

The Attitudes and Responses of Wellington Adolescents to Nuclear War and other Nuclear Issues*

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The growing concern about nuclear warfare, nuclear power and food irradiation led to the construction of a brief scale for measuring attitudes and knowledge about them. The scale was applied to 904 potential University entrants who ranged in age from 16 to 18. The results showed that a large proportion of the adolescents were worried about the threat of nuclear war — they ranked it a close second in a hierarchy of concerns with which they were presented. A large majority expressed opposition to the use of nuclear weapons, and believed a nuclear war was likely within 15 years. Yet 28% felt able to reduce the probability of the occurrence of a nuclear war. Similar opposition was expressed against nuclear power stations and food irradiation measures.

In recent years the stressful psychological after-effects of disasters have come to the attention of behavioural scientists and clinicians (Hartsough and Myers, 1985; American Psychiatric Association, 1980, Post-traumatic Stress Disorder and Axis IV), and the fear of impending disaster merits similar attention. For example, there were people living in the vicinity of the Three Mile Island nuclear power plant in Harrisburg, Virginia, who three years after the event were still fearful about the recurrence of a discharge of radioactive material (Davidson & Baum, 1986). Even stronger evidence is to be found about the psychological effects of a potential nuclear war (Abraham, 1983; Beardslee & Mack, 1982; Escalona, 1982; Tizard, 1985).

Studies of the psychological effects of the threat of nuclear war have focused on children and adolescents in Britain, Canada, Finland, Sweden, the Soviet Union, and the United States (Chivian et al., 1985) as well as in New Zealand (Gray & Valentine, 1985; Shallcrass & Gavriel, 1983). These studies suggest that young people in various countries are very aware of nuclear issues in general, and a large majority are worried

about the threat of nuclear war in particular. However, these studies were not entirely comparable and for this reason a standardized international comparative project is presently being conducted under the auspices of the Center for Psychological Studies in the Nuclear Age at Harvard Medical School. As an interim measure, and to focus on an articulate group, the opportunity was taken to construct and apply a brief questionnaire to two large groups of late adolescents in Wellington.

Method

An 11-item questionnaire with the neutral heading 'Social Issues' was prepared in which the first two items sought age and sex data, the next a ranking of concerns, six items sought the attitudes, beliefs and fears of the subjects about nuclear warfare and two final questions were about nuclear power (Appendix 1, Q1-11). Subsequently, and after publicity about nuclear winter and food irradiation, four further items were included to touch upon those topics (Appendix 1, Q12-15).

The questionnaire made a fresh approach to obtain a rank order of key concerns, just to see if nuclear war was as significant a concern as indicated by previous studies that had used different methods. This time the subjects were asked either to select the one issue that concerned them most from a selection of 24, or to nominate another for themselves — instead of being required either to name their three greatest fears or worries (e.g., Solantaus, Rimpela, & Taipale, 1984) or to indicate the degree of disturbance a

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variety of concerns in a given list had for them (e.g., Chivian et al., 1985).

The 11-item questionnaire was administered to 506 sixth and seventh form students in June 1985 who were all in attendance at a psychology lecture on the University Open Day and the extended 15 item version to a similar group of 398 in July 1986. The students were from secondary schools in the lower North Island, with most from the Wellington urban area.

The data for the total sample was analysed using simple frequency distributions. Then the Wilcoxon two sample test of location was used to search for differences in the responses of the 1985 and 1986 samples on the items that were common to both years and where the response categories were limited in number (Q4-8, Q10, Q11). This particular statistical test was used because (a) the responses to all questions analysed were ordinal, and (b) the normal distribution of the data could not be assumed due to the limited number of response categories for each question (Gibbons, 1971). Significance levels were assessed with the *z* statistic derived from the Wilcoxon test (SAS Institute Inc, 1985, p.607).

Results

Thirty-seven percent of the total sample was male (*N* = 330) and 63% female (*N* = 558). The ages of the subjects ranged from 16 to 18, with the large majority (79%) aged 17. For both years combined, nuclear war (20.7%) was ranked second overall to getting a bursary (21.5%), and then in order of decreasing magnitude came money, opposite sex friendships, and choice of university course (Table 1). Some 245 subjects ranked more than one of these concerns as first equal.

