

RESEARCH REPORT

STUDENTS AND THE NUCLEAR ARMS RACE

[REPORT ON THE 1986 SURVEY]

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I INTRODUCTION

This report is the third in a series of studies of student attitudes to the nuclear arms race. Previous surveys have focussed on knowledge about nuclear issues, concerns, beliefs and reactions to the arms race.

We found previously that although most students had a good knowledge of the basic issues involved in the nuclear debate, there was little correlation between their level of knowledge and anxiety about nuclear war^{1,2}. Students were found to be strongly supportive of disarmament initiatives, particularly those of a multilateral nature. Politically, contentious issues such as ANZUS, American bases, warship visits and uranium exports were highly divisive amongst students. However, there was widespread support for more global, nuclear-related issues such as peace studies, the nuclear freeze, the comprehensive test ban, and the localised concept of an Indian Ocean Zone of Peace.

Although most students rated nuclear war as one of their greatest concerns in life, only a minority of students said that it affected their enjoyment of life or their plans for a family or a career. The most common reactions to the nuclear arms race were fear, frustration and anger.

Female students were significantly more concerned about nuclear war than their male counterparts and they also supported disarmament initiatives more strongly.

While we found little correlation between student attitudes and their level of knowledge about these issues, we did find stronger correlations between their concerns, beliefs and attitudes. The data suggested that the beliefs of these students were formed primarily by newspaper and television reports and possibly also by discussions within social and family groups.

This survey is an extension of our previous work. Its principal aims were to refine the questionnaire for subsequent use and to construct an attitude scale of a smaller number of items for comparing the attitudes of different groups in the community on nuclear issues. We also attempted to check the reliability of previous conclusions by use of a new sample of tertiary students. We hope that this report will provide a set of base data on student attitudes to the nuclear arms race and that it will be used for comparison with data from student and non-student samples in future studies.

II METHODOLOGY

1. Aims

This survey was carried out amongst tertiary students in Western Australia in an attempt to

- (a) assess their attitudes to nuclear weapons and to nuclear disarmament proposals,
- (b) correlate attitudes with the students' self-ratings of their own positions about nuclear armament/disarmament and with their concerns,
- (c) examine any gender-related differences.

2. Questionnaire

The survey was based on a questionnaire with 35 questions, which is presented in Table 1.

The items were based on those used in previous surveys^{1,2} and were selected on the basis of our aims stated above. The questions were directed towards concerns (items 1 to 4), reactions (items 8 to 13) and attitudes (items 14 to 35). We also included a self-assessment scale in which students could rate their own attitude to nuclear disarmament. Four versions of the questionnaire were prepared in order to eliminate any systematic effects arising from the ordering of the questions and versions were randomly distributed to subjects. This new version of the survey was piloted initially in June, 1986 on a group of 87 Murdoch University students enrolled in the first year trunk course "Evolution and Change". Following this pilot run, some minor changes were made for the full survey which was carried out in September, 1986. The preliminary version of the survey and the pilot results obtained with it are presented in Table 2 for purposes of comparison. The major difference was inclusion in the final survey of a set of single-word reactions for the students to rate. The words were generated from open-ended responses by students in an earlier version of the questionnaire^{1,2}.

3. Sample

Our sample involved 220 students from three Universities in the Perth Metropolitan area (Murdoch University, Curtin University of Technology and the University of Western Australia). The students ranged in age from 17 to 55, with an average age of 21.7 (s.d. 7.6). The sample included students from classes in anatomy, astronomy, biology, botany, education and philosophy. There were similar numbers of males and females (M = 107, F = 113).

4. Procedure

The questionnaire was administered in class whenever possible to ensure a high level of response. In a few cases the questionnaire was returned at the next class period, although no time limit was imposed.

5. Analysis

The results of the survey were analysed using the SPSS-X program. There were no open-ended questions in this questionnaire and most were scored on a five or six point scale.

