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The Development of Values and Beliefs in Young Americans Toward Fallout Shelters and Civil Defense

Pilot Study Report No. 2

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THE DEVELOPMENT OF VALUES AND BELIEFS

IN YOUNG AMERICANS

TOWARD FALLOUT SHELTERS AND CIVIL DEFENSE

(An Abstract)

This report is the second of three reports based on a pilot stu of the attitudes which young Americans express toward fallout shelters and toward civil defense. The study was designed to provide a basic understanding of some of the factors which contribute to favorable or unfavorable evaluations of shelters and civil defense concepts among youth.

American youngsters provide a special Civil Defense audience. This is an audience whose entire life has been spent in the atomic era But it is a group whose exposure to the effects of atomic warfare has come only through indirect or remote means. Their knowledge comes fror books and from films and from information provided by adults who can recall the effects of atomic explosions during wartime. This provides sufficient reason to believe that the attitudes toward civil defense being formed in young Americans may be at variance from those of adults

The eventual objective of this research is to provide suggestion to Civil Defense as to how young people may best be informed about civi defense programs. These young people represent a very large target audience for present and future civil defense messages. Greater appreciation of the values they now have and the means by which their

beliefs develop is expected to enable more efficient communication with them.

The present study looked at the combined effects of such variables as age, sex, race and personal ability on attitude formation. The previous report focused on only the single effects of the same variables.

Essays were written by 300 eighth and twelfth grade students on the subject of fallout shelters and civil defense. The essays were coded in terms of the attitudes they expressed from very favorable to very unfavorable attitudes. Four attitudes were studied: (1) Composite (general) fallout shelter attitudes; (2) General attitudes toward civil defense; (3) Attitudes toward public shelters; and (4) Attitudes toward private fallout shelters.

The methodology of our analysis was as follows: For each of the four attitude areas, we looked at the relationship between the attitude and each of the background characteristics. Then, for each background characteristic, we determined whether the observed relationship remained, increased, or disappeared when the other background characteristics were introduced as control variables. This procedure has yielded information as to possible artifactual relationships.

In this abstract, let us indicate the general nature of this study's findings, in terms of each background characteristic.

Age. In terms of age differences, we found that:

(a) for Composite Shelter Attitudes, age sharply differentiates the supporters from the non-supporters. The younger students were always significantly more favorable.

(b) for Civil Defense Attitudes, age again was a strong influence, but only among the white students in the study. It was the 8th graders who were more favorable than the 12th graders.

(c) on Public Shelter Attitudes, age differentiated the younger from the older students to the same extent as for the composite attitude measure.

(d) on Private Shelter Attitudes, for all eight comparisc we made, the eighth graders were more favorably disposed toward shelter than were the twelfth graders.

Age is a significant correlate of attitudes toward both shelter and civil defense.

Race. In terms of racial differences, we found that:

(a) Minority group members expressed consistently more positive attitudes on the Composite Shelter Attitude measure than the members of racial majorities. This difference was even more pronounced among the 12th graders.

(b) for Civil Defense attitudes, similar findings obtained: the non-whites were more favorable, and the difference was maximal among the older respondents.

(c) for Public Fallout Shelters, attitude differences between the two racial groups were insignificant.

(d) for Private Shelters, racial differences which existed again showed the non-whites as more favorable, but much of the difference could be attributed to the other background variables.

Race appears to be a prime index of general attitudes toward shelters and general attitudes toward civil defense, but not toward

particular types of shelter. The white students were consistently more opposed than the non-white ones.

Ability. In terms of personal ability differences, we found that:

(a) for Composite Shelter Attitudes, personal ability is a critical determinant of shelter attitudes. More able students were consistently less favorable toward shelters.

(b) for Civil Defense Attitudes, the more able continued to be more opposed than the less able. Ability interacted with the variable of age. This means that 8th grade, white students were less favorable than 8th grade non-whites, but that the differences among the 12th graders were three times as large.

(c) for Public Shelter Attitudes, ability is a weak predictor, but substantial differences between ability groups were found among the 12th graders.

(d) for Private Shelter Attitudes, ability is a consistent determinant of these attitudes, with and without any of the other background characteristics. The more able are less favorable.

Personal ability is a significant contributor to differences in attitude toward fallout shelters in general or to particular types of shelters, as well as toward civil defense. Ability interacts with age to produce even more sensitive estimates of attitudes.

Sex. In terms of sex, we found that:

(a) for Composite Shelter Attitudes, sex is a weak predictor and continues to be so even when additional background variables are introduced. What minor relationship does exist was found

among the more able, non-white students, with the young ladies more favorable than the young men.

(b) for Civil Defense Attitudes, sex alone had almost no relationship, but in the multi-variable analysis, the 12th grade girls were substantially more favorable than the 12th grade boys.

(c) for attitudes toward Public Shelters, minor differen existed between the boys and girls, with the girls generally more favorable.

(d) for attitudes toward Private Shelters, there continu to be only a minor relationship between sex and this attitude area; the relationship diminishes further when the other background characteristics are controlled for.

Overall, sex tends to be consistent in that a greater proportior of girls than boys are favorable toward whatever attitude is being considered, but the difference is never a large one.

For all the findings of this study, the reader is cautioned about generalization. The group of young people examined was relativel small, and it was not a random representation of American youth. No inferences may be made about general population characteristics from this study, not even the general population of young people. What we have provided are some significant relationships between background characteristics and civil defense attitudes which require replication in a more comprehensive study.

SECTION I

Introduction and Purpose of the Study

This report is the second in a series of three reports based on a pilot study of the attitudes which young Americans express toward fallout shelters and toward civil defense. The study was designed to provide a basic understanding of some of the factors which contribute to positive or negative beliefs about shelters and civil defense.

Factors studied were five demographic and social characteristics: sex, age, race, social class, and personal ability. One of these, social class, was not studied adequately to warrant general conclusions. For the other four factors, the first project report analyzed the nature of the relationship between each characteristic and the respondents' attitudes. We examined attitudes toward such concepts as public or community shelters, private or family shelters, and civil defense in general.

The first report asked how age was related to beliefs about shelters and civil defense, how sex was related to those beliefs, etc. That form of analysis was insufficient in one particular way. It did not eliminate the possibility that some obtained relationship may have been artifactual.

An artifact may have existed because the first relationship was itself accounted for by some other relationship. For example, suppose that young girls were more favorable than young boys toward fallout shelters because of certain values their sex role prescribed. Suppose also, that age was related to shelter attitudes, i.e., that 13-year-olds were more favorable than 17-year-olds because the older ones became disinclined toward federal programs. The question to be answered would be whether one of the relationships is an artifact of the other. By controlling for age, we might have found that there were no differences between the younger boys and younger girls in their attitudes; that what appeared to be a relationship could have been accounted for by the age variable instead. Then we would have concluded that it was age which appeared to make a difference in the attitude, and not sex.

In this report, we shall examine the relationships which might be of the kind described above. Of course, some factor as yet unstudied in this project may quite possibly account for some particular relationship that has been studied. In subsequent studies of the acquisition of information by young Americans toward the kinds of attitude concepts mentioned above, we will incorporate a wider range of background characteristics. At that point some of the other potential factors in the development of attitudes will be isolated and compared with the present information.

The following pages report an extended analysis of the multiple and partial relationships between each of our background indicators and the attitudes examined. For each attitude variable, we shall first indicate how it correlates with one of the background characteristics, and then successivel

introduce each of the other background factors to determine whether the relationship is sustained, becomes larger or decreases.

Method. The first report described in detail how the data were gathered and processed. Briefly, the respondents were 300 eighth and twelfth graders enrolled in public schools in Denver, Colorado. The schools represented a wide range of social and economic conditions. The Denver school system was chosen to yield students from white and non-white school districts and from divergent social class neighborhoods. In each of the schools, groups of students from Accelerated (above average ability), Regular (average ability), and Modified (below average ability) classes were interviewed. Equal numbers of boys and girls were included in this study.

During regular classroom meetings, the principal investigator asked the students to write an extemporaneous essay on "What I Think of Fallout Shelters." Students had been given no warning nor any information about the assignment. Students were allowed to write what they wanted, but were asked to consider the following questions:

What do you think fallout shelters are?

What do you know about them?

What do you think of fallout shelters?

Why do you think the way you do?

How do you feel about civil defense in general?

