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The FALLOUT PROTECTION Booklet:

(iii) A Methodological Comparison of Pre-test
Responses of those who responded, refused,
or were not reachable on the Post-test

By

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pre-test consisted of 3,514 adults who were interviewed by telephone in December of 1961 in eight American cities: Minneapolis; Boston; Oklahoma City; Santa Monica, California; Lansing; Manhattan, Kansas; Chapel Hill, North Carolina; and Seattle.

It was our hope to interview all 3,514 respondents again on the post-test; however, post-test interviews were obtained for only 2,367 of the original respondents. Five hundred and eighty-nine of the original respondents refused to complete the second interview, and the remaining 558 were unreachable on three call-backs. The refusals and non-reachable respondents did not interfere with the intent of the post-test study because the study was not intended as a basis for generalization to any real population. Rather, our major purpose on the post-test was to increase our understanding of the characteristics of those who did read the Fallout Protection booklet, and to gain some insight as to the effectiveness of the booklet for those who read it.

The sub-samples who either refused or were not reachable on the post-test enabled us to perform a methodological analysis which should be of help in future interviewing. We have initial interviews on all three of the sub-samples. By comparing the pre-test responses of the three groups, we can learn what kinds of biases, if any, are introduced because of significant numbers of refusals and non-reachable respondents.

Outline of the Report

Pre-test responses for our three sub-samples were analyzed in each of ten question categories. They were: (1) the likelihood of war, (2) personal dangers -- protection from a direct attack, (3) personal dangers -- protection from an indirect attack, (4) knowledge levels about radiation and shelters, (5) the

favorability of beliefs about radiation and shelters, (6) levels of shelter construction planning, (7) shelter inducements and inducement agents, (8) level of exposure to shelter information, (9) general media behavior, and (10) demographic data.

The report includes the results from each of these ten analyses, and a summary of the findings.

The Likelihood of War

We analyzed responses to three questions related to the possibilities of a nuclear war. The questions concerned the possibility of war, the timing of war, and general feelings of optimism or pessimism as to how things are going (see Table 1).

Table 1. Estimates as to the likelihood of a major war.

<u>Responses to Questions</u>	<u>Status on the Post-Test</u>		
	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
1. It is likely that there will be a major war between the U.S. and Russia or some other country.	35%	36%	32%
2. If a world war does come, it will come in 2 years or less.	19	18	19
3. In general, we are moving more toward war.	33	35	34
Total Number of Respondents	2,367	558	589

The three sub-sample groups did not differ appreciably in their responses to any of the three questions on the likelihood of war.

Personal Dangers: Protection from Direct Attack

We asked respondents whether they thought that, given an attack, bombs or missiles would fall on their community, their part of the country, or neither. Again, there were no appreciable differences in the way the three sub-sample groups answered (see Table 2).

Table 2. Estimates as to where bombs or missiles would fall in the U.S., given an attack.

<u>Responses</u>	<u>Status on the Post-Test</u>		
	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
Bombs would fall on my community.	72%	75%	71%
Bombs would fall in this part of the country.	18	17	17
Bombs wouldn't fall in this part of the country.	10	8	12
Total	100%	100%	100%

Assuming that bombs would fall on or close to the respondent's community, we asked three questions related to whether or not the respondent felt he could do something to protect against blast, fire, or radioactive fallout. The three sub-samples did not differ in their answers to the blast or fire questions; however, the respondent group was significantly more likely to believe that they could do something to protect against fallout (see Table 3).

Table 3. Estimates as to whether an individual can do something to protect against blast, fire, or fallout dangers--given that bombs or missiles will drop on or close to his community.

<u>Responses to Questions</u>	<u>Status on the Post-Test</u>		
	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
1. I could do something now to protect against the blast of bombs.	28%	26%	26%
2. I could do something now to protect against fire caused by bombs.	33	29	31
3. I could do something now to protect against radioactive fallout	37	33	31

Personal Dangers: Protection from Indirect Attack

Only about 1 respondent in 4 indicated that he believed that his community would escape a direct attack; however, we still were interested in respondents' perceptions of danger in the event of an indirect attack, as well as their perceptions as to the utility of shelters as a protective device.

Table 4 indicates that the three sub-samples did not differ in their perceptions of the dangers from blast, fire, or fallout radiation, given that their total community was not hit directly.

