you feel about having your home open to some of these kinds of people?

	N	%
No objections to anyone, all welcome	1435	89.6
Some objections, object to some people	134	8.4
Would object to housing anyone	33	2.1
Don't knows, no answers	41	___
Total	1643	1602

University of Michigan, Study 418, 1956, (Unpublished).

Table 42

Q. 27 Say there was only a warning of an attack and they moved people out of places that might be hit. How would you feel about taking some people like this into your home for awhile in that case?

	N	%
No objections to anyone, all welcome	1301	81.2
Some objections, object to some people	187	11.7
Would object to housing anyone	114	7.1
Don't knows, no answers	41	___
Total	1643	1602

University of Michigan, Study 418, 1956, (Unpublished).

Table 43

Q. 28 How do you feel about the idea of planning or trying to move most of the people out of a city in order to try to save lives during an attack?

	N	%
Favors it without reservations, thinks it worthwhile	813	52.0
Favors it with reservations	299	19.1
Pro-con	84	5.4
Does not favor this, does not think it worthwhile	366	23.4
Don't knows, no answers	81	----
Total	1643	1562

University of Michigan, Study 418, 1956, (Unpublished).

Table 44

Q. 19, 19a. Do you think that things can be done now, so that in case of attack more people would survive?

	N	%
First mention:		
Yes, things can be done - general information, learning	526	38.1
Yes, things can be done - planning specific procedures	69	5.0
Evacuation plan and practice	27	2.0
Shelters	437	31.6
Stock-piling	28	2.0
Military actions	10	0.7
Warning systems	24	1.7
Yes, no answer to what could be done	143	10.3
No, nothing can be done, no second mention	118	8.5
Don't knows, no answers	261	
Total	1643	1382
Second mention:		
Yes, things can be done - general information, learning	94	6.1
Yes, things can be done - planning specific procedures	56	3.6
Evacuation plan and practice	26	1.7
Shelters	72	4.7
Stock-piling	56	3.6
Military actions	4	0.3
Warning systems	11	0.7
Yes, no answer to what could be done	6	0.4
No, nothing can be done, no second mention	1212	78.8
Don't knows, no answers	105	
Total	1643	1537

University of Michigan, Study 418, 1956, (Unpublished)

III. PASSIVE DEFENSES

B. Effectiveness of Shelter Systems

Table 45

Q. 20. What sorts of things might be done that would be a waste of time and money?	N	%
Anything or everything would be wasted effort	18	3.6
Evacuation plans	28	5.6
Shelters	78	15.7
World War II type Civilian Defense	4	0.8
Several things mentioned	22	4.4
Nothing, none	348	69.9
Don't Knows, No Answers	1145	____
Total	1643	498

University of Michigan, Study 418, 1956 (Unpublished).

Table 46

In general, how do you feel about a nationwide shelter program? Do you think it would be a waste of time and money, or not?	N	%
Yes	980	35.7
No	1246	45.3
No opinion	522	19.0
Don't know, no answer, other	17	____
Total	2765	2748

.I.P.O., 652, November, 1961, (Unpublished).

Table 47

Q. "If a big war and an atomic attack on the United States should come, is there anything you can think of that could have been done to make the attack on the U.S. less damaging to us?

Shelters	37%

People answering in other terms were then asked the following question:

"How about shelters to protect people from rays, fallout, radiation, or atomic dust dangers that come after an atomic explosion? Would that help?"

Shelters would help	24
Shelters of some help	18
Shelters of no help	14
Don't know	7
	100%

The U.S. and the U.S.S.R.: A Report of the Public's Perspectives on United States--Russian Relations in Late 1961, Stephen B. Withey, Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, Michigan, March, 1962, p. 39.

Table 48

Q. "When you think about the idea of building shelters in the United States, or fixing shelter areas in buildings, what do you think of as the good and bad things about such a program? First, what good things or advantages do you think of? What bad things or disadvantages do you think of?"

Advantages	
End result — save lives, help survival	66%
Shelter characteristics — large group shelters, staffing, accessibility, in urban areas	17
Current factors — morale, stimulus to economy, deterrence, common action	11
Miscellaneous	7
Don't know	12
No advantages	6
	*

Disadvantages	
End result — not save lives, life not worth living in post-attack conditions	12%
Shelter characteristics — overcrowding, accessibility, supplies, staff, confinement, etc.	47
Current factors — low morale, expense, provocative, waste, graft, etc.	26
Miscellaneous	11
Don't know	11
No disadvantages	19
	*

*More than one item could be mentioned, so total exceeds 100%

The U.S. and the U.S.S.R.: A Report of the Public's Perspectives on United States—Russian Relations in Late 1961, Stephen B. Withey, Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, Michigan, March, 1962, p. 41.

Table 49

Q.29 If a nuclear war started next week, how good are the chances that people in this neighborhood would survive -- very good, fairly good, fairly bad, or very bad?

1 - Col. 59 (s.p.)

	Cross Section No.	%
0 - Not asked	3	XX
1 - Very good	30	2
2 - Fairly good	282	21
3 - 50-50 chance	136	10
4 - Fairly bad	265	19
5 - Very bad	474	34
6 - No chance at all	78	6
7 - Don't know	114	8
	1382	100%
		(1379)

Q.30 What if they were in fallout shelters? How good would the chances be then that people in this neighborhood would survive -- very good, fairly good, fairly bad, or very bad?

1 - Col. 60 (s.p.)

0 - No answer	3	XX
1 - Very good	241	17
2 - Fairly good	496	36
3 - 50-50 chance	161	12
4 - Fairly bad	192	14
5 - Very bad	150	11
6 - No chance at all	33	2
7 - Don't know	106	8
	1382	100%
		(1379)

Fallout Shelter Study, Codebook Number Five, Survey of Publics in Nine Communities, Bureau of Applied Social Research, Columbia University, August, 1963, pp. 75-76.

Table 50

Q. 44 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?

II - Col. 22 (s.p.)	Cross Section No.	%
0 - Not asked	1	XX
1 - Strongly favor	322	23
2 - Somewhat favor	596	43
3 - Somewhat opposed	244	18
4 - Strongly opposed	147	11
5 - Don't know, no opinion	72	5
	1382	100%
		(1381)

Q. 44 A. When you answered the previous question, did you have in mind private family shelters, community shelters, or both kinds?

II - Col. 24 (s.p.)		
0 - Not asked	51	XX
1 - Family	216	17
2 - Community	316	25
3 - Both	710	56
4 - Don't know	16	2
X - Does not apply	73	XX
	1382	100%
		(1258)

Fallout Shelter Study, Codebook Number Five, Survey of Publics in Nine Communities, Bureau of Applied Social Research, Columbia University, August, 1963, pp. 110-111.

Table 51

Fallout Shelter Study	Cross Section	
Q. 44-B (Continued) Reasons for opposing, having reservations about shelters.	No.	%
V Col. 58 (m.p.)		
0 - Inherent structural inadequacies: they are "useless," "will never work," "won't provide protection," etc.	110	25
1 - Present structural inadequacies: types of shelters now available won't provide protection under direct hit	66	15
2 - Cost (too expensive)	47	11
3 - There would be insufficient warning time to make use of them	46	11
4 - There would be insufficient supplies, stocks within shelters	24	6
5 - Difficulties of shelter living: panic, conflict among occupants, "stir crazy," claustrophobia	16	4
6 - Dangers upon emerging from shelters (contamination, fallout, devastation)	155	36
7 - Pre-attack psychological effects: public will think war inevitable, unavoidable problem, closer, more of a possibility	8	2
8 - Pre-attack psychological effects: public (or government) would be more willing to risk war, would be less eager to press for disarmament	7	2
9 - Shelters are unnecessary because there won't be a war	38	9
X - NONE OF THE ABOVE:	81	XX
Y - Does Not Apply	870	XX
	1382	a (432)

Fallout Shelter Study, Codebook Number Five, Survey of Publics in Nine Communities, Bureau of Applied Social Research, Columbia University, August, 1963, p. 114.

Table 52

Quest. 24: Var. 104 - Fallout shelters provide some chance of living through a nuclear (atomic) war.

Card 3; Col. 27	N	%
1 Agree strongly	289	20.6
2 Agree	978	69.9
3 Disagree	106	7.6
4 Disagree strongly	22	1.6
5 None of these	5	.4
X Missing data	34	XX
TOTAL	1434	1400

Civil Defense and Cold War Attitudes: Data Book for the 1963 National Probability Sample, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, June, 1964, p. 80.