An attitude sub-scale was constructed using items 14 to 35 (excluding items 32 and 33). Signs were reversed where necessary so that a high score uniformly indicated support for disarmament or concern about the nuclear arms race. The range of scores on these 20, six-point items was 20 to 120. To provide a more conventional range of 0 to 100 we subtracted 20 from the final score. Null responses were included in the score by assigning them a midpoint value (e.g. 3.5 for null responses to each six-point item).

A Rasch rating test was carried out on the items constituting this attitude scale to examine the overall consistency of the 20 items as a scale. They provided a good range of responses with a separability between items of 0.90, indicating a high degree of internal consistency⁴. Further details on the development of this scale are given in an accompanying report³.

III RESULTS

The responses to the various items in each of the main and pilot surveys are given in Tables 1 and 2 respectively. There is a close similarity in responses to the two questionnaires and to the results for previous surveys. Some specific observations about the responses of the total sample are related to their

- (a) concerns about nuclear issues and their own affairs,
- (b) responses to single word descriptions of their reactions,
- (c) attitudes to nuclear weaponry and conflict issues in general.

1. Concerns (items 1 to 4, 32, 33)

Students rated themselves towards the high end of the concern range about nuclear war (mean 3.24 on the five-point scale) while they rated their parents' concern somewhat lower (mean 2.57). Although the majority of students thought about nuclear war weekly or monthly, they discussed it only rarely at home.

This survey also confirmed our previous observations that a small minority of students agreed that the nuclear arms race affected their enjoyment of life and their plans for a family.

2. Reactions (items 8 to 12)

These scales were introduced as a result of responses to open-ended questions in previous questionnaires^{1,2}. It is clear that few students expressed boredom or disbelief about the arms race. The strongest reactions were fear, frustration and anger (in that order).

3. Attitudes (items 5, 6, 7, 13 to 31, 34, 35)

Student responses to these items were similar to those in previous surveys. In general terms there was widespread support for

- Australia to play a larger role in arms control negotiations (item 17)
- peace studies in schools (item 19)
- the proposed nuclear freeze (item 30)
- the proposed comprehensive nuclear test ban treaty (item 31)
- the Indian Ocean Zone of Peace proposal (item 34)

The majority of respondents were opposed to

- space weapons (items 22, 29, 35)
- nuclear weapons (item 23)
- deterrence (items 18, 21, 25, 26, 28)
- counterforce (item 27)

Students were closely divided on some issues, including

- visits of foreign warships (item 5)
- American defence installations in Australia (item 6)
- prospects of nuclear war in their lifetime (item 14)
- the possibility that Perth could be a nuclear target (item 15)
- Australia's involvement in the ANZUS Pact (item 16)
- Australia's decision to export uranium (item 20)

On the disarmament self-assessment scale (item 7) the students ranked themselves towards the high end (mean = 5.5/7), thus indicating opposition to nuclear arms. However, in their attitudes to citizens' influence on the arms race (item 13) they tended to cluster around the middle of the range (mean = 3.0/5).

On the attitude scale the mean for the September 1986 survey was 69.2 while for the June survey it was 67.0. The maximum possible score on this scale is 100. The distribution was unimodal and almost normal, with a skew towards the higher scores.

4. Gender Differences

A set of t-tests were carried out on the individual items to check our previous findings that female students had higher levels of concern and expressed greater support for disarmament than males.

Significant differences between the two genders were found on item 1, with females more concerned than males when they thought about the possibility of nuclear war. Similarly, females indicated stronger feelings of anger, fear and frustration on the single word reaction items (8, 11, 12).

Female students indicated significantly stronger support for peace studies and the Indian Ocean Zone of Peace (items 19, 34). They also were more strongly opposed to deterrence and space weapons (items 5, 6, 18, 21, 22, 26, 28). The greater concern expressed by females about nuclear war also was reflected in their significantly stronger agreement with the statements of item 14 (about nuclear war in their lifetime) and item 15 (about Perth being a nuclear target).

Males had a stronger belief that citizens could influence the arms race (item 13), however there was no significant difference in their self-assessment of positions on the nuclear disarmament scale (item 7).