Table 4. Estimates of blast, fire, or fallout dangers to the individual--given that his community is not hit directly by bombs or missiles.

<u>Responses to Questions</u>	<u>Status on the Post-Test</u>		
	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
1. I think I would be killed or injured by the blast from bombs or missiles exploding somewhere else.	47%	48%	50%
2. I think I would be killed or injured by fire.	39	41	40
3. I think I would be killed or made sick by fallout radiation.	78	73	74

There was some tendency for the sub-sample which responded on the post-test to be more optimistic over the value of fallout shelters for people who lived far enough away to escape a bomb blast (see Table 5). The "refusal" sub-sample was the least optimistic group; however, the differences among the three groups were not particularly large.

Table 5. 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?"

<u>Responses to Questions</u>	<u>Status on the Post-Test</u>		
	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
A very good or some chance of escaping radiation sickness.	77%	74%	70%
Very little or no chance of escaping radiation sickness.	21	24	27
No answer.	2	2	3
Total	100%	100%	100%

Knowledge Level about Radiation and Shelters

Fourteen items were constructed to index public knowledge about nuclear radiation and fallout shelters. The three sub-samples differed in the accuracy of their responses to 8 of the items, and did not differ on the other 6. For the eight items, there were no differences in response between the "respond" and the "non-reachable" groups. And, in each case, the "refused" group was less accurate (see Table 6). In short, the group who responded did not differ in accuracy from the group which was not reachable; however, fewer of the group which refused knew the correct answers to eight of the questions.

Table 6. Accuracy on 14 statements of fact relevant to nuclear radiation and fallout shelters

<u>Statements of Fact</u> Items on Which "Refusals" Differed	<u>Status on the Post-Test</u>		
	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
1. If you get exposed to radiation at all, you are sure to die. (Disagree)	82%	80%	72%
2. There is a new pill you can take that will protect you against radioactive fallout. (Disagree)	65	62	58
3. If someone has radiation sickness, you should avoid getting near him so you won't catch it yourself. (Disagree)	63	56	49
4. An atomic war would contaminate the water supply and almost everyone would die before the water was fit to drink again. (Disagree)	60	58	48
5. An atomic war would destroy all food and ways of producing food, so you would die soon--even if you were protected by a shelter. (Disagree)	57	56	43
6. A plastic suit with filtering mask is plenty of protection against fallout. (Disagree)	50	48	43
7. Most fallout rapidly loses its power to harm people. (Agree)	44	43	38
8. If we are attacked, great weather storms from the explosions would sweep the nation. (Disagree)	30	29	23

Table 6. (con't.)

<u>Statements of Fact</u>		<u>Status on the Post-Test</u>		
<u>Items on which "Refusals" Didn't Differ</u>	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>	
1. Fallout from just one bomb may cover thousands of square miles. (Agree)	73	73	72	
2. After a nuclear attack, if you filter the dust out of the air, the air will be safe to breathe. (Agree)	39	40	38	
3. The radioactivity after an attack would make the earth, or some areas of it, impossible to live in for years or even centuries. (Disagree)	31	30	27	
4. A fallout shelter should have an air tight door to guard against radiation. (Disagree)	21	22	18	
5. Any adequate family shelter would cost at least three hundred dollars. (Disagree)	13	16	11	
6. You can not see fallout. (Disagree)	11	13	12	

Favorability of Beliefs about Radiation and Shelters

An additional eighteen items were constructed to index public beliefs about radiation and shelters. A "favorable" belief was defined as one consistent with the development of a shelter program.

The same pattern emerged. The "respond" and the "non-reached" groups did not differ systematically on the eighteen items, and did not differ appreciably on any of them. The "refused" sub-sample did differ on 8 of the items. In every case, the beliefs of the "refused" group were less favorable to civil defense (see Table 7).

Table 7. Favorability of beliefs on 18 statements of opinion relevant to nuclear radiation and fallout shelters.