Table 53

EVALUATION OF SURVIVAL CHANCES
IN SHELTERS BY SIZE OF RESIDENCE

In Percent

Size of Residence:	Fallout Shelters Provide Some Chance of Living Through a Nuclear (Atomic) War					
	Agree strongly	Agree	Disagree	Disagree strongly	None of these	N
Largest metropolitan (2,000,000 and over)	21.3	66.8	8.1	2.9	1.0	310
Large metropolitan	19.2	69.8	8.9	1.8	0.4	562
County with large city of 10,000 and over	20.5	73.6	5.5	0.5	--	220
County with no city over 10,000	22.7	70.5	6.2	0.6	--	308

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 54

EVALUATION OF SURVIVAL CHANCES IN SHELTERS
BY GEOGRAPHICAL LOCATION

In Percent

Geographic Location:	Fallout Shelters Provide Some Chance of Living Through a Nuclear War					
	Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
New England	19.0	69.0	10.3	1.7	---	58
Middle Atlantic	20.7	66.5	9.2	3.2	0.4	251
E. No. Central	19.6	68.6	9.4	2.0	0.4	255
W. No. Central	22.2	72.2	2.5	1.9	1.2	162
South Atlantic	27.8	61.4	9.1	1.1	0.6	176
E. South Central	18.3	73.2	8.5	---	---	71
W. South Central	19.4	75.3	4.8	0.5	---	186
Mountain	11.6	79.1	9.3	---	---	43
Pacific	18.7	73.2	7.1	1.0	---	198

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 55

EVALUATION OF SURVIVAL CHANCES
IN SHELTERS BY AGE

In Percent

Age:	Fallout Shelters Provide Some Chance of Living Through a Nuclear War					
	Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
10-19	27.3	63.6	9.1	---	---	11
20-29	23.7	66.9	7.2	1.4	0.7	278
30-39	23.7	68.1	6.3	1.6	0.3	367
40-49	18.2	72.4	8.5	0.6	0.3	341
50-59	17.8	72.5	6.8	2.5	0.4	236
60 and over	18.1	67.4	11.6	2.9	---	138

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 56

EVALUATION OF SURVIVAL CHANCES
IN SHELTERS BY EDUCATION

In Percent

Respondent's Education:	Fallout Shelters Provide Some Chance of Living Through a Nuclear War: Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
No Schooling		100.0				4
Grammar School (1-8 yrs.)	20.7	69.7	7.8	1.4	0.3	294
Some High School (9-11 yrs.)	21.6	69.3	7.5	0.9	0.6	319
Completed High School (12 yrs.)	19.4	69.6	8.2	2.3	0.5	428
College, Incomplete	20.4	73.7	5.4	0.5	—	186
College Graduate	22.6	70.8	5.7	0.9	—	106
Higher than College	22.6	61.3	11.3	4.8	—	62

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 57

EVALUATION OF SURVIVAL CHANCES
IN SHELTERS BY OCCUPATION

In Percent

Fallout Shelters Provide Some Chance of Living Through a Nuclear War

Occupation:	Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
Professional	21.3	68.6	8.0	2.1	-	188
Farmers and farm managers	20.2	70.8	7.9	1.1	-	89
Managers, officials and proprietors	21.4	66.5	10.4	.7	-	173
Clerical	18.3	74.0	6.7	1.0	-	104
Sales	18.4	73.7	6.6	1.3	-	76
Craftsmen, foremen, and kindred workers	19.3	69.1	8.0	2.2	1.5	275
Operatives and kindred workers	21.3	70.0	7.4	0.9	0.4	230
Service workers	19.1	71.8	5.5	3.6	-	110
Farm laborers and foremen	10.0	90.0	-	-	-	10
Laborers	25.5	68.3	6.2	-	-	145

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 58

EVALUATION OF SURVIVAL CHANCES IN SHELTERS
BY LEVEL OF INCOME

In Percent

Income:	Fallout Shelters Provide Some Chance of Living Through a Nuclear War					
	Agree strongly	Agree	Disagree	Disagree strongly	None of these	N
Under $3,000	21.7	69.9	7.1	0.9	0.4	226
$3,000 to $4,999	19.7	72.5	6.3	1.5	--	269
$5,000 to $7,499	23.3	67.0	8.0	1.3	0.5	400
$7,500 to $9,999	18.6	70.8	9.3	0.9	0.4	226
$10,000 to $14,999	20.7	71.3	6.1	1.8	--	164
$15,000 to $24,999	15.3	67.8	8.5	6.8	1.7	59
$25,000 and over	26.7	66.7	6.7	--	--	15

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 59

EVALUATION OF SURVIVAL CHANCES IN SHELTERS BY POLITICAL PARTY PREFERENCE

In Percent

Fallout Shelters Provide Some Chance of Living Through a Nuclear War.

Political Party:	Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
Republican	18.4	73.3	7.1	0.9	0.2	434
Democratic	21.8	68.7	7.3	1.8	0.4	735
Other	22.1	63.2	11.8	2.9	---	68
None	20.3	67.8	9.1	2.1	0.7	143

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 60

Q. 27 : Var. 107 - People in fallout shelters may not have an easy time of it, but at least they will be alive and able to rebuild after a nuclear (atomic) war.

Card 3: Col. 30		N	%
1	Agree strongly	215	15.8
2	Agree	894	65.6
3	Disagree	195	14.3
4	Disagree strongly	36	2.6
5	None of these	22	1.6
X	Missing data	72	XX
TOTAL		1434	1362

Civil Defense and Cold War Attitudes: Data Book for the 1963 National Probability Sample, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, June, 1964, p. 81.

Table 61

EVALUATION OF SURVIVAL CHANCES
IN SHELTERS BY SIZE OF RESIDENCE

In Percent

By Size of Community:	People in Fallout Shelters will be Alive and Able to Rebuild After a Nuclear War: Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
Largest Metropolitan Areas (2,000,000 and over)	16.1	63.6	15.7	3.3	1.3	305
Large Metropolitan	15.0	66.1	13.9	3.1	1.8	545
Non-metropolitan areas with city of 10,000 or over	15.0	70.6	12.1	1.9	0.5	214
Non-metropolitan areas with no city of 10,000	17.4	63.4	15.1	1.7	2.3	298

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

EVALUATION OF SURVIVAL CHANCES
IN SHELTERS BY GEOGRAPHICAL LOCATION

In Percent

Geographical Location:	People in Fallout Shelters will Be Alive and Able to Rebuild After a Nuclear War: Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
New England	12.5	60.7	19.6	---	7.1	56
Middle Atlantic	17.1	62.6	17.1	2.8	0.4	246
East North Central	13.8	64.8	17.0	2.0	2.4	253
West North Central	15.9	69.4	9.6	2.5	2.5	157
South Atlantic	19.3	64.9	10.5	4.7	0.6	171
East South Central	22.2	61.9	11.1	4.8	---	63
West South Central	11.7	74.4	11.7	1.1	1.1	180
Mountain	22.7	61.4	11.4	4.5	---	44
Pacific	14.6	63.5	17.2	2.6	2.1	192

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 63

EVALUATION OF SURVIVAL CHANCES IN SHELTERS BY RACE

In Percent

People in Fallout Shelters will be Alive and Able to Rebuild After a Nuclear War

	Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
Race:						
White	15.7	64.9	15.2	2.7	1.6	1198
Negro	16.8	71.0	7.7	2.6	1.9	155

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 64

EVALUATION OF SURVIVAL CHANCES IN SHELTERS BY SEX

In Percent

People in Fallout Shelters will be Alive and Able to Rebuild After a Nuclear War

	Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
Sex:						
Male	16.4	67.2	12.1	2.9	1.4	629
Female	15.3	64.3	16.2	2.5	1.8	733

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 65

EVALUATION OF SURVIVAL CHANCES IN SHELTER BY AGE

In Percent

People in Fallout Shelters will be Alive and Able to Rebuild After a Nuclear War

	Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
Age:						
10-19	18.2	81.8	-	-	-	11
20-29	21.4	60.1	14.1	2.9	1.4	276
30-39	16.9	66.4	12.7	2.3	1.7	354
40-49	13.1	69.1	14.4	1.8	1.5	327
50-59	15.0	64.8	15.5	3.0	1.7	233
60-69	11.2	62.7	20.1	3.7	2.2	134

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 66

EVALUATION OF SURVIVAL CHANCES IN SHELTERS BY EDUCATION

In Percent

	People in Fallout Shelters will be Alive and Able to Rebuild After a Nuclear War					
	Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
Respondent's Education:						
No Schooling	-	75.0	25.0	-	-	4
Grammer School (1-8 yrs.)	16.6	68.2	12.1	2.4	0.7	289
Some High School (9-11 yrs.)	19.7	61.6	14.3	2.9	1.6	315
Completed High School (12 yrs.)	13.6	66.7	15.5	2.7	1.5	412
College, Incomplete	15.3	64.4	13.0	2.8	4.5	177
College Graduate	17.6	67.6	11.8	2.0	1.0	102
Higher than College	6.5	66.1	24.2	3.2	-	62

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 67

EVALUATION OF SURVIVAL CHANCES IN SHELTERS BY OCCUPATION

In Percent

People in Fallout Shelters will be Alive and Able to Rebuild After a Nuclear War

	Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
Occupation:						
Professional	12.7	69.1	14.4	2.2	1.7	181
Farmers and farm managers	15.7	65.2	14.6	3.4	1.1	89
Managers, officials and proprietors	15.2	59.4	19.4	3.0	3.0	165
Clerical	19.8	60.4	17.8	2.0	-	101
Sales	14.7	68.0	10.7	4.0	2.7	75
Craftsmen, foremen, and kindred workers	19.7	61.3	13.4	3.3	2.2	269
Operatives and kindred workers	13.7	69.0	15.0	1.3	0.9	226
Service workers	16.2	71.4	9.5	1.9	1.0	105
Farm laborers and foremen	11.1	88.9	-	-	-	9
Laborers	14.1	68.3	12.7	3.5	1.4	142

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 68

EVALUATION OF SURVIVAL CHANCES IN SHELTERS BY RELIGIOUS PREFERENCE

In Percent

	People in Fallout Shelters will be Alive and Able to Rebuild After a Nuclear War					
	Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
Religion:						
Protestant	14.8	67.0	13.4	2.7	2.0	931
Roman Catholic	19.3	63.1	15.5	1.8	0.3	336
Jewish	8.1	62.2	18.9	8.1	2.7	37
Agnostic	-	83.3	16.7	-	-	6
Atheist		-	50.0	50.0	-	2
Other	14.3	67.9	17.9	-	3.6	28
None	22.7	50.0	18.2	4.5	9.1	22

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 69

EVALUATION OF SURVIVAL CHANCES IN SHELTERS BY POLITICAL PARTY PREFERENCE

In Percent

People in Fallout Shelters will be Alive and Able to Rebuild After a Nuclear War

	Agree Strongly	Agree	Disagree	Disagree Strongly	None of These	N
Political Party:						
Republican	12.7	67.6	14.6	2.8	2.3	426
Democrat	18.0	65.4	13.2	2.4	1.1	713
Other	17.9	58.2	19.4	1.5	3.0	67
None	14.0	62.5	17.6	4.4	1.5	136

Unpublished data from the 1963 Study of Civil Defense and Cold War Attitudes, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1963.

