

Australian University Students' Views of the Nuclear Arms Race: Comparative and Qualitative Analyses

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Australian university students' views of the nuclear arms race were analysed in two studies. A sample comparison study used Nuclear Arms Race Questionnaire (NARQ) and Position on Nuclear Weapons (PNW) scales to compare university students' views with those of high school students and community groups. University students' views were more strongly anti-nuclear than middle income and Middle European migrant groups, but not more than high school student and church member groups'. Females' attitudes were more strongly anti-nuclear than males.

A qualitative analysis of ten university students' formulations of the arms races problem and Australia's involvement revealed the complex dimensions of perceived relationships between global and national interests and personal nuclear issues. Students' solutions were directly related to their formulations of the major aspects of the arms race problem, with six students who represented the nuclear problem in terms of superpower conflict, seeing individuals as powerless to influence solutions. Quantitative trends are interpreted in light of the varied representations of the problem and the association of students' generally anti-nuclear attitudes with lack of involvement in the peace movement.

The nuclear arms race raises a number of issues for the concerned individual, ranging from the possibility of global destruction, to national involvement in the production and use of nuclear weapons, and further, to personal concerns about survival and quality of life. Concern about national involvement and personal well-being is not the exclusive property of any age group. These aspects of the nuclear arms race worry

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young people, although the significance of global and national issues for the individual is not always identified (Lawrence and Jennings 1988; Peterson, Lawrence and Dawes 1990).

The aim of this research was to examine the attitudes of Australian university students to broad, global nuclear issues, such as weaponry deployment and deterrence policies, and Australia's involvement. Our research addressed two specific questions: first, how the views of university students about nuclear war compare with those of older and younger Australians; and then, how individual university students spontaneously represent nuclear arms race problems in their own thinking, and what solutions they propose for those problems. The first question was addressed in a questionnaire study using a Nuclear Arms Race Questionnaire (NARQ), and the second by a qualitative analysis of students' formulations and resolutions of the arms race problem.

In light of the international concerns that psychologists and educators have shown about the effect of nuclear threat on children's and adolescents' lives (Beardslee and Mack 1983; Schwebel, 1982; Tizard, 1984), it is important to understand the views of young people who live with the tensions generated by nuclear weaponry. Australia is a strategic place to examine the effect of globally and locally significant issues, because of its geographical location, its close alignment with the United States, and the internal controversies surrounding uranium mining and export.

Western Australia is more isolated and sparsely populated than cities on the eastern coast, and its ports provide rest and recuperation facilities for personnel of US nuclear-powered vessels. There has been a strong community reaction to naval facilities for nuclear warships, and a Western Australian senator has been elected to the federal parliament on a nuclear disarmament platform in three successive elections. So nuclear issues are hard to ignore.

If young people see nuclear conflict as a real threat to them, it is not surprising that they are critical of the intrusion into their lives made by vehicles of war. Indeed, McSweeney's (1985) 16 year-old New Zealanders agreed with their government's banning of nuclear-powered vessels, and to New Zealand's withdrawal from the ANZUS Treaty. Their anti-nuclear stand was supported by 60 per cent of Prior's (1985) sample of Australian adolescent school children. They ranked nuclear threat as one of three major contemporary social issues, along with unemployment and drug abuse, agreeing with adolescents in other countries (eg. Hamilton, Knox and Keilin 1986; Schwebel 1982, Beardslee and Mack 1983).

Unfortunately, much of the discussion about views on the nuclear

arms race has been based on polemic more than on careful empirical research. Few measures have been used in more than a single study, and few researchers have followed up quantitative trends with probing searches of subjects' reasons for their attitudes. Methodological limitations and vagueness have been major grounds of criticism of American and British reports (Hamilton *et al.*, 1986; Tizard 1984). With the possible exception of Hamilton *et al.*, few studies provide comparisons of younger and older subjects' views on nuclear issues, and even fewer studies have obtained their subjects' reactions to a range of political and technical issues as well as to the possibilities of nuclear conflict.