<u>Statements of Opinion</u>		<u>Status on the Post-Test</u>		
<u>Items on Which "Refusals" Differed</u>		<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
1. Building a shelter is like hiding in a hole--only a coward would do it. (Disagree)		92%	89%	84%
2. An attack would destroy the morale of the U.S. so much that it would not be possible to rebuild the country. (Disagree)		88	87	82
3. Building a shelter is wrong in the eyes of God. (Disagree)		85	81	78
4. If we build shelters for everyone, war will be more likely to happen. (Disagree)		77	74	68
5. There isn't any safe way to live in this world any more, so it's just a question of what chances or risks we want to take. (Disagree)		68	67	57
6. I wouldn't want to live through an attack if I knew most of my friends and neighbors were dead. (Disagree)		65	68	53
7. Scientists don't understand things well enough to make predictions that we can rely on. (Disagree)		60	66	50
8. The ending or saving of the world is up to the will of God. Man can't protect himself. (Disagree)		59	57	46
<u>Items on Which "Refusals" Didn't Differ</u>				
1. It is a person's duty to try to live as long as he or she can. (Agree)		89	86	90
2. It would take a little while after an attack, but law and order would be restored. (Agree)		81	77	75

Table 7. (con't.)

<u>Statements of Opinion</u>			
<u>Items on Which "Refusals" Didn't Differ</u>	<u>Status on the Post-Test</u>		
	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
3. If a person builds a family shelter, his neighbors and friends probably will laugh at him or think he is crazy. (Disagree)	70	66	69
4. After an attack, life would be such a savage man-to-man struggle that it wouldn't be worth living through. (Disagree)	68	67	61
5. Most people have the space to put in a shelter if they really want one. (Agree)	64	62	64
6. Parents have a duty to protect their children by building a fallout shelter. (Agree)	52	48	55
7. A person who builds a shelter now will be respected by his neighbors. (Agree)	32	29	34
8. If an attack comes, a person with a shelter will have to protect it from neighbors who will try to break in. (Disagree)	30	29	32
9. Living in a shelter for a long period of time would drive many people insane. (Disagree)	30	28	25
10. Shelters cost more than most families can afford. (Disagree)	24	28	22

Levels of Shelter Construction Planning

We asked a series of questions on the extent to which the respondent had a shelter, had investigated plans for building, or had thought about building one. There was no dramatic difference in the response patterns of the three sub-samples. Those who responded were most likely to have thought about a

shelter. Those who refused on the post-test were least likely to have thought about a shelter (see Table 8).

Table 8. Respondent categories of planning, investigation, and construction of fallout shelters.

<u>Response Categories</u>	<u>Status on the Post-Test</u>		
	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
Has a shelter	2%	2%	1%
Has plans; has investigated	6	4	3
Has plans; has not investigated	2	2	3
Has no plans; has thought and investigated	14	10	7
Has no plans; has thought, has not investigated	28	27	20
Has no plans; has not thought	48	55	66
Total	100%	100%	100%

Shelter Inducements and Inducement Agents

We were interested in examining the possible impact which various shelter inducement programs might have on the public's willingness to construct shelters. We also were interested in the source credibility or impact of various individuals and organizations; i.e., the effect that testimony from these sources might have on respondent attitudes.

As reported in Table 9, the three groups did not differ with respect to the influence a "free shelter" would have on their willingness to build a shelter. The "respond" and "non-reachable" groups did not differ on the other four inducements either; however, the "refused" groups responded significantly less favorably to the inducements involved if (a) the government provided free materials, (b) they could use a shelter for an extra room, (c) the government

allowed a tax deduction for shelter construction, or (d) someone offered to come and explain how and where to build a shelter.

Table 9. Estimates of the extent to which 5 possible shelter inducements would influence the decision to build a shelter.

<u>Responses to Questions</u>	<u>Status on the Post-Test</u>		
	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
1. If the government offered to build me a free shelter, I would be willing to have one.	74%	73%	70%
2. If the government provided the materials and asked me to provide the labor, this would make me more likely to build one.	57	57	48
3. If I could use a shelter for an extra room, this would make me more likely to build one.	53	52	44
4. If the government allowed me to take my building expenses off my income tax, this would make me more likely to build a shelter.	48	47	39
5. If someone offered to come to my house to explain how and where to build one, this would make me more likely to build one.	29	30	22

The three groups differed significantly on only one of the 5 possible communication sources. The respondents who refused on the post-test were significantly less likely to say that they "would want to know the recommendations given by physicists or other scientists." The three groups did not differ appreciably on the other four communication sources (see Table 10).

Table 10. Estimates of the extent to which 5 possible communication sources would influence the decision to build a shelter.