Table 70

Quest. 12: Var. 32 - If a nuclear war started next week how good are the chances that people around here would survive?

Card 1: Col. 54	N	%
Never will happen	3	0.2
Very Good	67	4.7
Fairly Good	303	21.2
50-50 Chance	161	11.3
Fairly Bad	301	21.0
Very Bad	497	34.7
No Chance at all	99	6.9
Missing Data	33	XX
TOTAL	1464	1431

Civil Defense and Cold War Attitudes: Data Book for the 1964 National Probability Sample Study, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, December, 1964, p. 28.

Table 71

Quest. 14: Var. 34 - What if they were in fallout shelters? How good would the chances be then that people in this area would survive?

Card 1: Col. 56	N	%
Never will happen	2	0.1
Very Good	262	18.4
Fairly Good	674	47.4
50-50	193	13.6
Fairly Bad	151	10.6
Very Bad	114	8.0
No Chance at all	26	1.8
Missing Data	42	XX
TOTAL	1464	1422

Civil Defense and Cold War Attitudes: Data Book for the 1964 National Probability Sample Study, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, December, 1964, p. 29.

Table 72

ESTIMATES OF SHELTER EFFECTIVENESS BY SIZE OF RESIDENCE

In Percent

	Chances for Survival in Local Area if People Were in Fallout Shelters							
	Never	Very Good	Fairly Good	50-50 Chance	Fairly Bad	Very Bad	No Chance	N
By Size of Community:								
Largest metropolitan areas (2,000,000 and over)	0.3	12.8	43.9	16.3	9.6	13.7	3.5	344
Large metropolitan	0.2	17.4	51.3	12.1	10.6	6.8	1.6	556
Non-metropolitan areas with city of 10,000 or over	-	19.6	43.8	18.3	11.0	5.5	1.8	219
Non-metropolitan areas with no city of 10,000	-	25.7	46.9	9.9	11.6	5.6	0.3	303

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 73

ESTIMATES OF SHELTER EFFECTIVENESS BY GEOGRAPHICAL LOCATION

In Percent

Geographical Location:	Chances for Survival in Local Area if People Were in Fallout Shelters							
	Never	Very good	Fairly good	50 - 50 Chance	Fairly bad	Very bad	No Chance	N
New England	-	14.9	43.2	12.2	13.5	9.5	6.8	74
Middle Atlantic	0.4	15.9	44.6	14.7	8.0	13.5	2.8	251
East North Central	-	15.6	50.4	13.2	12.5	7.0	0.4	244
West North Central	-	19.0	52.8	8.6	12.9	6.1	0.6	163
South Atlantic	-	24.6	45.1	12.1	9.4	7.1	1.8	224
East South Central	1.4	21.7	36.2	21.7	11.6	5.8	1.4	69
West South Central	-	19.1	46.4	14.2	13.6	2.5	1.2	162
Mountain	-	17.4	58.7	8.7	4.3	8.7	2.2	46
Pacific	-	17.5	46.6	14.3	10.1	9.5	2.1	189

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 74

ESTIMATES OF SHELTER EFFECTIVENESS BY AGE

In Percent

Chances for Survival in Local Area if People were in Fallout Shelters

Age:	Never will happen	Very good	Fairly good	50 - 50 chance	Fairly bad	Very bad	No chance	N
10-19	-	29.4	47.1	5.9	3.9	11.8	-	17
20-29	-	19.1	53.6	10.6	9.8	6.0	0.9	235
30-39	0.3	22.4	48.6	11.2	9.7	6.5	1.2	321
40-49	-	17.9	42.9	18.6	12.6	7.3	0.7	301
50-59	0.4	15.9	48.0	10.7	11.9	11.1	2.0	252
60-69	-	14.4	50.9	16.2	7.2	8.4	3.0	167
70-79	-	18.8	34.4	16.7	13.5	8.3	8.3	96
80-89	-	9.1	54.5	13.6	4.5	18.2	-	22

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 75

ESTIMATES OF SHELTER EFFECTIVENESS BY EDUCATION

In Percent

Respondent's Education:	Chances for Survival in Local Area if People Were in Fallout Shelters: Never will happen	Very good	Fairly good	50-50 chance	Fairly bad	Very bad	No chance at all	N
No schooling	-	29.4	41.2	23.5	-	-	5.9	17
Grammar school (1-8 yrs.)	0.6	20.3	40.9	17.4	10.7	8.4	1.7	345
Some high school (9-11 yrs.)	-	19.1	49.8	13.7	8.9	6.1	2.4	293
Completed high school (12 yrs.)	-	18.3	49.8	12.2	10.8	7.5	1.4	426
College, incomplete	-	17.3	45.0	13.1	11.0	12.0	1.6	191
College graduate	-	10.5	57.0	8.1	16.3	5.8	2.3	86
Higher than college	-	18.0	50.8	6.6	11.5	11.5	1.6	61

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 76

ESTIMATES OF SHELTER EFFECTIVENESS BY INCOME

In Percent

Chances for Survival in Local Area if People Were in Fallout Shelters

Income:	Never will happen	Very good	Fairly good	50-50 chance	Fairly bad	Very bad	No chance at all	N
Under $3,000	0.7	20.2	41.5	16.2	10.1	7.2	4.0	277
$3,000 to $4,999	-	18.5	47.5	13.2	10.9	7.9	1.9	265
$5,000 to $7,499	-	20.2	50.0	12.6	9.6	7.1	0.5	366
$7,500 to $9,999	-	13.4	53.9	15.7	9.7	6.9	0.5	217
$10,000 to $14,999	-	20.0	44.8	8.5	15.8	9.7	1.2	165
$15,000 to $24,999	-	16.1	44.6	14.3	10.7	10.7	3.6	56
$25,000 and over	-	16.7	44.4	11.1	16.7	5.6	5.6	18

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 77

ESTIMATES OF SHELTER EFFECTIVENESS
BY OCCUPATION

In Percent

	Chances for survival in local area if people were in fallout shelters							
	Never will happen	Very Good	Fairly Good	50-50 Chance	Fairly Bad	Very Bad	No Chance at all	N
Occupation:								
Professional	-	23.7	56.8	11.5	9.3	7.7	1.1	183
Farmers and farm managers	-	20.6	50.0	8.8	17.6	2.9	-	34
Managers, officials and proprietors	-	19.1	39.4	13.8	14.4	12.2	1.1	188
Clerical	-	17.6	50.9	13.0	10.2	7.4	0.9	108
Sales	-	15.6	46.9	9.4	14.1	10.9	3.1	64
Craftsmen, foremen, and kindred workers	-	17.2	48.1	14.1	11.8	6.9	1.9	262
Operatives and kindred workers	-	22.7	45.5	13.6	10.0	6.8	1.4	220
Service workers	0.8	20.2	47.3	16.3	4.7	8.5	2.3	129
Farm laborers and foremen	-	18.9	43.3	13.3	12.2	6.7	5.6	90
Laborers	0.7	18.8	47.2	16.0	7.6	7.6	2.1	144

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 78

ESTIMATES OF SHELTER EFFECTIVENESS
BY RELIGIOUS PREFERENCE

In Percent

	Chances for Survival in local area if people were in fallout shelters							
	Never will happen	Very Good	Fairly Good	50-50 Chance	Fairly Bad	Very Bad	No Chance at all	N
Religion:								
Protestant	0.1	19.7	48.0	13.2	10.4	6.6	1.9	978
Roman Catholic	-	17.3	47.2	12.8	11.3	9.9	1.5	335
Jewish	2.2	8.7	37.0	17.4	10.9	19.6	4.3	46
Other	-	4.5	68.2	9.1	9.1	9.1	-	22
None	-	15.4	35.9	25.6	10.3	12.8	-	39

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 79

WORRY ABOUT NUCLEAR WAR
BY ESTIMATES OF SHELTER EFFECTIVENESS

In Percent

Chances for Survival in fallout shelters:	Worry About Nuclear War: Great Deal	Some	A Little	Not at all	N
Very Good	18.8	24.9	26.8	29.5	261
Fairly Good	14.7	29.7	27.6	27.9	673
50-50	18.2	30.2	23.4	28.1	192
Fairly Bad	9.3	31.8	27.8	31.1	151
Very bad or No chance at all*	17.8	24.3	19.3	38.6	140

*Two categories, "very bad" and "no chance at all," were combined into one.