The completed essays were then subjected to an intensive content analysis by trained coders. The coders determined the favorability or unfavorability of attitudes expressed toward four issues: (1) fallout shelters in general; (2) private, family shelters; (3) public, community shelters; and (4) civil defense in general. Attitudes toward these issues

were rated by the coders from 1 (very unfavorable) to 7 (very favorable). The attitudes were then related to background information gathered about the respondents: sex, age, race, social class and personal ability level.

Section 2 analyzed the special attitude index we constructed, Comp Attitude Toward Fallout Shelters, in terms of the set of background variab Sections 3 and 4 also deal with fallout shelter attitudes, the former with public shelter attitudes, and the latter with private shelter attitudes. Section 5 analyzes the nature of attitudes toward civil defense, as expres by these youngsters. Section 6 summarizes and briefly discusses the data contained in this report.

SECTION 2

Factors Involved in Composite Attitudes Toward Fallout Shelters

The 'composite attitude toward fallout shelters' was an index obtained from all the young people who wrote out their beliefs. Since every young person had a score on this index, it was in this sense a better representation of their attitudes than the beliefs they expressed separately toward either public or private shelters.

The index was constructed by averaging the individual attitudes each respondent expressed toward specific shelter types. We did this with some 300 youngsters.

Our concern, however, will be in terms of how the background information obtained from these young people was related to their attitudes. For each background characteristic -- sex, age, race, and personal ability -- we shall present and discuss the corresponding attitude level. We shall first look at the overall relationship (as done in more detail in the first report of this study), but then focus particularly on relationships which involved additional information on the background characteristics.

Throughout sections 2-5, the reader will be referred to available tables accompanying the text. These tables, according to our interpretation,

provide support for the conclusions we draw and for the suggestions we offer All the critical information contained in numerical form in the tables will be presented verbally throughout these chapters. In each chapter, sex, age, race and personal ability will be examined as relevant factors in the formation of the belief area under consideration.

Sex as a Factor in Shelter Attitudes. The data to be discussed here are contained in Table 1.

Generally, sex itself was not a good predictor of fallout shelter attitudes within the age groups studied. Approximately 70 percent of the girls and 60 percent of the boys were favorably inclined toward shelters, as assessed by the composite measure (Table 1a). This 10 percent difference was not significant, either in statistical terms or for what it might represent socially. In other samples of young people, the difference could be smaller or larger or even reversed; this size difference lacks reliability in a sample of 300 people.

When we examined the responses of boys and girls, separately for the two age levels of 8th and 12th graders, sex again was of little consequen (Table 1b). In fact, among the 12th graders, the difference diminished to 5 percent.

Introducing our second control variable of race did not substantially alter what we had seen to this point. Among white students at both age levels, sex made no difference at all in the attitudes expressed toward shelters. Among non-white students, the minor difference between boys and girls became somewhat more intensified, particularly among the older group. That is, 17 percent more senior girls than boys among the non-white respondent

decidedly supported some form of fallout shelter (Table 1c).

Table 1 about here

The subtle relationship became clearer when we added the final background characteristic -- personal ability -- to the control variables used. We found maximum differences between the attitudes of young men and young women among the non-white students of exceptional ability for both the 8th and 12th graders. Here, 18 percent more girls and boys in the 8th grade and fully 25 percent more girls than boys in the 12th grade supported the shelter concept -- but only among the more able students (Table 1d).

Among the less able non-whites, sex made no difference. This lack of difference was a function, however, of the fact that a preponderance of all sub-groups in this category favored the shelter idea, ranging from 75% to 100% favorable.

Overall, sex made very little difference in the attitudes expressed. The attitudes of girls generally corresponded to the attitudes of boys, at least in terms of the dichotomous, favorable-unfavorable division we examined. Our earlier report also indicated that intensity of favorability did not differ substantially with sex.

In specific sub-group comparisons, white boys and girls held equivalent attitudes; however, non-white boys thought less of the shelter idea than non-white girls. This was so principally among the more able non-white youngsters.

Table 1
Sex Differences in Composite Fallout Shelter Attitudes
Among Age, Race and Ability Groupings
(n=300)

1a

Percentage Favorable		sex difference
Girls	Boys	
69%	59%	(10%)

1b. Controlling for age

	Percentage Favorable		sex difference
	Girls	Boys	
8th graders:	80%	70%	(10%)
12th graders:	49%	44%	(5%)

1c. Controlling for age and race

		Percentage Favorable		sex difference
		Girls	Boys	
White	8th graders:	75%	66%	(9%)
	12th graders:	44%	42%	(2%)
Non-white	8th graders:	88%	77%	(11%)
	12th graders:	67%	50%	(17%)

1d. Controlling for age, race and ability

			Percentage Favorable		sex difference
			Girls	Boys	
High Ability	White	8th graders:	63%	41%	(22%)
		12th graders:	26%	19%	(7%)
	Non-white	8th graders:	75%	57%	(18%)
		12th graders:	50%	25%	(25%)*
Low Ability	White	8th graders:	100%	79%	(21%)
		12th graders:	58%	53%	(5%)
	Non-white	8th graders:	100%	90%	(10%)
		12th graders:	75%	83%	(-8%)*

*cell entries $\not< 10$

Age as a Factor in Shelter Attitudes. Table 2 contains the data for this section.

Age was a crucial determinant of the fallout shelter attitudes, as assessed by the composite index. Fully 3/4 of the younger group, the 8th graders, made supportive statements, in contrast with less than one-half of the older, 12th graders. Thirty percent was the magnitude of the difference between the two groups in terms of favorable proportions (Table 2a).

When sex was introduced as a possible control variable, the differences between the two age groups remained constant. For both boys and girls, the age difference in proportion favorable toward shelters was large (Table 2b).

Controlling simultaneously for both sex and race did not alter the basic relationship already described. Separately for both sexes and for the youngsters of white and non-white races, eighth graders were consistently more favorable (from 21 to 31 percent more favorable) than 12th graders.

When ability level of the students was isolated from the analysis no decrement was produced in the age and shelter-attitude relationship. For each ability level, race and sex grouping, the differences between the 8th and 12th graders remained relatively constant and large (Table 2d).

Eighth graders held very different predispositions toward fallout shelters than twelfth graders. Consistently, they were more favorable. No factor has yet been isolated that rules out age as a factor in differential shelter attitudes.

The factor of age as a distinguishing characteristic of those more or less favorable toward shelters may stem from two alternative explanations. One of these is generational differences. Inasmuch as we are examining two

different age groups at the same point in time, different external events may have accounted for the different shelter attitudes. That is, the older group, although only four years older, may have reacted to world events in

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Table 2 about here

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a quite different manner. The Cuban crisis presumably would have resulted in one set of reactions for the younger and another set for the older. So, in essence, the shelter attitudes we have observed may have stemmed from the fact that these two age groups represent somewhat different generations. When these particular 12th graders were four years younger, fallout shelters were not a particularly important concern even in Washington.

The other explanation for these differences in shelter attitudes may be that of maturational differences. With age, and increasing exposure to events and influences outside the home, older children may find their earlier perceptions of such public issues altered. Attitudes do form and change as a function of individual growth and development.

Both of the above explanations could have accounted for the observed differences. These data did not provide any basis for choice between the two. Subsequent studies will examine more closely the source of the age differences in attitude.

Race as a Factor in Shelter Attitudes. Table 3 contains the data for this section.

Students from the non-white grouping, predominantly Negro youngsters, were generally more favorable to the notion of shelters than the Caucasian

Table 2
Age Differences in Composite Fallout Shelter Attitudes,
Among Sex, Race, and Ability Groupings
(n=300)

2a.

Percentage Favorable		Age Difference
8th graders	12th graders	
76%	46%	(30%)

2b. Controlling for sex

	Percentage Favorable		Age Difference
	8th graders	12th graders	
Boys:	70%	44%	(26%)
Girls:	80%	49%	(31%)

2c. Controlling for sex and race

		Percentage Favorable		Age Difference
		8th graders	12th graders	
White	Boys:	66%	42%	(24%)
	Girls:	75%	44%	(31%)
Non-white	Boys:	77%	50%	(27%)
	Girls:	88%	67%	(21%)

2d. Controlling for sex, race and ability

			Percentage Favorable		Age Difference
			8th graders	12th graders	
High Ability	White	Boys:	41%	19%	(22%)
		Girls:	63%	26%	(37%)
	Non-white	Boys:	57%	25%	(32%)
		Girls:	75%	50%	(25%)
Low Ability	White	Boys:	79%	53%	(26%)
		Girls:	100%	58%	(42%)
	Non-white	Boys:	90%	83%	(7%)
		Girls:	100%	75%	(25%)

students. Seventy-six percent of the former and 58 percent of the latter were categorized as favorable to shelters on the composite shelter attitude index (Table 3a).