Our basic approach built on a cross-cultural survey of attitudes of tertiary and secondary students in the United States, United Kingdom and Australia (Zweigenhaft, Jennings, Rubinstein, and Van Hoorn 1986). The views of British and Australian students were similar to each other, but different from American students in three ways. British and Australian, in comparison with American students, had greater knowledge about nuclear weapons and issues, more strongly supported disarmament in preference to deterrence, and were more pessimistic about survival. Among university and college students, anxiety levels were similar across the three countries, but among high school students, Americans were less anxious than Britons or Australians. The relative strength of Australian students' anti-nuclear views indicated the need to explore the dimensions and directions of patterns of attitudes as they related to subjects' ages and commitments.

There is some evidence to suggest that nuclear-related concerns of adolescents and young adults are consistent with those of older citizens (Klinberg 1984; Kramer, Kalick and Milburn 1983), but anti-nuclear views are not universally held, nor are they always shared within families (Hamilton *et al.* 1986). European studies by van Ijzendoorn (1987) and Wahlstrom (1986) have suggested that adolescents' attitudes to nuclear issues may reflect the kinds of value structures that produce fewer of the relativistic judgments that adults use, and instead favor judgments that are oriented more towards personal and filial interests (Lawrence 1987).

A Nuclear Arms Race Questionnaire (NARQ) was developed and refined in a series of studies (Jennings and Lawrence 1986; 1987; Lawrence and Jennings 1988; Peterson *et al.* 1990). The NARQ consists of 20 items (originally 22) which cover global issues, national concerns, and personal ramifications of the nuclear arms race. Subjects rate their agreement or disagreement with pro-nuclear and anti-nuclear items on a six point scale. With appropriate item reversals, 20 items yield a NARQ

Percentage Score, with 100 per cent indicating an intensely anti-nuclear position. Subjects completing the questionnaire also define their own position about nuclear weapons on a Position on Nuclear Weapons Scale (PNW). This is a seven-point continuum of attitudes to nuclear weapons ranging from 'extremely in favour of nuclear arms' to 'extremely against nuclear arms'. The NARQ and PNW Scales correlate well, $r = .71$, $p < .01$ (Jennings and Lawrence 1986).

Analysis of NARQ items using Andrich's (1985) Unidimensional Scaling Technique (Score) revealed that the items could be located along a single unidimensional scale, accumulating from less intense and more popular anti-nuclear items, to more intensely anti-nuclear and less popular items (Jennings and Lawrence 1987). The items hang together as a set, and reliably distinguish among persons, with a high internal consistency demonstrated by a Separation Index of 0.90 (equivalent of a Cronbach's alpha coefficient). Thus, internal consistency and the cumulative intensity of the 20 items made the single NARQ % Score a useful measure of group attitudes. Figure 1 shows the 20 items ordered to indicate their relative intensity as anti-nuclear items, with Item 1 ('No one can win a nuclear war') the least intensely anti-nuclear and most popular item, and Item 20 ('The ANZUS Treaty is essential for Australia's defence') the most intensely anti-nuclear, and least popular item. Two items did not fit the model and were omitted from the present analysis.

With students basically in support of nuclear disarmament, and with few Australian age-related comparisons, a comparative study was carried out to determine if antinuclear views of university students were shared by younger and older groups in the same significant Western Australian region. Other groups included high school students and adults from church, sport and ethnic groups.

Study 1: Comparisons of Student and Adult Nuclear Attitudes

We expected that student attitudes would be more anti-nuclear in orientation than middle class adults, since young people had consistently shown concern, and Hamilton *et al.*'s (1986) college students had been more concerned than their parents. We also were interested in whether there would be developmental differences in university and high school students' views, given the strong concern that McSweeney (1985) and Prior (1985) had found in children, and van IJzendoorn's (1986) and Wahlstrom's (1986) association of peace attitudes to development in general moral values. On the views of church members, few predictions

could be made, since social views often are related to the liberal or conservative theology of congregations rather than to religious commitment *per se* (Ernsberger 1975; Rest 1979), and because traditional congregations are usually well-represented in Perth's Annual Palm Sunday Peace Rallies. Nevertheless, middle class Western Australians are not known for political radicalism. In addition, Peterson *et al.* (1990) had found that other students with generally conservative law and order orientations were more inclined to support the manufacture and deployment of nuclear weapons than those with politically liberal orientations, suggesting a link between social conservatism and pro-nuclear attitudes. The addition of a small group of Middle European migrants from a communist block country allowed us to compare students' views with a group of adults who added a different dimension to the comparisons, given that they had experienced conflict in Europe and moved to Australia.