These differences are all part of a consistent pattern and this is reflected in a significant difference in a higher mean attitude score for females (71.7) than for males (66.2), $|t|_{218} = 2.4$, $p = 0.018$.

5. Correlations

Our previous analysis had shown strong correlations between students' attitudes, beliefs, concern and reactions to the arms race.

In this study we calculated a Pearson correlation matrix for the attitude subscale and items 1, 7, 8, 11, 12. Strong correlation is found between the 20-item attitude score and each of these items, and particularly with the students' location of themselves on the self-assessment scale of their position for or against nuclear disarmament (item 7) ($r = 0.73$, $p < 0.0001$). This high correlation between responses to our attitude scale and students' own rating of their attitudes is another indicator of the usefulness of the attitude subscale as a measure of their position. Another strong correlation was found between frustration (item 12) and anger (item 8) ($r = 0.64$, $p < 0.0001$), indicating the strength of the students' personal involvement.

6. Factor Analysis

A factor analysis was carried out on the items in the preliminary survey (Table 2). Three main factors were found :

Factor 1

Opposition to nuclear weapons and general support for multilateral disarmament and peace studies (which accounts for 36% of the variance).

Factor 2

Belief that citizens can effect social change and opposition to nuclear warships, foreign military bases and uranium exports (7% of the variance).

Factor 3

Worry and concern, thinking, discussing and reading about the arms race but no active involvement (6% of variance).

Two of these factors (2 and 3) are similar to those found in our 1985 survey using a somewhat different questionnaire².

IV CONCLUSIONS

This survey has confirmed the pattern of responses which we have found in previous surveys. There are six salient features of the survey :

1. Students are very concerned about the nuclear arms race and strongly support multilateral disarmament proposals.
2. Students are divided over contentious political issues such as uranium exports, ANZUS, nuclear ship visits and American defence bases in Australia.
3. Students think about nuclear war quite often but they discuss it less often at home. They believe that their parents are less concerned than they are about the possibility of nuclear war.

4. A minority of students are strongly affected by their concern about the nuclear arms race. Their enjoyment of life is more strongly affected than their family or career plans. This is a social problem which should be considered by educators, particularly those involved in peace education.
5. Female students are more concerned about the nuclear arms race than their male counterparts. They are also more opposed to deterrence as a solution to the nuclear problem and more supportive of multi-lateral disarmament proposals.
6. There is a high level of support for peace studies in schools, with females more supportive of this initiative than males. This may reflect their greater concern about the nuclear problem and their desire to find solutions to it.

The general results of our three surveys show a remarkable consistency considering that the students came from such a wide range of disciplines and institutions. The results should provide a set of baseline data which can be used in subsequent surveys on other student groups, and in particular on groups in the general community. Such comparisons may be useful in identifying areas of community concern and support for disarmament proposals.

ACKNOWLEDGEMENTS

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Murdoch University

TABLE 1

Murdoch, Western Australia, 6150. Telephone: (09) 332 2211, Telex: AA 92711

School of Education

Thank you for agreeing to take part in this survey. It is only when people like yourself cooperate with us that we can build up our knowledge of community opinions. We are interested in finding out people's opinions about the nuclear arms race, whatever those opinions might be. There are no right or wrong answers to the questions which follow. So would you please answer each question.

All information will be treated as confidential, and no person or group will be identified by name. The information is for research purposes only. Would you please give us the following information. If you have any queries about the research, do not hesitate to contact Associate Professor Philip Jennings on 332-2381 or Dr. Jeanette Lawrence on 332-2613.

If you are interested in obtaining a report of the study, please give your name and address where indicated (optional) and we will send you a copy.

.....

	48.0%	51.0%
ARE YOU MALE OR FEMALE?	MALE / FEMALE	
	Mean	
YOUR AGE IN YEARS...21.7.....	DATE OF BIRTH	/ /19...

NAME (OPTIONAL)

ADDRESS

Thank you. Now would you please turn over and answer all the questions.

First could we ask some questions on your own thoughts and feelings about the possibility of nuclear war.

Please tick on the most appropriate line for each question.