Looking at race differences separately for the boys and girls did not affect this relationship. For each sex, the non-whites continued to favor the shelter idea more so than the white youngsters (Table 3b).

Table 3 about here

When we continued the breakdown by sub-dividing the youngsters by their grade level, the attitude differences became smaller -- except among the 12th grade girls. For this group, 67 percent of the non-whites favored shelters, compared with only 44 percent of the whites (Table 3d). We shall interpret this finding in the context of our third control variable personal ability.

Table 3d demonstrates that in seven of the eight possible comparison the non-whites were more favorable than the whites. Several of these differences were small and insignificant, but consistently in the direction indicated. In the eighth comparison, 100 percent of eighth grade girls of low ability, both white and non-white, were favorable toward fallout shelter about 20 cases were in each of the cells. The major contribution of race as a correlate of shelter attitudes was among the older students of low ability for both boys and girls.

Race interacted with age and personal ability. It continued to differentiate those who favored shelters from those with more antagonistic

Table 3
Race Differences in Composite Fallout Shelter Attitudes
Among Sex, Age, and Ability Groupings
(n=300)

3a.

Percentage Favorable		race difference
Non-white	White	
76%	58%	(18%)

3b. Controlling for sex

	Percentage Favorable		race difference
	Non-white	White	
Boys:	69%	54%	(15%)
Girls:	83%	62%	(21%)

3c. Controlling for sex and age

		Percentage Favorable		race difference
		Non-white	White	
8th graders	Boys:	77%	66%	(11%)
	Girls:	88%	75%	(13%)
12th graders	Boys:	50%	42%	(8%)
	Girls:	67%	44%	(23%)

3d. Controlling for sex, age, and ability

			Percentage Favorable		race difference
			Non-white	White	
High Ability	8th graders	Boys:	57%	41%	(16%)
		Girls:	75%	63%	(12%)
	12th graders	Boys:	25%	19%	(6%)
		Girls:	50%	26%	(24%)
Low Ability	8th graders	Boys:	90%	79%	(11%)
		Girls:	100%	100%	(0%)
	12th graders	Boys:	83%	53%	(30%)
		Girls:	75%	58%	(17%)

beliefs principally among the older age group studied.

Differential background experiences that lead non-whites to be generally more favorable cannot be determined from the present data. Here again, two alternative lines of reasoning are appropriate. The life experiences of the non-white may lead him to greater dependence on external sources of security and protection, thus a generally favorable disposition toward government and its works. Or it may be that the white youngster, as he becomes exposed to more public events and public issues, finds greater disenchantment in federal programs. These two approaches are not mutually exclusive. They may operate jointly, developing greater support for such concepts as fallout shelters among less privileged groups, and analogous decreasing support among the more privileged. Again, the isolation of such basic causes for race differences in attitudes is beyond the scope of the present study.

Personal Ability as a Factor in Shelter Attitudes. Table 4 contains the data discussed in this section.

With respect to the background characteristics examined in this study, personal ability ranked with age as the best predictor, of attitudes toward fallout shelters. More than three-fourths of the less able students approved of shelters, either public or private or both, whereas less than half of the more able students indicated such support (Table 4a).

When we examined the attitude differences between ability levels separately for boys and girls, the overall relationship remained as strong (Table 4b).

When the differences in attitude between the more and less able age groups were examined, the differences not only did not disappear -- they

became intensified. Whereas the original difference between better and poorer students was 28 percent, it now ranged from 33 percent to 37 percent (Table 4c). What this meant was that the multiple correlation of personal ability and age was an even better predictor of shelter attitudes than either one alone. Each of these two variables made a contribution to the prediction of favorability that was independent of the other variable.

More information for understanding the outgrowth of composite shelter attitudes was obtained when the race factor was controlled (Table 4d). Race did not increase the observed difference (except among 12th grade non-white boys), but more important, it did not decrease the observed relationship.

Hence, the more able students were decidedly less disposed to favor the concept of fallout shelters than were the less able youngsters. This relationship was found for all breakdowns of the ability groupings, whether

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Table 4 about here

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by sex, age or race. However, with not only their ability level, but also their age, we can make even more sensitive estimates of their favorability toward shelters.

The question as to why students who are regarded by teachers as more able, on the basis of academic achievement, are so much more negatively disposed toward shelters, cannot be answered by the present data. One can speculate that: they lack necessary information to support shelters; they have been exposed to and accepted anti-shelter information; or they were originally favorable toward shelters but received no reinforcement for that position. All such speculations require more intensive investigation.

Table 4
Ability Differences in Composite Fallout Shelter Attitudes
Among Sex, Age and Race Groupings
(n=300)

4a.

Percentage Favorable		ability difference
Low Ability	High Ability	
77%	49%	(28%)

4b. Controlling for sex

	Percentage Favorable		ability difference
	Low Ability	High Ability	
Boys:	72%	36%	(36%)
Girls:	83%	57%	(26%)

4c. Controlling for sex and age

		Percentage Favorable		ability difference
		Low Ability	High Ability	
8th graders	Boys:	83%	48%	(35%)
	Girls:	100%	67%	(33%)
12th graders	Boys:	58%	21%	(37%)
	Girls:	63%	30%	(33%)

4d. Controlling for sex, age and race

			Percentage Favorable		ability difference
			Low Ability	High Ability	
White	8th graders	Boys:	79%	41%	(38%)
		Girls:	100%	63%	(37%)
	12th graders	Boys:	53%	19%	(34%)
		Girls:	58%	26%	(32%)
Non-white	8th graders	Boys:	90%	57%	(33%)
		Girls:	100%	75%	(25%)
	12th graders	Boys:	83%	25%	(58%)
		Girls:	75%	50%	(25%)

SECTION 3

Factors Involved in General Attitudes toward Civil Defense

The young respondents in this study were specifically requested to express their opinions and beliefs about fallout shelters. In addition, it was suggested that if they had comments about the general nature and purposes of civil defense or its other programs, they were free to add those comments. More than one-half of our respondents (n=154) provided codable information about civil defense attitudes.

We shall first look at the overall relationship between attitudes toward civil defense and each of our independent variables -- sex, age, race and personal ability -- and then examine the partial and multiple relationships of these variables in combination with each other. One limitation in the findings of this and subsequent sections was that the smaller number of respondents resulted in smaller numbers of cases after two or three sub-divisions of the original group. Explicit reference will be made where this became a serious limitation.

Sex as a Factor in Civil Defense Attitudes. Table 5 contains the data for this section.

Sex, by itself, did not significantly distinguish the opponents of

civil defense from the proponents. However, favorableness was preponderant (Table 5a).

Turning next to sex differences for different age groups, the noticeable variation existed among the 12th graders. There, 15 percent more of the girls than boys favored civil defense; among 8th graders, no difference existed (Table 5b).

The trend for a sex difference continued when the control variable of race was introduced (Table 5c). For both white and non-white students in the 12th grades, differences of 13-18 percent were obtained, always in the direction of greater favorability among the female students. For the 8th graders, inconsistent differences existed.

The above finding manifested itself again as seen in Table 5d. The principal differences in attitude toward civil defense between boys and girls occurred within the older age group. Among 12th grade white children of high ability, the difference was 43 percent; among 12th grade non-white children of low ability, the difference was 25 percent; among 12th grade white children of low ability, the difference was 22 percent; among 12th grade, non-white children, there was no difference inasmuch as there was unanimous favorability toward civil defense. For the 8th graders, there was no consistent relationship.

Sex itself was not a critical determinant of civil defense attitudes among the respondents in this study. It did however make its presence important in interaction with the age of the students involved. That is, as the age increased, quite distinct differences in the civil defense attitudes of boys and girls were found: girls were more favorable.

One may again only speculate as to the source of this difference at the advanced age level. It is possible that as the young lady learns the appropriate behaviors for her sex roles, then the values of protection and security become more crucial; or, for the boys, the kind of value found in civil defense practices and programs became less salient or less credible. At present, these explanations are only suppositions.

Table 5 about here

Age as a Factor in Civil Defense Attitudes. Table 6 contains the data for this section.

Age was significantly related to general attitudes toward civil defense. Fully 92 percent of the 8th graders, in contrast with 68 percent of the 12th graders provided supportive statements for the notion of civil defense (Table 6a). As with general attitudes toward fallout shelters discussed in Chapter 5, so with attitudes toward civil defense -- the older students had strikingly more negative opinions.