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 80

PROBABILITY OF WORLD WAR III BY ESTIMATES OF SHELTER EFFECTIVENESS

In Percent

Chances for Survival in Fallout Shelters:	Likelihood of WW III: Very Likely	Fairly Likely	Fairly Unlikely	Very Unlikely	N
Very Good	19.2	22.7	30.6	27.5	255
Fairly Good	12.3	30.0	32.3	25.4	660
50-50 Chance	11.9	28.6	31.4	28.1	185
Fairly Bad	10.3	29.7	34.5	25.5	145
Very Bad or No Chance at all *	16.2	17.0	25.9	40.7	135

*Two categories, "very bad" and "no chance at all" were combined into one.

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

le 81

WAYS IN WHICH A WORLD WAR WOULD BE FOUGHT BY ESTIMATES OF SHELTER EFFECTIVENESS

In Percent

ces for Survival in Fallout Shelters:	Most Likely Way A World War Would Be Fought								
	Never be a World War	All nuclear weapons used at once	Many nuclear weapons used, some kept in reserve	Few nuclear weapons used - military targets	Few nuclear weapons used - civilians	No nuclear weapons used, might be used later on	War fought conventional, no nuclear weapons	Other	N
r will happen	100.0	--	--	--	--	--	--	--	2
good	1.2	18.2	27.9	17.1	1.2	26.4	7.0	1.2	258
ly good	0.3	21.2	26.5	18.7	0.9	28.0	4.1	0.3	664
50	1.6	29.0	19.4	14.5	0.5	29.0	5.4	0.5	186
ly bad	2.0	25.0	18.9	17.6	2.0	27.7	6.1	0.7	148
bad or No ce at all*	3.0	36.3	20.0	9.6	2.2	20.7	5.9	2.2	135

o categories, "very bad" and "no chance at all" were combined into one.

blished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department ociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 82

EXPECTED WARNING TIME BY LEVELS OF SHELTER EFFECTIVENESS

In Percent

Chances for Survival in Fallout Shelters:	How much warning would we have in event of attack? None	Less than 15 min.	15 min.	16 to 59 min.	1 hr. to 1 day	1 day to more than 2 days	N
Never Will Happen	100.0	-	-	-	-	-	2
Very Good	12.7	26.8	10.0	21.6	25.9	3.2	251
Fairly Good	10.6	23.6	13.7	25.7	23.0	3.4	643
50-50	13.2	26.8	10.4	27.4	19.8	2.1	182
Fairly Bad	11.7	28.2	15.2	24.1	20.7	-	145
Very Bad or No Chance at all*	18.9	28.8	9.1	24.2	15.1	3.8	132

*Two categories, "very bad" and "no chance at all", were combined into one.

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Winter, 1965.

Table 83

DEGREE OF LOC L DANGER BY ESTIMATES OF SHELTER EFFECTIVENESS

In Percent

	Degree of Local Danger in Case of Nuclear War							
	Never Will Happen	Certain Danger	Great Danger	Some Danger	Little Danger	No Danger	Everywhere Hit - No Defense	N
Chances for Survival in Fallout Shelters:								
Never Will Happen	100.0	-	-	-	-	-	-	2
Very Good	1.1	12.3	27.6	28.4	21.1	9.2	0.4	261
Fairly Good	0.3	20.3	32.6	29.8	13.4	2.8	0.7	671
50-50	0.5	21.2	32.3	29.1	13.8	2.6	0.5	189
Fairly Bad	-	26.0	37.3	22.0	10.0	3.3	1.3	150
Very Bad or No Chance At All*	-	41.7	36.0	12.2	5.8	3.6	0.7	139

*Two categories, "very bad" and "no chance at all", were combined into one.

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 84

ESTIMATES OF SHELTER EFFECTIVENESS BY SURVIVAL CHANCES WITHOUT FALLOUT SHELTERS

In Percent

Chances for Local Survival without fallout shelters:	Chances for Local Survival in Fallout Shelters: Very Good	Fairly Good	50-50	Fairly Bad	Very Bad or None at all*	N
Very Good	56.1	22.7	9.1	4.5	7.6	66
Fairly Good	26.4	59.9	7.0	3.7	3.0	299
50-50	22.4	38.5	30.1	8.3	0.6	156
Fairly Bad	10.1	56.8	13.8	13.5	5.7	296
Very Bad or None at all *	13.8	41.4	12.2	14.1	18.4	581

* Two categories, "very bad" and "no chance at all" were combined into one.

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 85

AMOUNT OF FALLOUT DANGER BY ESTIMATES OF SHELTER EFFECTIVENESS

In Percent

Chances for Survival in Fallout Shelters:	Extent of Local Fallout Danger if Area was not Destroyed in Nuclear War: Never will happen	Very great	Fairly great	Little danger	No danger	N
Never will happen	100.0	--	--	--	--	2
Very good	--	27.6	38.1	29.6	4.7	257
Fairly good	--	29.1	51.0	19.0	0.9	657
50-50 chance	--	37.4	44.5	17.0	1.1	182
Fairly bad	--	36.1	52.4	10.2	1.4	147
Very bad or no chance at all*	--	68.2	26.5	5.3	--	132

* Two categories, "very bad" and "no chance at all", were combined into one.

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 86

FEELINGS ABOUT FALLOUT SHELTERS
BY ESTIMATES OF SHELTER EFFECTIVENESS

In Percent

	Feelings About Fallout Shelters				
	Strongly Favor	Somewhat Favor	Somewhat Opposed	Strongly Opposed	N
Chances for Survival in Fallout Shelters:					
Never Will Happen	-	100.0	-	-	1
Very Good	62.0	31.0	4.7	2.3	258
Fairly Good	47.4	45.0	6.3	1.2	664
50-50 Chance	44.9	51.4	2.7	1.1	185
Fairly Bad	24.5	51.0	17.7	6.8	147
Very Bad or No Chance At All*	37.0	25.9	17.8	19.3	135

*Two categories, "very bad" and "no chance at all" were combined into one.

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 87

FEELINGS ABOUT USE OF FALLOUT SHELTER
BY ESTIMATES OF SHELTER EFFECTIVENESS

In Percent

Chances for Survival in fallout shelter:	Have you ever thought of using a public fallout shelter in case of nuclear attack? Yes	No	N
Never will happen	--	100.0	2
Very good	62.2	37.8	262
Fairly good	59.7	40.3	673
50-50	58.0	42.0	193
Fairly bad	41.7	58.3	151
Very bad or no chance at all*	41.4	58.6	140

*Two categories, "very bad" and "no chance at all", were combined into one.

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

Table 8

ACTUAL USE OF FALLOUT SHELTER BY ESTIMATED OF SHELTER EFFECTIVENESS

In Percent

Chances for Survival in Fallout Shelters:	Would you try to use a shelter in case of attack? Definitely Try	Probably Try	Probably Not	Definitely Not	N
Never Will Happen	-	100.0	-	-	2
Very Good	61.5	31.9	3.1	3.5	257
Fairly Good	55.5	34.6	6.3	3.6	668
50-50	52.1	36.7	5.9	5.3	188
Fairly Bad	41.6	36.2	15.4	6.7	149
Very Bad or No Chance At All*	41.6	32.1	10.9	15.3	137

*Two categories, "very bad" and "no chance at all", were combined into

Unpublished data from the 1964 Study of Civil Defense and Cold War Attitudes, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, Summer, 1964.

III. PASSIVE DEFENSES

C. Warning Time Considerations

Table 89

Table 5-10

KNOWLEDGE OF WARNING SIGNALS

Q.: Do you know what the warning signal is which tells people that enemy planes are headed for your city (town)? What is it? Do you know the signal that says the danger has passed? What is it?

	Metro	Suburbs	Over 50,000	Under 50,000	Nation
Correct on both signals	16%	16%	14%	3%	9%
Correct on warning only	18	13	7	2	7
Correct on all-clear only	5	4	6	1	4
Don't know or wrong on both	61	64	56	18	39
No air raid signals in area	-	3	17	76	41
	100%	100%	100%	100%	100%

As a comparison, a question asked in April, 1952 asked for knowledge of just the "warning signal." It was not checked against local availability of signals or against the local report of what the signal was, both of which were done for the table above.

From Study in April, 1952

Correct knowledge of warning signal	10%
Know there is some sort of signal	33
Don't know	55
Not ascertained	2
	100%

Survey of Public Knowledge and Attitudes Concerning Civil Defense: A Report of a National Study in March, 1954, Stephen B. Withey, Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, Michigan, September, 1954, p. 87.

Table 90

Q. 15, 15a. Do you know what the warning signal is which tells people that enemy planes are headed for your city, (town) or area?