<u>Responses to Questions</u>	<u>Status on the Post-Test</u>		
	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
1. I would want to know the recommendations given by physicists or other scientists.	81%	77%	68%
2. I would be interested in getting opinions of other public officials.	60	54	51
3. If the President of the U.S. asked us to build a shelter, it would make a difference.	49	47	44
4. The opinion of my church would make a difference to me in my own plans.	33	30	34
5. If several other people in my neighborhood built shelters, this would make a difference to me.	23	19	25

Level of Exposure to Shelter Information

We indexed the level of public exposure to seven possible communication situations involving nuclear radiation and fallout shelters. The three sub-sample groups did not differ with respect to their exposure to sermons in church on fallout or fallout shelters. They did differ on the other six communication situations. In each case, there was no appreciable difference between the "respond" and the "non-reachable" groups; however, the "refused" group reported significantly less exposure.

Table 11. Level of public exposure to 7 possible communication situations involving nuclear radiation and fallout shelters.

<u>Communication Situations</u>	<u>Status on the Post-Test</u>		
	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
<u>Situations Involving Differences</u>			
1. I have seen discussions of radiation and shelters in my local newspaper.	72%	68%	64%
2. I have talked with somebody about either the advantages or disadvantages of fallout shelters.	63	60	45
3. I have read one or more articles about radiation and shelters in a national magazine.	49	46	35
4. I have received a copy of the government booklet called <u>Your Family Fallout Shelter</u> .	20	18	14
5. I have read some other government literature on fallout shelters.	26	26	19
6. I have gone out to hear a speech about nuclear radiation and fallout.	15	16	9
<u>Situations Involving No Differences</u>			
1. I have heard a sermon in church on the subject of fallout or fallout shelters.	14	14	12

General Media Behavior

We indexed each respondent's use of the major public media (television, radio, and newspapers). In no case did we find any appreciable differences in media behavior among our three sub-samples.

Demographic Data

We included questions on the usual demographic variables: household role, age, children, education, housing status (own or rent), religious and political

preferences. The three sub-samples did not differ with respect to religious or political preference. They did differ on the other demographic variables. In general, the "refused" respondents tended to be older, to have children who no longer live at home, and to have less education than the sample as a whole. The "non-reached" group tended to be over-represented in the young (35 or less) age category, to be single and to have no children if married, and to rent their housing rather than to live in their own homes. In short, the "non-reached" group is characteristic of that portion of the population which is hard to find because of their high mobility. They are young, either single or newly married, and have not put roots down by buying a house.

The complete analysis of demographic comparisons is presented in Table 13.

Table 13. A comparison of respondents, refusals, and non-reachables on seven demographic variables.

<u>Questions--Responses</u>	<u>Status on the Post-Test</u>		
	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
1. Category within the Household			
Male, Head of Household	45%	54%	46%
Female, Head of Household	20	20	20
Wife	35	26	34
Total	100%	100%	100%
2. What is your age?			
35 or less	36%	45%	23%
36-50	35	29	31
51 or over	27	26	43
No answer	2	0	3
3. Do you have any children? How many still live at home?			
3 or more at home	25%	16%	20%
2 at home	19	17	17
1 at home	19	18	15
0 at home	16	15	24
No children	21	34	24

Table 13. (con't.)

<u>Questions--Responses</u>	<u>Respond</u>	<u>Non-Reach</u>	<u>Refused</u>
4. How many grades of school have you finished?			
8 or less	9%	12%	16%
9-12	44	41	51
13-14	15	13	13
15-16	19	21	13
17 or more	13	13	7
5. Do you own your home or rent it?			
Own or buying	67%	50%	67%
Rent or live with others	33	50	33
6. Do you have a preference for a particular religious faith?			
Protestant	66%	57%	61%
Roman Catholic	19	20	21
Jewish	3	5	3
No preference	12	18	15
7. Generally speaking, do you usually think of yourself as a Republican or a Democrat?			
Republican	37%	31%	33%
Democrat	52	57	50
Other	11	12	17

Summary

As part of a pre-post study of the impact of the Fallout Protection booklet, we secured pre-test interviews with 3,514 adults in eight American cities. On the post-test nearly six months later, we were able to secure interviews with only 2,367 of the original respondents. Five hundred and fifty-eight were not reachable on three callbacks, and 589 refused to participate in the post-test. This refusal and non-reachable rate did not interfere with the intent of our original study; however, it did give us an opportunity to determine the extent to which the absence of refusals and non-reachables would bias a survey in this area. To answer this question, we compared the pre-test responses of the three groups in each of ten question areas.