When age differences were examined in terms of sex categories, the relationship remained stable (Table 6b). Among the boys, 30 percent more 8th graders than 12th graders were favorable; among the girls, the comparable difference was 18 percent.

When the race of the respondents is controlled, a marked interaction of age with race was found (Table 6c).

Among the white students there was a substantial relationship between age and civil defense attitudes, while among the non-whites, the earlier relationship disappeared. Almost the entire source of negativism toward

Table 5
Sex Differences in General Attitude Toward Civil Defense
Among Age, Race and Ability Groupings
(n=154)

5a.

Percentage Favorable		sex difference
Girls	Boys	
87%	80%	(7%)

5b. Controlling for age

	Percentage Favorable		sex difference
	Girls	Boys	
8th graders:	94%	91%	(3%)
12th graders:	76%	61%	(15%)

5c. Controlling for age and race

		Percentage Favorable		sex difference
		Girls	Boys	
White	8th graders:	90%	96%	(-6%)
	12th graders:	70%	52%	(18%)
Non-white	8th graders:	100%	83%	(17%)
	12th graders:	100%	87%	(13%)

5d. Controlling for age, race and ability

			Percentage Favorable		sex difference
			Girls	Boys	
High Ability	White	8th graders:	86%	92%	(-6%)
		12th graders:	50%	17%	(43%)
	Non-white	8th graders:	100%	67%	(33%)*
		12th graders:	100%	75%	(25%)*
Low Ability	White	8th graders:	100%	100%	(0%)
		12th graders:	85%	63%	(22%)
	Non-white	8th graders:	100%	92%	(8%)
		12th graders:	100%	100%	(0%) *

*cell entries $<$ 10

general civil defense notions was found in the 12th grade white students, both boys and girls.

Here was the most striking example, thus far, for the need to examine the inter-relationships among these presumed correlates of civil defense attitudes. Age did make a difference in this area of attitudes, but only among the members of one racial category, the white students.

The interaction between age and civil defense continued, and, in fact, became more extreme, when information on personal ability levels of the respondents was added (T le 6d). Only among the white students, for both ability levels, did a relationship exist between age and civil defense attitudes. In the most extreme instance, 92 percent of the 8th grade boys with exceptional ability favored civil defense, in comparison with a

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Table 6 about here

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mere 17 percent of the 12th grade boys at the same ability level. Three of the four comparisons among 12th graders yielded larger relationships then the original relationship, before any control variables were introduced. None of the non-white groups showed any relationship.

Thus, we find that age differentiates advocates of civil defense from detractors. Age is, in fact, the largest single relationship between civil defense attitudes and any of the background characteristics. The significance of the relationship is to recognize that it exists for white students alone.

Table 6
Age Differences in General Attitude toward Civil Defense
Among Sex, Race and Ability Groupings
(n=154)

6a.

	Percentage Favorable		age difference
	8th graders	12th graders	
	92%	68%	(24%)

6b. Controlling for sex

	Percentage Favorable		age difference
	8th graders	12th graders	
Boys:	91%	61%	(30%)
Girls:	94%	76%	(18%)

6c. Controlling for sex and race

		Percentage Favorable		age difference
		8th graders	12th graders	
White	Boys:	96%	52%	(44%)
	Girls:	90%	70%	(20%)
Non-white	Boys:	83%	87%	(-4%)
	Girls:	100%	100%	(0%)

6d. Controlling for sex, race and ability

			Percentage Favorable		age difference
			8th graders	12th graders	
High Ability	White	Boys:	92%	17%	(75%)
		Girls:	86%	50%	(36%)
	Non-white	Boys:	67%	75%	(-8%)
		Girls:	100%	100%	(0%)
Low Ability	White	Boys:	100%	63%	(37%)
		Girls:	100%	85%	(15%)
	Non-white	Boys:	92%	100%	(-8%)
		Girls:	100%	100%	(0%)

Race as a Factor in Civil Defense Attitudes. The data for this section are reported in Table 7.

Race served to distinguish among degrees of favorability toward civil defense. Almost unanimously, non-white students were found among the favorable category, whereas 13 percent fewer whites were equally favorable (Table 7a).

Sex did not further clarify nor deter from this relationship (Table 7b). Young men and young women who were non-white were equally more favorable than their white counterparts.

As in the previous section, when race differences in terms of the age groups were analyzed, another significant interaction emerged. Race did make a difference, but only among the 12th graders. This, of course, paralleled the principal relationship found with age. Both age and race

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Table 7 about here

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together clearly isolated the principal source of anti-civil defense attitudes. For 12th grade white students, 52 percent of the boys and 70 percent of the girls supported civil defense (Table 7c). In the other six sub-groups, the range of supporters ranged from 83 to 100 percent. Clearly, a strong discrepancy was observed between these two categories.

This conclusion was further confirmed by the data in Table 7d. Inconsistent and minor relationships existed between race and civil defense attitude among the four groups of eighth graders. Among the 12th graders, however, each relationship was significant. The differences between white

Table 7
Race Differences in General Attitude toward Civil Defense
Among Sex, Age and Ability Groupings
(n=154)

7a.

Percentage Favorable		race difference
Non-white	White	
92%	79%	(13%)

7b. Controlling for sex

	Percentage Favorable		race difference
	Non-white	White	
Boys:	85%	75%	(10%)
Girls:	100%	82%	(18%)

7c. Controlling for sex and age

		Percentage Favorable		race difference
		Non-white	White	
8th graders	Boys:	83%	96%	(-13%)
	Girls:	100%	90%	(10%)
12th graders	Boys:	87%	52%	(35%)
	Girls:	100%	70%	(30%)

7d. Controlling for sex, age and ability

			Percentage Favorable		race difference
			Non-white	White	
High Ability	8th graders	Boys:	67%	92%	(-25%)
		Girls:	100%	86%	(14%)
	12th graders	Boys:	75%	17%	(58%)
		Girls:	100%	50%	(50%)
Low Ability	8th graders	Boys:	92%	100%	(-8%)
		Girls:	100%	100%	(0%)
	12th graders	Boys:	100%	63%	(37%)
		Girls:	100%	75%	(25%)

students and non-white students, in terms of proportions favorable to civil defense were 25 percent, 37 percent, 50 percent and 58 percent, with non-whites superior each time in degree of favorability.

Race makes a difference in degree of favorability toward civil defense, but only among the older students studied. Furthermore, the multiple correlation of race and age with favorability was greater than the simple relationship with either of these two variables individually.

Personal Ability as a Factor in Civil Defense Attitudes. Table 8 presents the relationships between personal ability and attitudes toward civil defense.

Overall, there was a 15 percent difference in the proportions favorable toward civil defense between the high and low ability groups (table 8a). The less able were more favorable toward civil defense.

Sex did not make any difference in the basic relationship (Table 8b). Less able students continued to be more favorable.

Again, the relationship was clarified when information about the age group of the respondents was added. As Table 8c shows, less able 8th graders continued to think more highly of civil defense than 8th graders in accelerated classes. But this difference between the ability groupings was three times as large among the 12th graders; whereas, the difference between high and low ability 8th grade girls was 11 percent, the comparable difference at the 12th grade level was 34 percent. The comparison among the boys yeilded differences of the same magnitude. The interaction was highly significant.

Table 8d shows that the relationship observed could be segmented most clearly among the white students. That is, although ability and attitude

continued to be correlated, especially at the 12th grade level, the size of the relationship was maximum among white 12th graders. Maximum antagonism toward civil defense was found among 12th grade white students which, was also found in an earlier sub-group comparison. The more able students at the 12th grade level were far more antagonistic in their attitudes toward civil defense than less able students in any other sub-group.

Ability discriminated the supporters from the detractors of civil defense. It did so for both the younger and older students studied, but even more so among the older ones. Ability made a difference, principally together with racial and age considerations.

Table 8 about here

Table 8
Ability Differences in General Attitude toward Civil Defense
Among Sex, Age and Race Grouping
(n=154)

8a.