	N	%
Yes - right	269	18.3
Yes - wrong	256	17.4
Yes there is a signal but respondent thinks there is none	13	0.9
No, I don't know	833	56.8
There is no signal, and respondent thinks there is one	40	2.7
There is no signal and respondent knows so	56	3.8
No answers and missing data	176	----
Total	1643	1467

University of Michigan, Study 418, 1956, (Unpublished).

Table 91

Q. "Do you know what the warning signals are which tell people that an attack is coming? What are they?

Alert, Take Cover, or both known	24%
Source, (e.g., siren) known but signal not known or interpreted incorrectly	22
Don't know (source may have been known)	53
Sure there is no local warning	1
	100%

The American Public and International Tensions: "Data On Shelters," Survey Research Center, University of Michigan, Ann Arbor, Michigan, December, 1961, p. 15.

Table 92

TABLE 15
Item 25a

ABILITY TO HEAR WARNING SIGNALS IN HOME

Response	RS	%	LDR	%	Both	%
No answer	4	1.3	3	1.5	7	1.4
Yes	168	56.0	87	43.5	255	51.0
No	71	23.7	72	36.0	143	28.6
Don't Know	57	19.0	38	19.0	95	19.0

TABLE 16
Item 25b

ABILITY TO HEAR WARNING WITH WINDOWS CLOSED*

Response	RS	%	LDR	%	Both	%
No answer	67	22.3	37	18.5	104	20.8
Yes	126	42.0	72	36.0	198	39.6
No	47	15.7	53	26.5	100	20.0
Don't know	60	20.0	38	19.0	98	19.6

TABLE 17
Item 25c

WARNINGS WOULD WAKE FROM SLEEP *

Response	RS	%	LDR	%	Both	%
No answer	12	4.0	12	6.0	24	4.8
Yes	98	32.7	47	23.5	145	29.0
No	135	45.0	99	49.5	234	46.8
Don't know	55	18.3	42	21.0	97	19.4

* Numbers have been converted to percents for purposes of this report.

Attitudes and Knowledge Concerning Fallout Shelters in Austin, Texas, by Harry Estill Moore, January, 1962, pp. 32-33.

Table 93

TABLE 7-5

MEANING OF THE AIR RAID SIGNAL

Q.: If you heard the warning signal, how much time do you think you might have before planes reached here?

Expected Time	Metro	Suburbs	Over 50,000	Under 50,000	For Nation
Less than 10 minutes	31%	44%	24%	7%	20%
Ten up to 20 minutes	14	19	12	4	9
Twenty minutes up to one-half hour	7	3	4	1	3
One-half hour up to 1 hour	10	6	9	1	5
One hour up to 2 hours	7	5	4	1	3
Two hours or over	1	2	3	1	2
Don't know	25	15	22	8	14
Not ascertained	5	3	6	2	3
Does not know) warning signal)	-	3	16	75	41
	100%	100%	100%	100%	100%

Survey of Public Knowledge and Attitudes Concerning Civil Defense: A Report of a National Study in March, 1954, Stephen B. Withey, Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, Michigan, September, 1954, p. 112.

Table 94

Q. 17 If you heard a warning signal, how much time do you think you might have before planes reach here?

	N	%
Less than 10 minutes	355	24.9
10 up to 20 minutes	249	17.0
20 minutes up to ½ hour	94	6.4
½ hour up to 1 hour	202	13.8
1 hour up to 2 hours	137	9.4
2 hours up to 3 hours	58	4.0
3 hours or more	48	3.3
Don't know	322	22.0
No answers and missing data	178	
Total	1643	1465

University of Michigan, Study 418, 1956, (Unpublished).

Table 95

Q. 35: Var. 68 - The way things stand right now, how much time do you think we would have to know about an enemy attack on our country?

Card 2: Cols. 32, 33	N	%
No warning	177	12.8
Less than 5 minutes	122	8.8
5 - 9 minutes	117	8.5
10 - 14 minutes	114	8.2
15 minutes	171	12.4
16 - 19 minutes	29	2.1
20 - 29 minutes	117	8.5
30 - 59 minutes	192	13.9
1 - 2 hours	198	14.3
2 - 12 hours	79	5.7
12 hours - 1 day	29	2.1
1 - 2 days	20	1.4
More than 2 days	19	1.4
Missing data	80	XX
Total	1464	1384

Civil Defense and Cold War Attitudes: Data Book for the 1964 National Probability Sample Study, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, December, 1964, p. 49.

Table 96

Q. 36: Var. 69 - How much warning do you think we would have in about 1970?

Card 2: Col. 34	N	%
More warning time	558	39.8
About the same	500	35.7
Less warning time	344	24.5
Missing data	62	XX
Total	1464	1402

Civil Defense and Cold War Attitudes: Data Book for the 1964 National Probability Sample Study, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, December, 1964, p. 50.

Table 97

Quest. 18: Var. 39 - How good do you believe the present system for alerting people to enemy attack is around here?

Card 1: Col. 66		N	%
1	Very good	223	16.9
2	Good	386	29.2
3	Fair	444	33.6
4	Poor	268	20.3
X	Missing data	81	XX
TOTAL		1402 Mean = 2.573	1321

Near System Study Data Book, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, February, 1964, p. 27.

III. PASSIVE DEFENSES

D. Cost Effectiveness of Civil Defense Systems

Table 98

CD officials say that it would cost about $200 for a family to build a reasonably safe air raid shelter. Do you think you are likely to build a shelter within, say, the next year?

	N	%
Yes, likely	37	2.4
No	1456	94.2
No opinion	49	3.2
Other	3	0.2
	1545	100.0

A.I.P.O., 517, July, 1953, (Unpublished).

Table 99

Suppose a home bomb shelter could be built for under $500, would you be interested in paying to have one built for you and your family, or not?

	N	%
Yes	1013	39.9
No	1195	47.1
No opinion	310	12.2
Other	20	0.8
	2538	100.0

A.I.P.O., 627, April, 1960, (Unpublished).

Table 100

Table 38
Item 51

*REASONS FOR NOT BUILDING FALLOUT SHELTER

Responses	RS	%	LDR	%	Both	%
No ans., no opinion	151	50.3	63	31.5	214	42.8
Lack of concern	24	8.0	27	13.5	51	10.2
Too expensive to build	75	25.0	57	28.5	132	26.4
Too expensive after built	2	0.7	0	0.0	2	0.4
Wants community shelter	2	0.7	10	5.0	12	2.4
They are useless. Not adequate protection, won't do any good! Family might not be together or won't withstand attack.	20	6.6	21	10.5	41	8.2
Don't want to live after attack of "A" bombs	2	0.7	5	2.5	7	1.4
Move about too much	8	2.7	4	2.0	12	2.4
Bomb will not come, no way, wouldn't be used, not necessary	6	2.0	10	5.0	16	3.2
Too vague	10	3.3	3	1.5	13	2.6
	300	100.0	200	100.0	500	100.0

* Numbers converted to percents for purposes of this report.

Attitudes and Knowledge Concerning Fallout Shelters in Austin, Texas, Harry Estill Moore, January, 1962, p. 62.

Table 101

Fallout Shelter Study

Q. 44 - B (Continued) Reasons for opposing, having reservations about shelters.

V - Col. 58 (m.p.)	Cross Section No.	%
0 - Inherent structural inadequacies: they are "useless," "will never work," "won't provide protection," etc.	110	25
1 - Present structural inadequacies: types of shelters now available won't provide protection under direct hit	66	15
2 - Cost (too expensive)	47	11
3 - There would be insufficient warning time to make use of them	46	11
4 - There would be insufficient supplies, stocks within shelters	24	6
5 - Difficulties of shelter living: panic, conflict among occupants, "stir crazy," claustrophobia	16	4
6 - Dangers upon emerging from shelters (contamination, fallout, devastation)	155	36
7 - Pre-attack psychological effects: public will think war inevitable, unavoidable problem, closer, more of a possibility	8	2
8 - Pre-attack psychological effects: public (or government) would be more willing to risk war, would be less eager to press for disarmament	7	2
9 - Shelters are unnecessary because there won't be a war	38	9
X - NONE OF THE ABOVE:	81	XX
Y - Does not apply	870	XX
	1382	a (432)

Fallout Shelter Study, Codebook Number Five, Survey of Publics in Nine Communities, Bureau of Applied Social Research, Columbia University, New York, August, 1963, p. 114.

Table 102

Q. 77B What is the main reason you haven't?

Opposition vs. other reasons

111 - Col. 41 (m.p. 1,2)	Cross Section No.	%
1 - Opposed to shelters	397	37
2 - Other reasons	675	62
9 - Vague and irrelevant replies	34	3
X - Not asked -- but should have been	7	XX
Y - Does not apply; Shelter Builders	287	XX
	1382	a (1088)

Other reasons

111 - Col. 42 (m.p. 0-8)		
0 - Cost (not enough money, too expensive)	404	60
1 - Owns house but has no space on existing property, or apartment dweller	166	25
2 - Doesn't own house or property	86	13
3 - Believes existing part of structure would provide adequate protection (e.g.cellar).	25	4
4 - Has available other facilities(e.g., community shelter, neighbors' or relatives' shelter)	5	1
5 - Doesn't have enough information, technical knowledge about how to build	17	3
6 - No immediate danger, no need for it right now	113	17
7 - Too old; has lived life already	16	2
8 - No one else has	6	1
X - "Other Reasons"	19	3
Y - Does not apply	707	XX
	1382	a (675)

Fallout Shelter Study, Codebook Number Five, Survey of Publics in Nine Communites, Bureau of Applied Social Research, Columbia University, New York, August, 1963, pp. 155-156.