- (1) When you think about the possibility of nuclear war in your lifetime, how concerned are you?

Extremely Unconcerned	Slightly Concerned	Rather Concerned	Very Concerned	Extremely Concerned
4.9	22.9	22.1	26.0	21.1

- (2) How would you describe your parents' (or children's) concern about the possibility of nuclear war?

My ²⁰⁵parents / ¹⁰children are / is:

(please cross out whichever is not applicable)

Extremely Unconcerned	Slightly Concerned	Rather Concerned	Very Concerned	Extremely Concerned
9.9	39.9	25.1	12.6	9.4

- (3) How often do you think about nuclear war?

Daily	Weekly	Monthly	Rarely	Never
5.8	37.2	30.9	22.4	3.1

- (4) How often do you discuss nuclear war at home?

Daily	Weekly	Monthly	Rarely	Never
1.2	15.2	25.1	45.7	12.1

- (5) What is your attitude to visits to Western Australian ports by nuclear-armed warships and submarines?

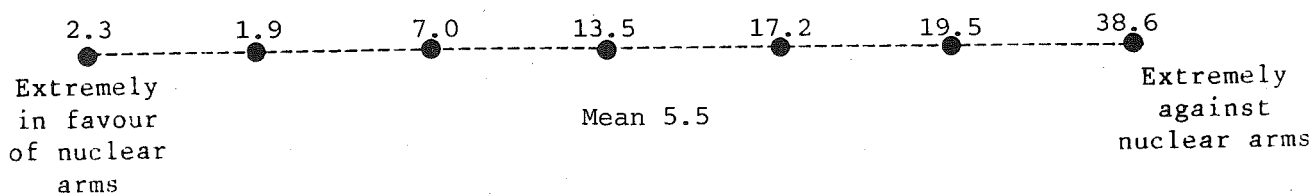
Strongly Support These Visits	Support These Visits	Oppose These Visits	Strongly Oppose These Visits
10.6	32.2	29.3	27.9

- (6) What is your attitude to the existence of US defence installations in Australia?

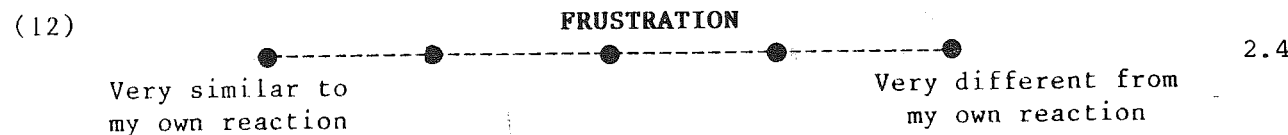
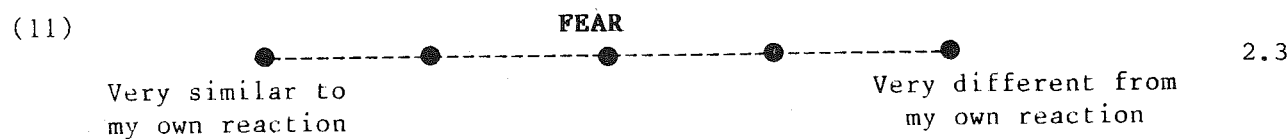
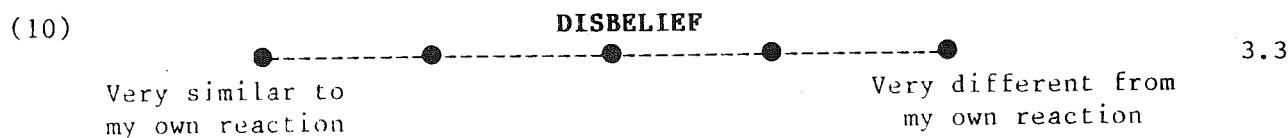
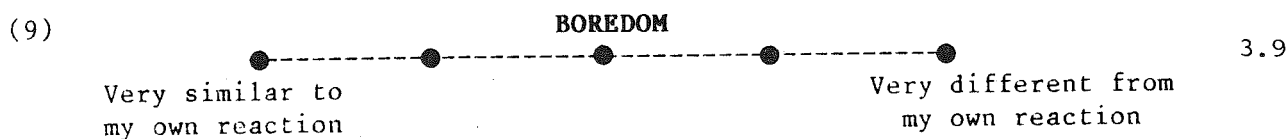
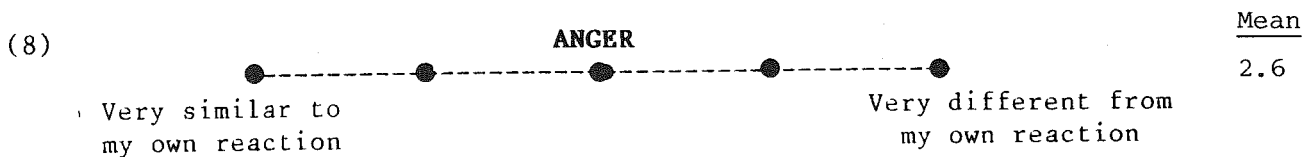
Strongly Support Installations	Support Installations	Oppose Installations	Strongly Oppose Installations
8.4	29.9	34.1	27.6