Percentage Favorable		ability difference
Low Ability	High Ability	
89%	74%	(15%)

8b. Controlling for sex

	Percentage Favorable		ability difference
	Low Ability	High Ability	
Boys:	84%	69%	(15%)
Girls:	95%	78%	(17%)

8c. Controlling for sex and age

		Percentage Favorable		ability difference
		Low Ability	High Ability	
8th graders	Boys:	96%	84%	(12%)
	Girls:	100%	89%	(11%)
12th graders	Boys:	70%	40%	(30%)
	Girls:	89%	55%	(34%)

8d. Controlling for sex, age and race

			Percentage Favorable		ability difference
			Low Ability	High Ability	
White	8th graders	Boys:	100%	92%	(8%)
		Girls:	100%	86%	(14%)
	12th graders	Boys:	63%	17%	(46%)
		Girls:	85%	50%	(35%)
on-white	8th graders	Boys:	92%	67%	(25%)
		Girls:	100%	100%	(0%)
	12th graders	Boys:	100%	75%	(25%)
		Girls:	100%	100%	(0%)

SECTION 4

Factors Involved in Attitudes toward Public Shelters

In Section 2, we presented the results of correlating the set of background characteristics with the composite index of shelter attitudes. In this section, we shall focus specifically on expressions of attitudes toward public, government-supported and government-stocked shelters. In section 5, we shall turn to the expressions of beliefs about private, family-style shelters.

All the respondents analyzed in this section expressed codable attitudes toward public shelters. In an earlier report, we examined the intensity levels of these beliefs, in terms of the background information obtained from them. Here, for reasons of sample size, we again confined our analysis to a dichotomization of the attitude. This means we divided the respondents into two attitudinal groups -- favorable and unfavorable toward the concept of public shelters.

From the original group of respondents, 105 expressed attitudes which could be so coded. We were restricted to this number of cases in the multiple relationships examined. Where the number of cases in any particular sub-group inhibited intensive analysis, it will be pointed out to the reader.

In this section we shall examine the single and multiple relationships of sex, age, race and personal ability with attitudes toward public shelters

Sex as a Factor in Public Shelter Attitudes. The data for this section are in Table 9.

Overall, a relationship between sex and public shelter attitudes was found. Girls were more likely to favor public shelters than boys (Table 9a).

Table 9 about here

There was an 18 percent difference between the two in terms of favorability.

The relationship between sex and public shelter attitudes diminished when we looked at the sex difference for each of the age groups (Table 9b). Among 12th graders, the sex difference in favorability of attitudes was trivial; among the 8th graders, the difference was not statistically significant.

The relationship remained a minor one when the race of the respondents was added to the control measures. Across all four comparisons, a larger proportion of the girls than boys favored public shelters, but the differences were still relatively small (Table 9c). Little credence could be given to the one large difference because of the small number of respondents involved in the comparison.

Finally, looking at all three control variables simultaneously, Table 9d indicates that the sex difference was most apparent among the white respondents, and even there was not completely consistent. What is consistent from the data is that for seven of eight comparisons, a larger

Table 9
Sex Differences in Public Shelter Attitudes
Among Age, Race and Ability Groupings
(n=105)

9a.

Percentage Favorable		Sex Difference
Girls	Boys	
78%	60%	(18%)

9b. Controlling for age

	Percentage Favorable		Sex Difference
	Girls	Boys	
8th graders	90%	77%	(13%)
12th graders	55%	58%	(-3%)

9c. Controlling for age and race

		Percentage Favorable		Sex Difference
		Girls	Boys	
White	8th graders	87%	72%	(15%)
	12th graders	53%	44%	(9%)
Non-white	8th graders	94%	85%	(9%)
	12th graders	(67%)	(0%)	(67%)*

9d. Controlling for age, race and ability

			Percentage Favorable		Sex Difference
			Girls	Boys	
High Ability	White	8th graders	84%	63%	(21%)
		12th graders	40%	38%	(2%)
	Non-white	8th graders	89%	80%	(9%)
		12th graders	(50%)	(0%)	(50%)*
Low Ability	White	8th graders	100%	80%	(20%)
		12th graders	71%	50%	(21%)
	Non-white	8th graders	100%	100%	(0%)
		12th graders	(100%)	(0%)	(100%)*

*cell entries < 5

proportion of girls than boys favor the public shelter idea. In the eighth, no difference exists.

At best, then, sex makes very little difference in public shelter attitudes. It is not a strong correlate of those attitudes, although one finds young girls slightly more favorable than young boys.

Age as a Factor in Public Shelter Attitudes. Table 10 contains the data discussed in this section.

Just as age had been a crucial factor in its relationship to shelters in general and to civil defense, so too is it sensitive to public shelter attitudes. Whereas 85 percent of the 8th graders were proponents of public shelters, only 46 percent of the 12th graders maintained that degree of favorability (Table 10a).

When the sex of the 8th and 12th graders was isolated, this relationship decreased somewhat among the boys, yet it remained at a significant level. For the girls, the strength of the original relationship was maintained (Table 10b).

Table 10 about here

Age continues to correlate with public shelter attitudes for both white and non-white respondents (Table 10c). In fact, the strength of the original relationship was restored. That is, controlling for both sex and race, age differentiated the more favorable from the less favorable to the same extent as before the introduction of any control variables.

This was also the case in Table 10d, where a further distinction was attempted between students of high and low personal ability.

Table 10
Age Differences in Public Shelter Attitudes
Among Sex, Race and Ability Groupings
(N=105)

10a.

Percentage Favorable		Age Difference
8th graders	12th graders	
85%	46%	(39%)

10b. Controlling for sex

	Percentage Favorable		Age Difference
	8th graders	12th graders	
Boys:	77%	58%	(19%)
Girls:	90%	55%	(35%)

10c. Controlling for sex and race

		Percentage Favorable		Age Difference
		8th graders	12th graders	
White	Boys:	72%	44%	(28%)
	Girls:	87%	53%	(34%)
Non-white	Boys:	85%	(0%)	(85%)*
	Girls:	94%	(67%)	(27%)*

10d. Controlling for sex, race and ability

			Percentage Favorable		Age Difference
			8th graders	12th graders	
High Ability	White	Boys:	63%	38%	(25%)
		Girls:	84%	40%	(44%)
	Non-white	Boys:	80%	(0%)	(80%)*
		Girls:	89%	(50%)	(39%)*
Low Ability	White	Boys:	80%	50%	(30%)
		Girls:	100%	71%	(29%)
	Non-white	Boys:	100%	(0%)	(100%)*
		Girls:	100%	(100%)	(0%)*

*Cell entries < 5

The relationship between the age of the respondent and his favorability toward public shelters was not cancelled out, nor even diminished by controlling for sex, race and personal ability. Nor did the multiple correlation of the set of four variables enhance the relationship to any extent. Where it appeared to do so, there were too few cases to warrant such a conclusion.

There are substantial and continuing differences between the two age groups in their support of the notion of public fallout shelters: the older students are substantially more negative toward the idea than their younger counterparts.

Race as a Factor in Shelter Attitudes. The data discussed here are in Table 11.

Race was not a good predictor of public shelter attitudes. Although a larger proportion of the non-whites were favorable toward public shelters, the difference between whites and non-whites was 15 percent, not a statistically significant deviation in the groups analyzed (Table 11a).

No further difference was noted when sex was controlled. Among the boys, there was a mere 5 percent difference in proportion favorable. Among the girls, a 17 percent difference was found (Table 11b).

Table 11 about here

When age was also introduced as a control variable, the consistency in direction of the differences stopped (Table 11c). In the final set of comparisons, race did not distinguish those favorable from those unfavorable

Table 11
Race Differences in Public Shelter Attitudes
Among Sex, Age and Ability Groupings
(n=105)

11a.

Percentage Favorable		Race Difference
Non-white	White	
81%	66%	(15%)

11b. Controlling for sex

	Percentage Favorable		Race Difference
	Non-white	White	
Boys:	64%	59%	(5%)
Girls:	90%	73%	(17%)

11c. Controlling for sex and age

		Percent Favorable		Race Difference
		Non-white	White	
8th graders	Boys:	85%	72%	(13%)
	Girls:	94%	87%	(7%)
12th graders	Boys:	(0%)	44%)	(-44%)*
	Girls:	(67%)	53%	(14%)*

11d. Controlling for sex, age and ability

			Percentage Favorable		Race Difference
			Non-white	White	
High Ability	8th graders	Boys:	80%	63%	(17%)
		Girls:	89%	84%	(5%)
	12th graders	Boys:	(0%)	38%	(-38%)*
		Girls:	(50%)	40%	(10%)*
Low Ability	8th graders	Boys:	100%	80%	(20%)
		Girls:	100%	100%	(0%)
	12th graders	Boys:	(0%)	50%	(-50%)*
		Girls:	(100%)	71%	(29%)*

*Cell entries < 5

toward public shelters with any great reliability (Table 11d). The differences, where the cell-frequencies permit analysis, maintained the originally small relationship between race and public shelter attitude.