III. PASSIVE DEFENSES

E. Evaluation of Local Civil Defense Programs

Table 103

Table 55

"How about the way your city is set up now? Do you think it would be able to do a good job of taking care of people after an atomic attack if it were to happen right now?"

City able to do very good job; yes, definitely	1%
City able to do good job; yes	26
Pro-con, neutral	2
Could do only a poor job; no	46
Could do only a very poor job; no, definitely	7
There isn't anything set up for civil defense	2
No defense against atomic bomb	1
Don't know	13
Not ascertained	2
	100%

Public Thinking About Atomic Warfare and Civil Defense: A Study Based Upon an Intensive Interview Sample Survey of People in Eleven Major Cities, September - October, 1950, Survey Research Center, University of Michigan, Ann Arbor, Michigan, January, 1951, p. 94.

Table 104

Table 56

Reasons for Belief or Lack of Belief in
City's Capacity to Handle Post-Raid Conditions

Reasons why city <u>able</u> to do a good job of taking care of people after attack	
Good organization, plans, information	7%
Good hospitals, medical facilities, first aid	7
Good training, communication, dissemination of information; people prepared	3
Faith, confidence in people	3
Good shelters, fire equipment, transportation facilities	1
Other	*
Adequate (good) facilities -- nothing else specified	5
Reasons why city <u>unable</u> to do a good job of taking care of people after attack	
Lack of, poor organization, plans, information; no set-up	22
Lack of, poor training, communication, dissemination of information; people aren't prepared	21
Inadequate hospitals, medical facilities, doctors, etc.	9
Inadequate shelters, fire equipment	3
Other	2
Inadequate (bad) facilities -- nothing else specified	8
No defense against atomic bomb	1
Don't know	5
No evaluation of city's ability given	9
Not ascertained	2
	*

*The total is more than 100 percent because some respondents gave more than one reason for their opinion.

<u>Public Thinking About Atomic Warfare and Civil Defense: A Study Based Upon an Intensive Interview Sample Survey of People in Eleven Major Cities September-October, 1950</u>, Survey Research Center, University of Michigan, Ann Arbor, Michigan, January, 1951, p. 95.

Table 105

Table 57

"How do you feel about the things they're doing now to prepare?"

Favorable	22%
Pro-con, neutral	3
Unfavorable	9
Just planning, just talk, no action yet (no affect expressed)	10
Nothing being done (no affect expressed)	39
Don't know	10
Not ascertained	7
	100%

Public Thinking About Atomic Warfare and Civil Defense: A Study Based Upon an Intensive Interview Sample Survey of People in Eleven Major Cities September-October, 1950, Survey Research Center, University of Michigan, Ann Arbor, Michigan, January, 1951, p. 96.

Table 106

Table 73

Relation Between Evaluations of Cities' Current Civil Defense Efficiency and Expectations of Atomic Attacks

As city is set up now, could it do a good job in event of bombing?	Are our cities likely to be hit with atomic bombs?		
	Yes, very likely	Yes, likely	No; it depends
Yes	22%	25%	30%
No	66	64	53
Don't know	10	9	15
Not ascertained	2	2	2
	100%	100%	100%
Percent of total sample	15	46	31

Public Thinking About Atomic Warfare and Civil Defense: A Study Based Upon an Intensive Interview Sample Survey of People in Eleven Major Cities September-October, 1950, Survey Research Center, University of Michigan, Ann Arbor, Michigan, January, 1951, p. 114.

Table 107

Table 74

Relation Between Evaluations of Cities' Current Civil Defense Efficiency and Expectation of Armed Forces Protection

As city is set up now, could it do a good job in event of bombing?	To what extent could our armed forces protect our cities from air attack damage? Completely	Moderately (prevent heavy damage)	Poorly (not prevent heavy damage; depends)	Don't know
Yes	54	28	17	25
No	32	60	73	50
Don't know	11	11	10	20
Not ascertained	3	1	--	5
	100%	100%	100%	100%
Percent of total sample	9	39	27	11

Public Thinking About Atomic Warfare and Civil Defense: A Study Based Upon an Intensive Interview Sample Survey of People in Eleven Major Cities September-October, 1950, Survey Research Center, University of Michigan, Ann Arbor, Michigan, January, 1951, p. 115.

Table 108

Table 77a

Relation Between Region (New York and Chicago Included in their Areas) and Evaluation of City's Current Civil Defense Efficiency

As city is set up now, could it do a good job in event of bombing?	Region		
	Mid-west	East Coast	West Coast
Yes	31%	28%	15%
No	49	59	59
Don't know	15	9	20
Not ascertained	5	4	6
	100%	100%	100%
Percent of total weighted sample	35	51	14

Public Thinking About Atomic Warfare and Civil Defense: A Study Based Upon an Intensive Sample Survey of People in Eleven Major Cities September-October, 1950, Survey Research Center, University of Michigan, Ann Arbor, Michigan, January, 1951, p. 120.

Table 109

Evaluation of Own City's Civil Defense Program

Table 54

"How about the way your city is set up now? Do you think it would be able to do a good job of taking care of people after an atomic attack if it were to happen right now?"

	September 1950	August 1951
Yes, definitely	1%	1%
Yes	26	32
Pro-con	2	3
No	46	35
No, definitely	7	3
There's no defense against the A-bomb	1	*
There isn't any set-up	2	1
Don't know	13	17
Not ascertained	2	8
	100%	100%

*Less than one-half of one percent

The Public and Civil Defense: A Report Based on Two Sample Surveys in Eleven Major American Cities, Survey Research Center, University of Michigan, Ann Arbor, Michigan, March, 1952, p.40.

Table 110

Table 56

Relation between Education and Evaluation of Own City's Civil Defense Program

Could city do a good Civil Defense job?	Education			
	Grade School not Completed	Grade School Graduates	High School Graduates	College Graduates
Yes	33%	41%	30%	28%
Pro-con	4	2	4	3
No	27	41	49	60
Don't know	30	14	14	9
Not ascertained	6	2	3	0
	100%	100%	100%	100%
No. of cases	194	368	343	68

The Public and Civil Defense: A Report Based on Two Sample Surveys in Eleven Major American Cities, Survey Research Center, University of Michigan, Ann Arbor, Michigan, March, 1952, p. 41.

Table 111

Table 134

Relation between Atomic Bomb Information Index and Evaluation of Own City's CD Program

Could City Do a Good Civil Defense Job?	Atomic Bomb Information Index (Uninformed ____ Well informed)					
	1 & 2	3	4	5	6	7
Yes	42%	43%	38%	33%	33%	27%
Pro-con	2	2	2	5	5	2
No	23	33	45	46	53	60
Don't know	31	22	13	13	8	7
Not ascertained	2	0	2	3	1	4
	100%	100%	100%	100%	100%	100%
No. of cases	129	109	170	181	167	81

The Public and Civil Defense: A Report Based on Two Sample Surveys in Eleven Major American Cities, Survey Research Center, University of Michigan, Ann Arbor, Michigan, March, 1952, p. 88.

Table 112

Evaluation of Progress on Own City's Civil Defense Program

Table 64

"How do you feel about the progress that's being made now?"

Favorable	27%
Pro-con	5
Unfavorable	21
No affect ("nothing is being done")	8
Don't know	26
Not ascertained	13
	100%

The Public and Civil Defense: A Report Based on Two Sample Surveys in Eleven Major American Cities, Survey Research Center, University of Michigan, Ann Arbor, Michigan, March, 1952, p. 47.

Table 113

Table 135

Relation between Atomic Bomb Information Index and Evaluation of Progress on Civil Defense

Evaluation of Civil Defense Progress	Atomic Bomb Information Index (Uninformed ____ Well informed)					
	1 & 2	3	4	5	6	7
Favorable	22%	24%	27%	35%	28%	32%
Pro-con	2	4	3	8	8	5
Unfavorable	7	14	21	26	24	33
"There is no set-up"	9	8	12	6	13	6
Don't know	39	37	25	16	18	20
Not ascertained	21	13	12	9	9	4
	100%	100%	100%	100%	100%	100%
No. of cases	129	109	170	181	167	81

The Public and Civil Defense: A Report Based on Two Sample Surveys in Eleven Major American Cities, Survey Research Center, University of Michigan, Ann Arbor, Michigan, March, 1952, p. 89.

Table 114

What is your feeling about the way CD is being handled in this local area - do you think it is being handled well or poorly, or do you have little or no knowledge about this?

	N	%
Well	769	21.7
Poorly	673	19.0
Little or no knowledge	2091	59.0
Other	12	0.3
Total	3545	100.0%

A.I.P.O., 644, May, 1961, (Unpublished).

Table 115

Q. 22. How would you say you felt in general about where we stand on Civil Defense and Civil Defense preparations? Are we OK, should we do more, less, or what?

	N	%
We should do more CD preparation	1121	78.5
We should do more, but we're not too badly off, considering	65	4.6
Current CD status OK	222	15.6
We should do less CD preparation, with exceptions	2	0.1
CD is a waste of time	17	1.2
Don't knows, no answers	216	____
Total	1643	1427

University of Michigan, Study 418, 1956, (Unpublished).