Forty-five percent thought that nuclear war in the next 15 years was possible, 18% likely, and 6% very likely, but 28% felt that they were able to reduce the probability of its occurrence. The large majority worried about the threat of nuclear war - less than one percent worried almost all the time, 13% worried frequently, 48% worried sometimes, 29% very little and 10% not at all. All but 9% of the entire sample thought it likely or very likely that New Zealand would not survive as a community in the event of a nuclear war.

Marked opposition to the use of nuclear weapons was evident, with the great majority (90%) indicating that under no con-

Table 1: *The Rank Order of the Top Five Concerns of the Total Sample (N = 904).*

Concern	Percentage of Total Sample
Getting a Bursary	21.5
Nuclear War	20.7
Money	15.4
Opposite Sex Friendships	14.6
Choice of University Course	13.5

ditions should nuclear weapons be used. When asked which country was most likely to initiate a nuclear war, 57% indicated that it would be the United States, 20% the Soviet Union, 9% Libya, 6% Iran and less than 3% for each of the other countries in the list. As far as nuclear power was concerned, only 11% thought that the building of nuclear power stations would be good, as compared to 67% who thought it would be bad. Only 14% thought it likely or very likely that New Zealand would consider building them by the year 2000.

With regard to the extended questionnaire, the 1986 sample reported that 33% had not talked about nuclear war within the past month, 57% had done so once or twice and 10% more often. Eighty-two percent were familiar with the concept of nuclear winter, and of these 79% thought that a nuclear winter arising from a nuclear war in the Northern Hemisphere would probably or definitely have a severe effect on New Zealand, 4% thought that it probably or definitely would not, and 17% were unsure. Finally, 49% thought that it was dangerous to eat food that had been exposed to low level radiation, as compared to 19% who thought it was safe, and 32% were unsure.

Two significant differences were found when the consistency of the responses of the 1985 and the 1986 samples was tested. The first was that fewer subjects in 1985 thought that nuclear war could be justified ($z = 2.19, p < .05$). The second was that the 1985 sample (before the Chernobyl nuclear power station disaster) thought that it was more likely that New Zealand would be considering building nuclear power stations by the year 2000 ($z = 2.28, p < .05$).

Discussion

The results indicated that the large majority of this adolescent sample considered that a nuclear war in the next 15 years was at least a possibility and a correspondingly large majority also worried about it. This widespread concern was confirmed when nuclear was ranked a very close second to the immediate anxiety about being successful in getting a University bursary.

The high ranking of nuclear war as a concern was particularly salient because it ranked higher than other concerns that are normally typical of late adolescents, such as opposite sex friendships, money and personal appearance. The result was similar to that given by adolescents to researchers in other countries who used different techniques for ranking concerns. For example, Californian adolescents ranked nuclear war third to a parent dying and getting bad grades, when they were asked to indicate their degree of disturbance on a four point scale for a variety of concerns in a given list (Goldenring & Doctor, 1985). Using the same method, adolescents in Sweden (Holmborg & Bergstrom, 1985) and the Soviet Union (Chivian et al., 1985) ranked it as their top concern. Also, adolescents in Canada and Finland (Sommers, Goldberg, Levinson, Ross, & La Combe, 1985; Solantaus et al., 1984) who were asked to list their three greatest fears or worries, mentioned the category of war (which included nuclear war) most frequently and adolescents in England ranked it second to unemployment (Gillies, Elwood, Hawtin, & Ledwith, 1985).

The present research confirmed the findings of previous New Zealand studies that the level of concern about the threat of nuclear war is similar to that found in other countries. This result was surprising as it occurred despite the unique New Zealand factors that (a) there is a probable low priority of the country being a nuclear target, and (b) people in New Zealand are not as exposed to political rhetoric about the specific nuclear arms race and East-West relations of the Northern hemisphere as were the people in the other countries that were studied. However the political awareness of the probability of nuclear war may have been increased by the anti-nuclear

stance of the present New Zealand government.