Race was a weak predictor of public shelter attitudes.

Personal Ability as a Factor in Public Shelter Attitudes. Table 12 contains the data discussed here.

Ability also is only a weak predictor of public shelter attitudes, but here the consistency of the relationship is maintained throughout all the comparisons we made.

There was a 14 percent difference between the more and less able students in terms of the proportion favorable toward public shelters (Table 12a). The more able were less favorable. The magnitude of the difference was maintained for both boys and girls -- a 16 percent difference between the more and less able boys and a 17 percent difference between the more and less able girls (Table 12b).

When ability levels were examined in terms of age, as well as sex, the relationship remained the same among the 8th graders and was even larger among the 12th graders. Whereas the average difference between ability levels for the 8th graders was 15 percent, the average difference between ability levels for the 12th graders was 35 percent (Table 12c). Such differences provide evidence of an interaction between ability and age. It parallels the interactions uncovered with age in several previous findings of this report.

Finally, Table 12d, which reports the added control variable of race to the analysis, did nothing to alter the observed relationship.

Consistently, the more able students are more prone to disfavor the idea of public shelters. This is so for white and non-white students, for 8th and 12th graders, and for both boys and girls.

Table 12 about here

Table 12
Ability Differences in Public Shelter Attitudes
Among Sex, Age and Race Groupings
(n=105)

12a.

Percentage Favorable		Ability Difference
Low Ability	High Ability	
79%	65%	(14%)

12b. Controlling for sex

	Percentage Favorable		Ability Difference
	Low Ability	High Ability	
Boys:	68%	52%	(16%)
Girls:	90%	73%	(17%)

12c. Controlling for sex and age

		Percentage Favorable		Ability Difference
		Low Ability	High Ability	
8th graders	Boys:	84%	69%	(15%)
	Girls:	100%	86%	(14%)
12th graders	Boys:	80%	43%	(37%)
	Girls:	75%	42%	(32%)

12d. Controlling for sex, age and race

			Percentage Favorable		Ability Difference
			Low Ability	High Ability	
White	8th graders	Boys:	80%	63%	(17%)
		Girls:	100%	84%	(16%)
	12th graders	Boys:	50%	38%	(12%)
		Girls:	71%	40%	(31%)
Non-white	8th graders	Boys:	100%	80%	(20%)
		Girls:	100%	89%	(11%)
	12th graders	Boys:	(0%)	(0%)	(0%)*
		Girls:	(100%)	(50%)	(50%)*

*Cell entries $<$ 5

SECTION 5

Factors Involved in Attitudes toward Private Shelters

The fourth belief area which concerns us is the nature of individual attitudes toward private, family-type fallout shelters. The total number of young people who expressed specific attitudes toward private shelters was 118. Here, we are primarily interested in the extent to which the set of background characteristics we have been examining relates to the favorability of attitudes toward private shelters.

In section 4, attitudes toward public shelters were examined. Several of the background characteristics which had been excellent predictors of shelter-related and civil defense attitudes in previous analyses were more weakly related to public shelter attitudes. In this section we shall see the utility of these predictors reinstated in identifying supporters and non-supporters of private fallout shelters.

One word regarding the concept of private shelters as used here. At the time this study was completed, the Office of Civil Defense had not yet initiated its effort regarding the Protection Factor (PF) for individual homes. Inasmuch as that effort is designed to improve existing home structures, to make them usable and feasible as shelter protection areas, the notion of private shelters as used in this report is inappropriate.

What was on the minds of our respondents in discussing private shelters was the construction of a separate facility adjacent to the family home. For some few, the referent was the construction of neighborhood shelters used by a number of neighbor families, but still built by private capital. The reader should bear in mind that private shelters, wherever that phrase is used in this report, refers to the personal construction of shelter facilities by individual families.

Sex as a Factor in Private Shelter Attitudes. The data discussed in this section are in Table 13.

As before, sex was not a good discriminator among those who favored and opposed shelters, private shelters in this instance. Yet, as before, the minor difference was reflected in more favorable attitudes among girls than among boys. In the simple relationship between sex and private shelter attitudes, 16 percent more girls than boys were shelter proponents (Table 13a).

Much of this difference disappeared when we looked for sex differences in separate age groups. For 8th graders, the boy-girl difference was neglible, and for 12th graders, the same conclusion was reached (Table 13b).

The sex difference was also a trivial one when the factor of race was added as a control measure (Table 13c). Nevertheless, in all four comparisons, it was the girls who remained slightly more favorable than the boys.

The consistently small sex difference remained when all three control factors were presented (Table 13d). Seven of the eight comparisons between boys and girls indicated that more of the girls than boys were favorable. In the eighth comparison, there was no reversal but unanimous

favorability among both sex groups.

Therefore, sex is a weak, but consistent predictor of private shelter attitudes. The earlier speculations as to why girls should be more favorable than boys remain our only suggestions here. Until further study and analysis are possible, it appears that different role behaviors exist for girls which lead to greater concern and dependence on whatever protective devices are suggested.

Table 13 about here

Age as a Factor in Private Shelter Attitudes. Table 14 contains the data for this section.

Age again retained its very high correlation with shelter-related attitudes. The older students were much less favorable than the younger ones toward private shelters. In the overall relationship between age and private shelter attitudes, 79 percent of the younger, but only 42 percent of the older group could be considered as advocates of private fallout shelters (Table 14a).

The relationship between age and shelter attitude existed for each of the sex groups we analyzed, although it was somewhat diminished in magnitude (Table 14b). The difference in proportions of young people favorable toward the notion among the boys was 21 percent; among the girls, it was 33 percent. Sex accounted for some portion of the relationship between age and attitude, but not very much.

As the control variable of race was included in the analysis, the

Table 13
Sex Differences in Private Shelter Attitudes
by Age, Race and Ability Groupings
(n=118)

13a.

Percentage Favorable		Sex Difference
Girls	Boys	
71%	55%	(16%)

13b. Controlling for age

	Percentage Favorable		Sex Difference
	Girls	Boys	
8th graders:	83%	74%	(9%)
12th graders:	50%	53%	(-3%)

13c. Controlling for age and race

		Percentage Favorable		Sex Difference
		Girls	Boys	
White	8th graders:	76%	70%	(6%)
	12th grad rs:	44%	38%	(6%)
Non-white	8th graders:	94%	86%	(8%)
	12th graders:	(67%)	(0%)	(67%)*

13d. .Controlling for age, race and ability

			Percentage Favorable		Sex Difference
			Girls	Boys	
High Ability	White	8th graders:	73%	50%	(23%)
		12th graders:	27%	25%	(2%)
	Non-white	8th graders:	88%	67%	(21%)
		12th graders:	(50%)	(0%)	(50%)*
Low Ability	White	8th graders:	100%	83%	(17%)
		12th graders:	71%	50%	(21%)
	Non-white	8th graders:	100%	100%	(0%)
		12th graders:	75%	(0%)	(75%)*

*Cell entries $<$ 5

age-attitude relationship continued (Table 14c). More of the 8th than 12th graders said that private shelters were a rather good idea.

The final subdivision consisted of personal ability classifications; no particular change was noticeable in the overall relationship (Table 14d). In each one of the eight possible sub-group comparisons, the younger children were more favorable than the older ones. The smallest difference between 8th and 12th graders in any of these eight comparisons was 25 percent. The difference ranged up to 46 percent in those comparisons with an adequate number of cases.

Further study is required to determine why the older students have become disenchanted with fallout shelters, or why the beliefs they acquired were so different from the younger children's.

Table 14 about here

Race as a Factor in Private Shelter Attitudes. Table 15 has the data discussed in this section.

The difference in proportion of respondents favorable toward private shelters between white students and the non-white grouping was 24 percent (Table 15a). This represented a significant relationship.

The race-attitude relationship existed separately for the boys and girls. Differences of 15 percent and 23 percent were found (Table 15b). Race affected private shelter attitudes independently of the sex of the respondent.

Race also had an effect independently of the age level of the

Table 14
Age Differences in Private Shelter Attitudes
by Sex, Race and Ability Groupings
(n=118)

14a.