Table 116

Q. 29. How do you feel about the idea of shelters for people who live in areas that might be attacked in order to try and protect them against attack?

	N	%
R favors it without reservations; thinks it worthwhile	1249	78.3
R favors this, with reservations	232	14.5
Pro-con	32	2.0
R does not favor this; does not think it worthwhile	81	5.1
Don't knows, no answers	49	___
Total	1643	1594

University of Michigan, Study 418, 1956, (Unpublished).

III. PASSIVE DEFENSES

F. Effectiveness of Civil Defense Systems for Types of Weapons Effects

Table 117

Q. 10b. Do you know of anything that can be done to protect oneself from these things?

	N	%
Yes - nothing further	8	0.7
Yes - shelter, cover	621	52.5
Yes - clothing, masks, goggles, and such devices	50	4.2
Protection of distance, evacuation; "get away"	34	2.9
No	274	23.2
No, and there is no protection	28	2.4
Don't know and no answer	167	14.1
Total	1182	100.0%

University of Michigan, Study 418, 1956, (Unpublished).

Table 118

Q. 11 Do you know of anything that can be done to protect oneself against the blast and heat of an H-bomb explosion?

	N	%
Yes - nothing further	5	0.3
Yes - shelter, cover	885	53.9
Yes - clothing, masks, goggles, and such devices	22	1.3
Protection by distance; evacuation "get away"	25	1.5
No	511	31.1
No and there is no protection	51	3.1
Don't knows and no answers	144	8.8
	1643	100.0%

University of Michigan, Study 418, 1956, (Unpublished).

Table 119

Q. "If a big war and an atomic attack on the United States should come, is there anything you can think of that could have been done to make the attack on the U.S. less damaging to us?"

Shelters	37%

People answering in other terms were then asked the following question:

"How about shelters to protect people from rays, fallout, radiation, or atomic dust dangers that come after an atomic explosion? Would that help?"

Shelters would help	24
Shelters of some help	18
Shelters of no help	14
Don't know	7
	100%

The American Public and International Tensions: "Data on Shelters," Survey Research Center, University of Michigan, Ann Arbor, Michigan, December, 1961, p. 11.

Table 120

Table 7. Estimates of the utility of shelters in escaping radiation sickness.

"Let's think for a moment about people who live far enough away to escape the bomb blast. If these people had fallout shelters, what do you think their chances are for escaping serious radiation sickness from fallout? Do you think they would have a very good chance of avoiding radiation sickness, some chance, very little chance, or no chance of avoiding radiation sickness?"

Responses	Percentages
Very good chance	43%
Some chance	33
Very little chance	16
No chance	6
No answer	2

The Fallout Protection Booklet: (I) A Report of Public Attitudes Toward and Information About Civil Defense, David K. Berlo et al., Department of Communication, College of Communication Arts, Michigan State University, East Lansing, Michigan, April, 1963, p. 10.

Table 121

Q. 44 - B (Continued) Reasons for opposing, having reservations about shelters.	Cross Section	
V - Col. 58 (m.p.)	No.	%
0 - Inherent structural inadequacies: they are "useless," "will never work," "won't provide protection," etc.	110	25
1 - Present structural inadequacies: types of shelters now available won't provide protection under direct hit	66	15
2 - Cost (too expensive)	47	11
3 - There would be insufficient warning time to make use of them	46	11
4 - There would be insufficient supplies, stocks within shelters	24	6
5 - Difficulties of shelter living: panic, conflict among occupants, "stir crazy," claustrophobia	16	4
6 - Dangers upon emerging from shelters (contamination, fallout, devastation)	155	36
7 - Pre-attack psychological effects: public will think war inevitable, unavoidable problem, closer, more of a possibility	8	2
8 - Pre-attack psychological effects: Public (or government) would be more willing to risk war, would be less eager to press for disarmament	7	2
9 - Shelters are unnecessary because there won't be a war	38	9
X - NONE OF THE ABOVE:	81	XX
Y - Does Not Apply	870	XX
	1382	a (432)

Fallout Shelter Study, Codebook Number Five, Survey of Publics in Nine Communities, Bureau of Applied Social Research, Columbia University, New York, August, 1963, p. 114.

Table 122

Quest. 30: Var. 110 - Provided a fallout shelter is far enough away from the blast to avoid blast effect, the people in it have a very good chance of surviving.

Card 3: Col. 33		N	%
1	Agree strongly	294	21.2
2	Agree	1016	73.1
3	Disagree	68	4.9
4	Disagree strongly	11	.8
5	None of these	1	.1
X	Missing data	44	XX
TOTAL		1434	1390

Civil Defense and Cold War Attitudes: Data Book for the 1963 National Probability Sample, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, June, 1964, p. 83.

IV. CONCLUSIONS

The purpose of this report was the examination of levels of confidence in America's defense system. The specific programs which attempt to satisfy the goals of the system were considered in the analysis. These included the public's estimate of effectiveness of active and passive defenses. Examination of the confidence in passive defenses involved the evaluation of evacuation programs, shelter programs, problems of warning time, local civil defense efforts, cost effectiveness of the systems, and evaluation of civil defense programs in relation to various types of weapons effects.

All available empirical evidence on these topics, drawn from the University of Pittsburgh's data bank, was reviewed. An attempt was made to specify the topics by pertinent cross-tabulations. Whenever feasible, the sample populations were discretely identified into demographic sub-groups and other pertinent indicators. The data was drawn from various instruments and various samples. Within limitations of the data, a trend analysis establishing the basic chronology of public opinion on the major issues was provided. From our analysis, we can state some general conclusions.

Active Defenses

1. There is no doubt that most Americans are convinced that active defense measures are reasonably effective. Year by year and study by study, the respondents indicate their conviction that the United States, by employing various active defense measures, could sufficiently hinder the efficacy of an enemy attack. There is evidence to suggest, however, that the public perceives a more sophisticated mode of defense to be operational than what actually exists.

2. We have found evidence to suggest that the public, in its conception of defense has incorporated the sum total of all our forces, resulting in some level of confidence in the over-all defense strategy rather than in terms of defense measures in an ongoing attack, which was the object of this examination. The population is not thinking of defense in the event of an attack; they are thinking that an attack will not even get started. This is to say, they have confidence in deterrence strategy. We cannot, therefore, say this particular effectiveness evaluation is solely in terms of defense measures in an ongoing attack. There is a tendency for confidence in a deterrent measure such as the Strategic Air Command to carry over to the total defense system.

3. As measured by the 1964 University of Pittsburgh study, the majority of the population thought our defenses against an attack, no matter which of the three mentioned (enemy missile, bomber or submarine attack), were quite effective. This could be a carry-over from the confidence expressed in deterrence strategy as mentioned above.

4. Keeping in mind the fact that the majority of the population express confidence in our defenses against these types of enemy attack, we can make a general summary statement about those individuals in our society who voice a lesser amount of confidence. The following segments of the population seem to register more pessimism about our active defense system than do others: male rather than female members of the society; older rather than younger people; the more educated in our society; and, subsequently, higher status job-holders with substantial salaries; residents of the Northeast and South Atlantic sections of the country; individuals seeing world tensions as being higher than others in the society; those with little worry about a nuclear attack; those who fear that there is certain or great danger that their local area would be a target; and, people who have a rather pessimistic view about chances for survival in the event of an attack. It is important to mention, once again, that these differences are only a matter of degree rather than direction of opinion.

5. During the early 1950s, people who felt active defenses could give fairly good protection from attacks on cities were less likely than others to express a need for civil defense. Recent data, however, show that the public feel there is a definite need for certain civil defense measures as companions to an effective active defense system.

Passive Defenses

Evacuation Programs

1. The American people are not convinced of the effectiveness of dispersion measures. Most people do not consider the possibility of leaving the city when asked what they would do in the event of an attack.

2. However, when specifically asked to evaluate such measures as to their merits, the public responds favorably. This, of course, does not mean that people would cooperate with such a program in an attack situation.

Shelter Programs

1. Most Americans are convinced that shelters would have a reasonable degree of effectiveness. There is evidence to suggest that year by year, there is an increase in the numbers of Americans who believe that shelters would provide reasonable chances to survive an enemy attack.

2. As measured by the 1964 University of Pittsburgh study, most people feel the chances for survival, in the event of an attack, would be at least fairly good if people in their area were in fallout shelters. No segment of the population can be singled out as being drastically at variance with this opinion.

3. But, the following segments of our society do seem to register less confidence in the protective ability of fallout shelters: residents of large metropolitan areas; those residing in the New England, Middle Atlantic and Pacific areas of the country; older rather than younger people; the more educated; those with high incomes; members of the religious minority groups; those with little worry about a nuclear war; people who see another World War as unlikely; those expecting the enemy to use all nuclear weapons at once, if another World War should come; persons who expect little warning of an attack; those who fear that there is certain or great danger that their local area would be a target; people who fear that there would be certain or great local fallout danger if an attack came; people having unfavorable opinions about fallout shelters; those with little thought about using a shelter; and, people who would be less inclined to use a shelter in the event of an attack.