(Please put a cross (x) on any one dot to show your answer for each of the following questions, Questions 7 to 13)

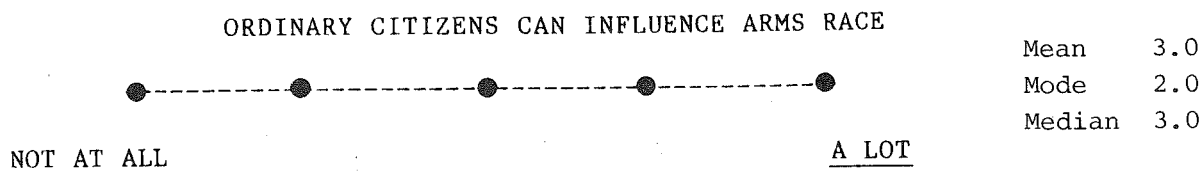
(7) Now would you mind locating your own position about nuclear armament/disarmament on the following scale.



Here are some words other people have used to express their reactions to the possibility of nuclear war in their lifetime.



(13) How much do you think ordinary citizens can influence the nuclear arms race?



Thank you, please turn over and rate all the statements on the next two pages.

Here are a number of statements about nuclear issues.

Would you please indicate how much you agree or disagree with each one.

(Please tick the most appropriate response for each item in the corresponding box)

	Agree Strongly	Agree	Agree Slightly	Disagree Slightly	Disagree	Disagree Strongly
(14) A nuclear war will occur in your lifetime	8.1	16.2	30.5	18.1	21.0	6.2
(15) Perth is likely to be a target in a major nuclear war	10.0	25.0	20.9	18.6	17.3	8.2
(16) The ANZUS Treaty is essential for Australia's defence	11.6	23.7	18.6	7.9	21.4	16.7
(17) Australia should play a larger role in moves to end the nuclear arms race	35.3	32.1	17.0	9.2	5.0	1.4
(18) No one can win a nuclear war	81.8	10.9	2.3	2.7	1.4	0.9
(19) Peace studies should be taught in high schools	34.4	24.0	22.6	6.3	5.4	7.2
(20) Australia should export uranium	10.0	17.4	15.1	11.9	21.5	24.2
(21) Nuclear weapons help to prevent war	6.9	10.6	18.4	10.6	17.1	36.4
(22) Space weapons will be able to protect us from nuclear weapons	2.3	6.1	9.9	13.6	31.5	36.6
(23) To have any nuclear weapons puts a country under threat	32.9	24.8	14.4	12.6	9.5	5.9
(24) Visits of nuclear-armed warships make Perth a nuclear target	21.6	22.5	23.4	10.8	12.6	9.0
(25) It is necessary to have some nuclear weapons to use under extreme threat	5.0	12.7	14.9	15.8	22.6	29.0

Would you please indicate how much you agree or disagree with each statement.
Please tick the most appropriate response for each item in the corresponding box.