Areas of No Difference

The three sub-sample groups did not differ in their estimates of the likelihood of war, in their estimates as to whether bombs would fall on or close to their communities, in their beliefs as to whether they could do something about blast or fire if bombs did fall on their communities, or in their beliefs as to whether or not they would be harmed by blast, fire, or fallout if bombs fell other than in their communities. They also did not differ in their religious or political preferences, or in their general exposure to mass communication.

The two sub-samples who either responded or were not reachable did not differ from each other in their knowledge about civil defense or their opinions about fallout shelters and radiation. They also did not differ in the extent to which five possible shelter inducements would affect them or in the extent to which they would be interested in or impressed by seven possible sources of communication about civil defense. These two groups did differ from the third sub-sample (the refusals) in these question areas.

Areas of Difference

1. Can I do something to protect against fallout if bombs fall on my community?

The group who responded on the post-test were slightly more optimistic about their chances to protect themselves against fallout.

2. Will shelters help people escape radiation sickness, if bombs fall far enough away to enable people to escape blast?

The responding group was slightly more optimistic about the protection which shelters would give.

3. Knowledge about Civil Defense.

The responding and non-reachable groups did not differ in their knowledge levels; however, the group who refused on the post-test was significantly less knowledgeable than the other two groups on 8 of the 14 information items that were included on the pre-test. In other words, the refusal group knew less about civil defense than did the other two groups.

4. Opinions about Fallout and Fallout Shelters.

The same pattern was observed for opinion items. The responding and non-reachable groups did not differ; however, the group who refused was significantly less favorable toward civil defense and fallout shelters on 8 of the 18 opinion items on the pre-test.

5. Plans for Constructing a Shelter.

The three groups differed in the extent to which they had at least thought about building a shelter. The responding group was most likely to say that they had thought about a shelter. The refusal group was least likely to report prior thought about shelter construction.

6. Possible Shelter Inducements.

The three groups did not differ with respect to the influence a "free shelter"

would have on their willingness to build a shelter. The responding and non-reachable groups didn't differ on other inducements either; however, the refusal group was significantly less favorable to the inducements involved if (a) the government provided free materials, (b) they could use a shelter for an extra room, (c) the government allowed a tax deduction for shelter construction, or (d) someone offered to come and explain how and where to build a shelter.

7. Possible Sources of Civil Defense Messages.

The refusal group was less likely to say that they "would want to know the recommendations given by physicists or other scientists." The three groups did not differ appreciably on four other communication sources.

8. Exposure to Shelter Information.

The three groups did not differ in exposure to sermons in church on fallout or fallout shelters. The responding and non-reachable groups did not differ on the other six communication situations either; however, the refusal group was significantly less likely to have been exposed to (a) discussion of radiation and shelters in the local newspaper, (b) discussions with other people about fallout shelters, (c) articles about radiation and shelters in a national magazine, (d) Your Family Fallout Shelter, (e) other government literature on fallout shelters, or (f) speeches about nuclear radiation and fallout.

9. Demographic Data.

As mentioned earlier, the three groups did not differ with respect to religious or political preference. They did differ on the other demographic variables. In general, the group which refused tended to be older, to have children who no longer live at home, and to have less education than the sample as a whole. The non-reachable group tended to be over-represented in the young

(35 or less) age category, to be single and to have no children if married, and to rent their housing rather than to live in their own homes.

In short, the non-reachable group is characteristic of that portion of the population which is hard to find because of their high mobility. They are young, either single or newly married, and have not put roots down by buying a house. They did not differ greatly on the substantive questions from the responding group.

The refusal group did differ substantively from the other two groups. People who refused on the post-test tended to know less about and be less favorable toward civil defense. They had been exposed to less information, had thought less about building a shelter, were less interested in shelter inducements and sources of information about shelters. Demographically, the refusal sample represents the group which is a hard target audience for civil defense messages. They are older, less well-educated, and their children have left home. It seems safe to say that they have less of a personal stake in survival than does the rest of the population.