4. In many respects, the populace is a bit confused about the relevance of warning time to the effective utilization of fallout shelters. As stated above, people expressing less confidence in the protective ability of fallout shelters tend to feel that there would be less than fifteen minutes warning of an impending attack. We can tentatively infer from this that these persons feel that they must get to the shelter before an attack comes in order to be protected from fallout.

Warning Time

1. There is evidence to suggest that Americans are not familiar with the warning signals which would provide them with initial information about an impending attack.

2. Over the years, people have increased their estimates of the warning time they expect in the event of an enemy attack.

Evaluation of Local Civil Defense Programs

1. There is some evidence to suggest that a sizeable portion of the public has not been satisfied with the civil defense efforts in their local communities. It is difficult to determine whether this is a result of a lack of civil defense activity or whether it stems from ineffective communication between local civil defense officials and the residents of the community.

Effectiveness of Civil Defense Systems for Types of Weapons Effects

1. Americans feel that something can be done to protect against the secondary effects of thermonuclear warfare. Most people consider fallout shelters to be the answer, as long as they are far enough away to escape the blast effects.

2. It appears to be widely held that nothing much can be done to protect against blast and heat.

From the foregoing discussion, we can say that there is public confusion about what the status of our operational active defense system is; and in their expressions of confidence, the public seems to make no distinction between defense measures in an ongoing attack and those measures which would preclude an attack, i.e., deterrence strategy. This distinction should be specified so that an appropriate definition of an attack environment and suitable responses to it can be made by the public.

It is reasonable tc say that the public is confused as to what a fallout shelter is supposed to do and there is concern about what they don't do. Some of the criticisms of existing shelters refer to the fact that they do not protect one from primary effects. Of course, the existing shelters were not constructed for this purpose. It should be specified that existing shelters are designed primarily as protection from fallout.

In many respects, the populace is a little confused about the relevance of warning time to the effective utilization of fallout shelters. That is, warning time consideration is different for using a shelter as defense against fallout than it is if using a shelter as defense against primary effects. It appears that the populace does not realize that fallout shelters can be an effective mode of protection after the initial blast. This is to say, the survivors of initial blast can go to shelters and receive protection from fallout. If this could be explained to the public, their willingness to use shelters and their feelings about them might improve.

It would seem, then, that a public information program designed to clarify these ambiguities would enhance receptivity to civil defense measures.

ANNOTATED BIBLIOGRAPHY FOR TABLES

BIBLIOGRAPHY

AIPO, Unpublished data.

The American Institute of Public Opinion has provided data from a number of their national samples. Each table included from the various AIPO studies is identified by the pertinent study number and the date of data collection. The processing of the raw data into tabular form was done at he Research Office of Sociology at the University of Pittsburgh.

The American Public and International Tensions: "Data on Shelters", Survey Research Center, The University of Michigan, December, 1961.

National probability sample of 1474 respondents.
Data collected September-October, 1961.

Interviewing was conducted from late September to late October on public acceptance of shelters, anxiety over the Cold War and various possible solutions to the problems associated with it. This is a preliminary report.

Attitudes and Knowledge Concerning Fallout Shelters in Austin, Texas, by Harry Estill Moore, January, 1962.

Purposive community panel of 500 respondents.
Data collected late 1961.

Panels of 200 persons in leadership roles in recognized institutions and of 300 persons chosen by random sampling methods as representative of the total population of the city were interviewed in autumn, 1961.

Civil Defense and Cold War Attitudes: Data Book for the 1963 National Probability Sample, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, June, 1964.

National probability sample of 1434 respondents.
Data collected in summer, 1963.

This data book contains the study design and marginal tabulations from the mid-1963 Foreign Affairs and Civil Defense national survey for the Office of Civil Defense. The outcomes methodology was applied to desirabilities and expectations of alternative civil defense postures as well as to Cold War outcomes. A variety of scales and items from other civil defense inquiries were replicated.

Civil Defense and Cold War Attitudes: Data Book for the 1964 National Probability Sample Study, Research Office of Sociology, Department of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, December, 1964.

National probability sample of 1464 respondents.
Data collected in summer, 1964.

This data book contains the study design and marginal tabulations from the mid-1964 Foreign Affairs and Civil Defense national survey for the Office of Civil Defense. The outcomes methodology was applied to desirabilities and expectations of alternative civil defense postures as well as to Cold War outcomes. A variety of scales and items from other civil defense inquiries were replicated.

The Fallout Protection Booklet: (I) A Report of Public Attitudes Toward and Information About Civil Defense, by David K. Berlo et al., Department of Communication, College of Communication Arts, Michigan State University, April, 1963.

Telephone interviews in eight cities, 3514 respondents.
Data collected December, 1961.

Eight cities within the United States selected on the criteria of size and geographical location: Minneapolis; Boston; Oklahoma City; Santa Monica, California; Lansing; Manhattan, Kansas; Chapel Hill, North Carolina; and Seattle.

Fallout Shelter Study, Codebook Number Five, Survey of Publics in Nine Communities, Bureau of Applied Social Research, Columbia University, August, 1963.

A total of 1828 personal interviews were conducted in nine northeastern communities; 110 of these interviews were with community leaders, the rest (1718) of the interviews were with the general public. The sample was heavily weighted with shelter owners and their neighbors.

The nine communities under study were Harlem, New York; Chicopee, Massachusetts; West Orange, New Jersey; Union City, New Jersey; Greenwich, Connecticut; Stamford, Connecticut; Lancaster, Pennsylvania; York, Pennsylvania; Port Jervis, New York.

Interviews were conducted in January, February and March, 1963.

Study analyzes the beliefs, opinions, and behavior of the general public and of community leaders regarding international affairs and the Cold War, with a particular focus upon their views on the fallout shelter issue, i.e., are reactions of communities that are potential targets in a nuclear war different from those in less vulnerable towns? who favor and who oppose fallout shelters?, etc.

NEAR System Study Data Book, NORC SRS--30, Research Office of Sociology, University of Pittsburgh, Pittsburgh, Pennsylvania, February, 1964.

National probability block sample of 1402 respondents.
Data collected December, 1963.

This is the code-data book for the Research Office of Sociology study of public attitudes towards the Cold War and civil defense, in general, and the NEAR attack warning system for households, in particular. The outcomes methodology of specifying desirability and probability expectations was used.

The Public and Civil Defense: A Report Based on Two Sample Surveys in Eleven Major American Cities, Survey Research Center, University of Michigan, Ann Arbor, March, 1952.

Probability block sample of 813 households.
Data collected in August, 1951.

813 persons interviewed are a representative cross-section of the adult population living in private households in the following eleven metropolitan areas: Baltimore, Boston, Chicago, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, and St. Louis.

The research is focused on the factors in public thinking which affect the development of civil defense organizations in American cities and states. It is also concerned with the psychological factors considered important for constructive or adaptive social handling of crises or disasters.

Public Thinking About Atomic Warfare and Civil Defense: A Study Based Upon an Intensive Interview Sample Survey of People in Eleven Major Cities, September-October, 1950, Survey Research Center, University of Michigan, Ann Arbor, January, 1951.

Probability sample of 614 people in eleven cities.
Data collected September-October, 1950.

614 people interviewed were selected to be a representative cross-section of the adult population of the eleven largest cities in the United States. Suburbs were not included.

City	Number of Interviews
New York	122
Boston	26
Philadelphia	78
Baltimore	27
Chicago	127
Detroit	51
Pittsburgh	23
Cleveland	26
St. Louis	34
Los Angeles	72
San Francisco-Oakland	28
	614

Open-ended interviews of one-half to an hour or more in length were administered, using pre-tested questions asked by trained interviewers.

Survey of Public Knowledge and Attitudes Concerning Civil Defense: A Report of a National Study in March, 1954, Stephen B. Withey, Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, Michigan, September, 1954.

This is a report of a national study conducted in March, 1954. It also includes material from a number of other studies (three in number) also conducted by the Survey Research Center on the problems of civil defense.

The first study, done in 1950, covered the population in the metropolitan areas of the eleven largest cities in the United States. Sample size was approximately 600 persons.

The second study, done in 1951, extended the above sample to include the suburban area surrounding these eleven largest cities. Sample size=800 persons.

The third study, done in 1952, extended the sample to the nation as a whole but did not sample the rural areas at the same rate as the urban areas, due to available financing. Sample size=1600 persons.

The fourth study, done in 1954, for the first time in this series took a straight unweighted sample of the national adult population but included persons aged 16 to 20 years old in addition to the adults usually interviewed. Sample size=1600 persons.

Each of the studies made use of personal interviewing as a means of obtaining the necessary data.

University of Michigan, Study 418, unpublished data.

National survey, 1643 respondents.
Data collected in 1956.

The University of Michigan, Ann Arbor, Michigan, has provided data from their national survey of 1956. Each table included from their study number 418 has been derived from processing at the Research Office of Sociology at the University of Pittsburgh.

The U.S. and the U.S.S.R.: A Report of the Public's Perspectives on United States-Russian Relations in Late 1961, Stephen B. Withey, Survey Research Center, University of Michigan, Ann Arbor, Michigan, March, 1962.

National probability sample of 1474 respondents.
Data collected September-October 1961.

Based on interviews conducted during a period of international crisis, this study examines public attitudes and conceptions of the U.S.-U.S.S.R. power struggle.