	Agree Strongly	Agree	Agree Slightly	Disagree Slightly	Disagree	Disagree Strongly
(26) Nuclear arms have prevented major wars	8.4	11.2	21.4	10.2	28.8	20.0
(27) A limited nuclear conflict can be contained	1.9	3.7	9.3	13.1	36.4	35.5
(28) Using nuclear weapons as a deterrent is the best way to peace	3.7	4.6	7.8	13.8	27.1	43.1
(29) No weapons should be permitted in Outer Space	40.7	22.0	18.7	9.8	6.5	2.3
(30) There should be an immediate freeze on the production of nuclear weapons by all nations	57.5	24.8	9.3	3.3	3.3	1.9
(31) There should be a complete halt to the testing of nuclear weapons	56.9	23.4	11.5	2.8	3.2	2.3
(32) The nuclear arms race adversely affects my enjoyment of life	14.0	10.2	20.5	12.1	25.1	18.1
(33) The nuclear arms race affects my plans for a family	6.5	6.1	15.4	17.8	26.6	27.6
(34) The Indian Ocean should be declared a zone of peace from which all nuclear weapons are banned	50.5	25.0	12.7	3.8	5.2	2.5
(35) Australia should become involved in star wars research	4.7	6.5	14.9	14.4	23.7	35.8



Nuclear Arms Race Questionnaire

Thank you for participating in this survey. We are interested in people's opinions about nuclear issues. Please answer all questions. There are no right or wrong answers.

We will treat all information as group data, and report back to the class in Week 13. If you want any further information, do not hesitate to contact Philip Jennings (MPS) on 332 2274/2381 or Jeanette Lawrence (Educ) on 332 2631.

If you are interested in participating in further studies on this topic, please give your name and phone number (which will be treated as confidential), otherwise, please give us your age, date of birth, gender, and university programme.

NAME (OPTIONAL) _____

PHONE NO. (OPTIONAL) _____

AGE IN YEARS _____ DATE OF BIRTH / /19

UNIVERSITY PROGRAMME _____

THANK YOU, NOW WOULD YOU PLEASE TURN OVER AND ANSWER ALL QUESTIONS.

First could we ask some questions about your own thoughts and feelings about the possibility of nuclear war.

Please tick on the most appropriate line for each question.

- (1) When you think about the possibility of nuclear war in your lifetime, what are your feelings?

	Slightly	Rather	Very	Extremely
Unconcerned	Concerned	Concerned	Concerned	Concerned
9.3	23.3	21.8	24.1	20.7

- (2) How would you describe your parents' feelings about the possibility of nuclear war?

	Slightly	Rather	Very	Extremely
Unconcerned	Concerned	Concerned	Concerned	Concerned
20.7	29.9	23.0	13.8	8.0

- (3) How often do you think about nuclear war?

Daily	Weekly	Monthly	Rarely	Never
4.6	26.4	28.7	34.5	4.6

- (4) How often do you discuss nuclear war at home?

Daily	Weekly	Monthly	Rarely	Never
0.0	9.2	26.4	47.1	16.1

- (5) What is your attitude to visits to Western Australian ports by nuclear-armed warships and submarines?

Strongly Support	Support	Oppose	Strongly Oppose
These Visits	These Visits	These Visits	These Visits
8.0	32.2	43.7	13.8

- (6) Australia hosts a number of US defence installations such as the radio communications base at North West Cape. What is your attitude to the existence of US defence facilities in Australia?

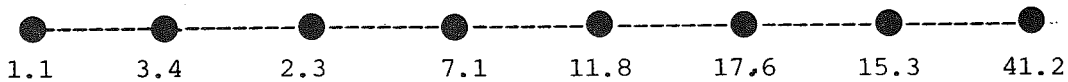
Strongly Support Them	Support Them	Oppose Them	Strongly Oppose Them
8.0	34.5	32.2	23.0

(7) Now would you mind locating your own position about nuclear armament/disarmament on the following scale.

(Please put a cross (x) on any one dot on the scale to indicate your attitude).