Percentage Favorable		Age Difference
8th graders	12th graders	
79%	42%	(37%)

14b. Controlling for sex

	Percentage Favorable		Age Difference
	8th graders	12th graders	
Boys:	74%	53%	(21%)
Girls:	83%	50%	(33%)

14c. Controlling for sex and race

		Percentage Favorable		Age Difference
		8th graders	12th graders	
White	Boys:	70%	38%	(32%)
	Girls:	76%	44%	(26%)
Non-white	Boys:	86%	(0%)	(86%)*
	Girls:	94%	(67%)	(27%)*

14d. Controlling for sex, race and ability

			Percentage Favorable		Age Difference
			8th graders	12th graders	
High Ability	White	Boys:	50%	25%	(25%)
		Girls:	73%	27%	(46%)
	Non-white	Boys:	67%	(0%)	(67%)*
		Girls:	88%	(50%)	(38%)*
Low Ability	White	Boys:	83%	50%	(33%)
		Girls:	100%	71%	(29%)
	Non-white	Boys:	100%	(0%)	(100%)*
		Girls:	100%	(75%)	(25%)*

*cell entries $<$ 5

respondents, although an apparent decrease in the size of that relationship occurred (Table 15c). Among 8th graders, the differences dropped to 16 percent and 18 percent. Although less reliable, the direction of the differences remained consistent with earlier findings.

When the final control measure of personal ability was presented, the general tendency of the race-attitude relationship was decreased even further (Table 15d). Where differences did occur, they indicated more favorability among the non-white respondents. Overall, then, much of the race-private shelter relationship can be accounted for by other features of the respondents.

Personal Ability as a Factor in Private Shelter Attitudes. Table 16 contains the data for this section.

Personal ability maintained a consistent relationship with private shelter attitudes throughout all the comparisons we made. Seventy-six percent of the low ability students favored private shelters in comparison with 54 percent of the more able students (Table 16a).

Differences at least as large occurred when the ability-attitude comparison was made individually for boys and for girls (Table 16b).

The relationship was also observed when the sub-grouping was made in terms of the age level of the respondents. If anything, the relationship

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Table 15 about here

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was larger among certain of the sub-groupings, for example, among 12th grade girls, the difference in proportions favorable to private shelters was 42 percent, the less able being more favorable (Table 16c).

Table 15
Race Differences in Private Shelter Attitudes
by Sex, Age and Ability Groupings
(n=118)

15a.

Percentage Favorable		Race Difference
Non-white	White	
81%	57%	(24%)

15b. Controlling for sex

	Percentage Favorable		Race Difference
	Non-white	White	
Boys:	67%	52%	(15%)
Girls:	86%	63%	(23%)

15c. Controlling for sex and age

		Percentage Favorable		Race Difference
		Non-white	White	
8th graders	Boys:	86%	70%	(16%)
	Girls:	94%	76%	(18%)
12th graders	Boys:	(0%)	38%	(-38%)*
	Girls:	(67%)	44%	(23%)*

15d. Controlling for sex, age and ability

			Percentage Favorable		Race Difference
			Non-white	White	
High Ability	8th graders	Boys:	67%	50%	(17%)
		Girls:	88%	73%	(15%)
	12th graders	Boys:	(0%)	25%	(-25%)*
		Girls:	(50%)	27%	(23%)*
Low Ability	8th graders	Boys:	100%	83%	(17%)
		Girls:	100%	100%	(0%)
	12th graders	Boys:	(0%)	50%	(-50%)*
		Girls:	(75%)	71%	(4%)*

*cell entries $<$ 5

For the final analysis, the same relationship persisted to the same extent in most comparisons. There were modal differences of 33 percent between the ability levels in terms of liking for the private shelter concept.

Private shelters are a good idea, according to a preponderance of students who exhibited minimal ability in school work. For the good students, private shelters are more often perceived as poor risks.

Table 16 about here

Table 16
Ability Differences in Private Shelter Attitudes
by Sex, Age and Race Groupings
(n=118)

16a.

Percentage Favorable		Ability Difference
Low Ability	High Ability	
76%	54%	(22%)

16b. Controlling for sex

	Percentage Favorable		Ability Difference
	Low Ability	High Ability	
Boys:	69%	38%	(31%)
Girls:	86%	63%	(23%)

16c. Controlling for sex and age

		Percentage Favorable		Ability Difference
		Low Ability	High Ability	
8th graders	Boys:	88%	55%	(33%)
	Girls:	100%	77%	(23%)
12th graders	Boys:	46%	23%	(23%)
	Girls:	73%	31%	(42%)

16d. Controlling for sex, age and race

			Percentage Favorable		Ability Difference
			Low Ability	High Ability	
.te	8th graders	Boys:	83%	50%	(33%)
		Girls:	100%	73%	(27%)
	12th graders	Boys:	50%	25%	(25%)
		Girls:	71%	27%	(44%)
-wh..te	8th graders	Boys:	100%	67%	(33%)
		Girls:	100%	88%	(12%)
	12th graders	Boys:	(0%)	(0%)	(0%)*
		Girls:	(75%)	(50%)	(25%)*

ll entries < 5

SECTION 6

Summary and Discussion

We have attempted in this report to elaborate our analyses of the relationships between certain social and demographic characteristics of young people and the attitudes they expressed toward fallout shelters and toward civil defense. The kinds of comparisons and relationships examined were not greatly limited by the non-randomness of the sample used. We were not attempting in this initial study to indicate population trends in attitudes, but to look for factors which would separate segments of the target population into more or less favorable camps.

In earlier sections, we examined each attitude area, in terms of the combined relationships of age, sex, race and personal ability. In this summary section, it seems most useful to recapitalate these findings in terms of each of the background characteristics. For each characteristic, we shall point out what occurs with the four attitude areas.

The following relevant factors were identified:

1. Sex

a. Composite Fallout Shelter Attitude. Sex was only a weak predictor of general shelter attitudes; where differences were found,

the boys were somewhat less favorable than the girls. In the most sensitive comparisons, i.e., where we controlled simultaneously for age, race and personal ability differences, no difference was found between white boys and white girls. Among the non-whites, however, and particularly among the more able non-whites, the girls were substantially more favorable than their counterparts.

b. General Attitudes toward Civil Defense. Here, also, sex alone was not an adequate determinant of the expressed attitudes. In the multi-variate analysis, there was a strong tendency for sex differences in civil defense attitudes to manifest themselves particularly among the twelfth graders. That is, sex differences were nil or inconsistent among the eighth graders, but among the older ones, the girls presented more positive notions about civil defense than the boys.

c. Attitudes toward Public Fallout Shelters. Particularly with reference to this concept, sex differentiated the opponents from the supporters. Proportionately more of the young ladies than young men advocated this form of protection. However, when the other control variables were introduced the relationship decreased substantially, suggesting that what appears to be a relationship is better accounted for by the other background variables examined. In all sub-group comparisons of attitude toward public shelters, the girls were more favorable than the boys, but the differences were small.

d. Attitudes toward Private Fallout Shelters. As with the previous concept, there was an initial relationship between sex and private shelter attitudes; the girls were more favorable. This too diminished with the addition of the other background factors. Again, the apparent

overall relationship was in good measure an artifact of the other background variables.

In summary, sex tended to discriminate on each attitude measure, but never strongly.

2. Age.

a. Composite Fallout Shelter Attitude. Age sharply differentiated the supporters of shelters from the non-supporters. The younger students were firmer advocates than the older ones. This was so, controlling for all combinations of the other background characteristics. The differences in the proportions of eighth and twelfth graders who were favorable remained constant and large.

b. General Attitudes toward Civil Defense. Overall, age was related to civil defense attitudes in the same manner as it was related to shelter attitudes. However, when we looked at age differences for the different races represented in this study, we found that the relationship existed only among the white students. For non-whites, age did not make any consistent or substantial difference in civil defense attitudes. But among white students, the relatioship was even larger than the overall relationship. Twelfth grade white students were among the most severe critics of civil defense, particularly when they were compared to their eighth grade counterparts.

c. Attitudes toward Public Fallout Shelters. Age was also sensitive in this attitude area. Whereas 85 percent of the 8th graders were favorable toward public shelters, the same was true for only 46 percent of the 12th graders. Controlling for sex, race, and personal

ability did not alter the magnitude of this relationship.

d. Attitudes toward Private Fallout Shelters. For each of eight possible comparisons of the relationship between age and private shelter attitudes, the younger respondents were more favorable than the older ones.

In summary, age was a significant correlate of attitudes toward both shelters in general, specific types of shelters and toward civil defense. For the most part, no change appeared in the high overall correlation between age and these belief areas when the control variables of sex, race and personal ability were introduced.