The level of concern might be partly explained by the awareness of a large proportion of these New Zealand adolescents to the possible medium and long term effects that a nuclear war would have on New Zealand. In particular, their knowledge of the concept of nuclear winter and their indication that it would have a severe effect on New Zealand. They were consistent with their attitudes by indicating that New Zealand would not survive as a community in the event of a nuclear war.

A substantial proportion of the adolescents felt able to work towards preventing an outbreak of nuclear war. The next step for researchers is to obtain information about the preventive strategies they intended to adopt. Another compelling task would be for researchers (a) to focus at one extreme on the behaviour and symptomatology of the 13% who worried frequently over the prospect of nuclear war, (b) to study the methods of coping with the threat that some of them use, and the various systems of social support that they have available, and (c) to study at the other extreme, the 10% who professed no concern over the issue. The small unconcerned group might have tenable grounds for their stand, but there might also be some individuals who use denial and rationalisation as their emotional defences to conceal their deep concerns.

The study showed that the strong opposition of adolescents to the use of nuclear weapons and their disquiet about nuclear war also extended to their attitudes about nuclear power and food irradiation. The results raise questions about the effects of these nuclear concerns as present psychological stressors, about the desire of the present young generation to have children at all, and about the repercussions on the personality patterns and attitudes of the next generation. The results also raise educational and psychological as well as political and practical questions, for example., should the topics of nuclear activities and social issues be included in a wider school curriculum? Is it better for psychologists to teach this age group the techniques either for coping with threats or for addressing the

threats directly? These thorny questions aside, the study could be extended to other age groups in the life span because their concerns might not coincide with those of the late adolescents reported here, and in turn results obtained from that study might suggest a further course of action and research.

There can now be little doubt that the threat of nuclear war is perceived as a sub-

stantial social stressor by a significant number of late adolescents - as well as by the younger adolescents and children as reported previously by other researchers elsewhere. The stressor needs now to be established on a firm intergenerational and international basis, and then if it is upheld researchers need to consider remedies before it is too late.

Appendix

Social Issues Questionnaire

1. Age.
2. Sex: a. Male b. Female
3. Indicate which one of the issues given below concerns you most these days (or write another in the space provided).

Same sex friendships	Opposite sex friendships	Family problems
Drugs	Glue sniffing	Sexual harassment
Money	Nuclear war	Conventional war
Government policies	Religion	Getting a bursary
Getting a scholarship	Choice of university course	School problems
Pregnancy	Having an accident	Personal ill health
Homosexuality	Personal appearance	Other _____
Violence against women	Accommodation	_____
Future rebel rugby tours to Sth. Africa.	Getting a job on leaving school.	

4. In your opinion, how likely is it that there will be a nuclear war in the next 15 years; i.e., by the year 2000? (Most unlikely/unlikely/possibly/likely/very likely).

5. Even if you think that it is most unlikely do you feel able to reduce the probability of nuclear war? (Yes/No).

6. How much do you worry about the threat of nuclear war? (Not at all/very little/sometimes/frequently/almost all the time).

7. In your opinion, how likely is it that New Zealand will survive as a community if there is a nuclear war? (Most unlikely/unlikely/possibly/likely/very likely).

8. Under what conditions do you believe that nuclear weapons should be used? (Under no conditions/as a last resort/if there is a real threat/in the event of any open war).

9. In your opinion, which nation is most likely to initiate a nuclear war? Britain China France India Iran Israel Libya Pakistan Russia South Africa United States Other _____

10. To what extent do you believe that New Zealand will be considering building nuclear power

stations by the year 2000? (Most unlikely/probably not/possibly/probably/very likely).

11. In your opinion would the building of nuclear power stations be good or bad? (Very bad/bad/neither/good/very good).

For 1986 Sample Only

12. How much have you talked about nuclear war in the *past month*? (Not at all/once or twice last month/once or twice a week/almost every day).

13. Have you heard about the concept of 'nuclear winter'? (Yes/No).

14. If yes, do you think that New Zealand would be severely affected by the effects of a nuclear winter if a nuclear war occurred in the northern hemisphere? (Definitely yes/probably yes/not sure/probably no/definitely no).

15. Is it dangerous to health to eat food that has been exposed to low level radiation to extend its shelf? (Definitely yes/probably yes/not sure/probably no/definitely no).

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