Extremely
in favour
of nuclear
arms

Extremely
against
nuclear arms



(8) Would you mind identifying your involvement in any activities related to nuclear issues.

How often do you participate in the following activities?
(Tick one column for each activity)

	Often	Occasionally	Never
I read about nuclear issues	<u>41.4</u>	<u>47.1</u>	<u>11.5</u>
I talk with my family about nuclear issues	<u>14.9</u>	<u>58.6</u>	<u>26.4</u>
I attend peace rallies and marches	<u>1.2</u>	<u>17.4</u>	<u>81.4</u>
I am involved with peace and disarmament groups	<u>3.5</u>	<u>11.6</u>	<u>84.9</u>
I discuss nuclear issues with friends	<u>20.7</u>	<u>74.7</u>	<u>4.6</u>

Thank you, please turn over and rate all the statements on the next two pages.

Here are a number of statements about nuclear issues.

Would you please indicate how much you agree or disagree with each statement.

(Please tick the most appropriate response for each item in the corresponding box.)

	Agree Strongly	Agree	Agree Slightly	Disagree Slightly	Disagree	Disagree Strongly
1. No one can win a nuclear war	72.4	17.2	5.7	0.0	3.4	1.1
2. Australia should play a larger role in moves to end the nuclear arms race	33.3	35.7	16.7	8.3	3.6	2.4
3. Australia should export uranium	8.2	16.5	24.7	10.6	15.3	24.7
4. Space weapons will be able to protect us from nuclear weapons	3.5	7.1	16.5	16.5	22.4	34.1
5. Nuclear weapons help to prevent war	2.4	13.1	15.5	8.5	25.0	35.7
6. The visits of nuclear-armed warships to Fremantle makes Perth a nuclear target	14.0	27.9	27.9	10.5	14.0	5.8
7. A nuclear war will occur in your lifetime	13.1	11.9	25.0	26.2	16.7	7.1
8. The ANZUS treaty is essential for Australia's defence	15.9	24.4	20.7	11.0	19.5	8.5
9. To have any nuclear weapons puts a country under threat	19.5	33.3	17.2	9.2	14.9	5.7
10. Perth is likely to be a target in a major nuclear war	12.9	23.5	17.6	20.0	16.5	9.4
11. Peace studies should be taught in high schools	21.8	27.6	19.5	10.3	12.6	8.0
12. Ordinary citizens can do nothing to halt the nuclear arms race	6.9	10.3	16.1	16.1	28.7	21.8

Would you please indicate how much you agree or disagree with each statement.

Please tick the most appropriate response for each item in the corresponding box.

	Agree Strongly	Agree	Agree Slightly	Disagree Slightly	Disagree	Disagree Strongly
13. Australia should build more fallout shelters	10.6	24.7	18.8	16.5	20.0	9.4
14. It is necessary to have some nuclear weapons to use under extreme threat	6.0	7.1	15.5	10.7	36.9	23.8
15. Nuclear arms have prevented major wars	3.6	10.8	31.3	12.0	25.3	16.9
16. A limited nuclear conflict can be contained	2.4	6.1	20.7	9.8	28.0	32.9
17. Using nuclear weapons as a deterrent is the best way to peace	2.4	3.5	11.8	15.3	35.3	31.8
18. No weapons should be permitted in Outer Space	36.5	28.2	9.4	16.5	3.5	5.9
19. There should be an immediate freeze on the production of nuclear weapons by all nations	51.2	26.7	5.8	9.3	5.8	1.2
20. There should be a complete halt to the testing of nuclear weapons	64.0	22.1	7.0	2.3	2.3	2.3
21. The nuclear arms race adversely affects my enjoyment of life	7.0	10.5	19.8	11.6	30.2	20.9
22. The nuclear arms race affects my plans for a family	9.6	4.8	9.6	9.6	36.1	50.1
23. The Indian Ocean should be declared a zone of peace from which all nuclear weapons are banned	41.9	33.7	7.0	8.1	5.8	3.5
24. Australia should become involved in star wars research	5.9	14.1	16.5	10.6	25.9	27.1