3. Race.

a. Composite Fallout Shelter Attitude. The minority race group members examined in this study consistently expressed more favorable fallout shelter attitudes than the majority race group members. However, the correlation of race and shelter attitudes was affected to some extent by the age variable; the race differences were particularly acute among the 12th grade respondents. That is, although the data consistently showed more favorability among the non-white students, there were even larger differences in the amount of favorability among the 12th graders.

b. General Attitudes toward Civil Defense. The obtained findings parallel those described for the Composite Fallout Shelter measure. Overall, race was related to civil defense attitudes; fewer whites than non-whites were favorable. Age was the critical control variable in the sense that the race attitude relationship was intensified within the older student group. For example, among 8th grade girls of

high ability, the difference in proportions favorable was 14 percent; among comparable 12th grade girls, it was 50 percent.

c. Attitudes toward Public Fallout Shelters. Racial differences were insignificant when the attitude object was public fallout shelters. The direction of the difference remained the same, however. More of the white respondents were negative. When all the control variables were introduced, the consistency of the relationship also decreased. Race did not correlate with public shelter attitudes.

d. Attitudes toward Private Fallout Shelters. When the concept was private shelters, race again became a significant discriminant. It remained a correlate of private shelter attitudes independently of sex, and personal ability of the respondents. Introducing these controls did diminish the magnitude of the original relationship, such that some of the original relationship could be accounted for by these other factors.

Race was a prime indicant of general shelter attitudes and general civil defense attitudes -- but particularly among the older group of respondents. Race was a somewhat ineffective discriminant among proponents of specific shelter concepts, such as private and public shelters.

4. Personal Ability.

a. Composite Fallout Shelter Attitude. Personal ability was as strong a correlate of shelter attitudes as was age. The more able students were consistently less favorable toward the notion of shelters than students in less able classes. Looking at attitude differences by ability level in terms of the control variables did not decrease this relationship; in fact, it increased in magnitude when age was controlled. Therefore, ability was a significant predictor of shelter

attitudes in its own right.

b. General Attitudes toward Civil Defense. Similar findings as those described above were obtained when the criterion variable was civil defense attitudes. Ability groupings had different attitudes toward civil defense. The better students were less favorable. In this analysis, ability interacted with age. Among the eighth graders, there were substantially different attitudes between the high and low ability classifications. However, the difference was three times as large among the 12th graders.

c. Attitudes toward Public Fallout Shelters. Ability was only a weak predictor of public shelter attitudes when no other variables are controlled for. The difference obtained was consistently in the direction of greater favorability among the less able students. Ability also interacted with age in these comparisons. For the 8th graders, the differences in proportions favorable remained low, but consistent. For the 12th graders, the differences were substantial. The maximum correlation of ability with public shelter attitudes was found among the older respondents.

d. Attitudes toward Private Fallout Shelters. Similar differences between ability classifications persisted when the attitude referent was private shelters. The more able were less favorable.

Personal ability accounts for differences in attitude toward fallout shelters, either generally or specifically, and toward civil defense. In interaction with the variable of age, the relationships are even stronger.

* * * * *

We must now go beyond this type of exploratory investigation. To the extent that young Americans constitute a meaningful audience for civil defense messages, more intensive and broader study is required.

In the first field study, which we will undertake shortly, a random sample of youngsters in some urban center will be interviewd in order to: (a) obtain population trends; (b) expand the study of approximate background characteristics; and (c) explore in greater detail the kinds of sub-attitudes held by young Americans toward shelters and toward civil defense.

Additional background characteristics should be studied as indicators of how young people come to hold the attitudes they have. We intend to examine such factors as:

Family activity in and discussion of public issues

Exposure to mass media information, e.g., books, newspapers

Peer-group discussion of public issues

Activity in social organizations, clubs

Church activity and participation in religious groups

Information from teachers, educators, school programs

Only by adding such additional characteristics may we attempt to isolate the core sources of information in the youngsters' perceptions of key civil defense programs.

For similar reasons, it appears necessary to go beyond the general attitude concepts examined to date. Such broad concepts as fallout shelters and civil defense must be sub-divided into more specific attitude objects. Among these might be such concepts as beliefs about:

Conditions within shelters

The amount of protection afforded by shelters

The costs of providing shelter protection

Knowledge about local availability of shelter protection

Objectives of the shelter program

These only begin to suggest the nature of future study of the development of beliefs and values in young Americans with respect to such areas of public information as civil defense and fallout shelters. How may such an important segment of American society become well informed? It is to these questions that our research is focused.

APPENDICES

APPENDIX

Table A

Number of respondents in Tables 1-4 cells

Sex	Grade	Race	Ability	(n)
Boys	8th	White	High	(17)
Boys	12th	White	High	(16)
Boys	8th	White	Low	(33)
Boys	12th	White	Low	(34)
Boys	8th	Non-white	High	(14)
Boys	12th	Non-white	High	(8)
Boys	8th	Non-white	Low	(20)
Boys	12th	Non-white	Low	(8)
Girls	8th	White	High	(38)
Girls	12th	White	High	(19)
Girls	8th	White	Low	(19)
Girls	12th	White	Low	(24)
Girls	8th	Non-white	High	(20)
Girls	12th	Non-white	High	(4)
Girls	8th	Non-white	Low	(20)
Girls	12th	Non-white	Low	(8)

APPENDIX

Table B

Number of respondents in Tables 5-8 cells

Sex	Grade	Race	Ability	(n)
Boys	8th	White	High	(13)
Boys	12th	White	High	(6)
Boys	8th	White	Low	(15)
Boys	12th	White	Low	(19)
Boys	8th	Non-white	High	(6)
Boys	12th	Non-white	High	(4)
Boys	8th	Non-white	Low	(12)
Boys	12th	Non-white	Low	(4)
Girls	8th	White	High	(21)
Girls	12th	White	High	(10)
Girls	8th	White	Low	(10)
Girls	12th	White	Low	(13)
Girls	8th	Non-white	High	(5)
Girls	12th	Non-white	High	(1)
Girls	8th	Non-white	Low	(10)
Girls	12th	Non-whit	Low	(5)

APPENDIX

Table C

Number of respondents in Tables 9-12 cells

Sex	Grade	Race	Ability	(n)
Boys	8th	White	High	(8)
Boys	12th	White	High	(8)
Boys	8th	White	Low	(10)
Boys	12th	White	Low	(8)
Boys	8th	Non-white	High	(5)
Boys	12th	Non-white	High	(2)
Boys	8th	Non-white	Low	(3)
Boys	12th	Non-white	Low	(1)
Girls	8th	White	High	(19)
Girls	12th	White	High	(10)
Girls	8th	White	Low	(4)
Girls	12th	White	Low	(7)
Girls	8th	Non-white	High	(9)
Girls	12th	Non-white	High	(2)
Girls	8th	Non-white	Low	(8)
Girls	12th	Non-white	Low	(1)

APPENDIX

Table D

Number of respondents in Tables 13-16 cells

Sex	Grade	Race	Ability	(n)
Boys	8th	White	High	(8)
Boys	12th	White	High	(12)
Boys	8th	White	Low	(12)
Boys	12th	White	Low	(12)
Boys	8th	Non-white	High	(3)
Boys	12th	Non-white	High	(1)
Boys	8th	Non-white	Low	(4)
Boys	12th	Non-white	Low	(1)
Girls	8th	White	High	(22)
Girls	12th	White	High	(11)
Girls	8th	White	Low	(4)
Girls	12th	White	Low	(7)
Girls	8th	Non-white	High	(8)
Girls	12th	Non-white	High	(2)
Girls	8th	Non-white	Low	(8)
Girls	12th	Non-white	Low	(4)

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13. ABSTRACT

This is the second of three reports concerning the attitudes expressed by American youngsters toward fallout shelters and civil defense. The present study focussed on the combined effects of age, sex, race and personal ability on their opinions.

When these variables are controlled singly and together in analyzing opinions, we find the following: In terms of age, younger students were more favorable to fallout shelters and civil defense with no changes introduced by controlling for other variables. Race also remained highly correlated with attitudes, after controlling other factors. Non-white youngsters were generally more favorable than white youngsters, but the difference was most pronounced among the older non-whites. Personal ability accounted for differences in attitude toward fallout shelters and civil defense. The higher ability students, especially the older ones, were less favorable toward the two opinion areas. Sex was a weak, negligible correlate of these attitudes, and sex did not interact with the other variables.

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