Method

Subjects

Subjects were five different groups of people living in the Perth region: (1) 223 university students (113 female, 107 male, 3 sex unspecified) from three city universities from which other students had been involved in the first study; 162 (63 female, 99 male) Grade 9, 10 and 11 high school students from a Fremantle Catholic school and a co-educational high school in another port town 250 kilometers from Fremantle and Perth; (3) a church group of 59 members of lower middle-class Anglican parishes, (26 female, 32 male); (4) 45 middle income earners from a middle class area (mainly contacted through sports clubs) (17 female, 26 male); and (5) 15 members of a central European cultural club, (7 female, 8 male). Mean ages were university students, 21.7; school students, 14.7; church members, 42.8; middle income earners, 43.3; and central European migrants, 47.7 years.

Questionnaire and Procedure

NARQ and PNW Scales were administered to university and high school students in school and lecture classes. Responses of the middle-income earners, and church and cultural groups were obtained by university students who approached meetings and individuals for volunteers as part of a university assignment, left questionnaires with individuals, and collected them later. Four versions of the questionnaire were used to determine if there were any systematic effects related to the order of item presentation. Versions were randomly distributed across the sample.

Figure 1: Nuclear Arms Race Questionnaire (NARQ)
Items in Order from Least to Most Intensely Anti-nuclear Views

ITEM	
	1. No one can win a nuclear war
Less Intensely Anti-Nuclear	2. There should be a complete halt to the testing of nuclear weapons
	3. There should be an immediate freeze on the production of nuclear weapons
	4. Australia should play a larger role in moves to end the nuclear arms race
	5. (R) Using nuclear weapons as a deterrent is the best way to peace
	6. The Indian Ocean should be declared a zone of peace from which all nuclear weapons are banned
	7. (R) Space weapons will be able to protect us from nuclear weapons
	8. (R) A limited nuclear conflict can be contained
	9. Peace studies should be taught in high schools
	10. Australia should become involved in star wars research
	11. To have any nuclear weapons puts a country under threat
	12.(R) Nuclear weapons help to prevent war
	13. No weapons should be permitted in outer space
	14.(R) It is necessary to have some nuclear weapons to use under extreme threat
	15.(R) Australia should export uranium
	16. Visits of nuclear-armed warships make a city a nuclear target
	17.(R) Nuclear arms have prevented major wars
	18. Perth is likely to be a target in a major nuclear war
	19. The nuclear arms race adversely affects your enjoyment of life
	More Intensely Anti-Nuclear

Key: (R) Pro-nuclear view, reversed on the scale

Results

There were no effects related to order of presentation of the NARQ items, or the order of NARQ items in relation to the PNW self-position scale, so NARQ Scores were computed for all five groups. As scores of the two school groups did not differ, school students were treated as a combined group.

There were no interactions of group by gender on either scale, but main effects were obtained for group on NARQ, $F(4,488) = 29.66$, $p < .001$, and PNW scores, $F(4,477) = 20.62$, $p < .001$.

University students as a group had a higher mean NARQ scale score (69.62) than middle income earners (59.48), $t(499) = 3.88$, $p < .001$; and Central European migrants who had an exceptionally low mean score (24.84), $t(499) = 10.49$, $p < .001$, using pooled variances. However, the university students' mean was not higher than school students' (68.02), nor church members' (66.64), $p > .05$. These three groups were most strongly anti-nuclear.

Similarly, the school students' mean did not differ significantly from the church members', $p > .05$, but was higher than the middle income earners', $t(499) = 3.17$, $p < .01$, and the migrants', $t(499) = 9.99$, $p < .001$. Church members' mean score was higher than middle income earners', $t(499) = 2.26$, $p < .05$, and migrants, $t(499) = 9.03$, $p < .001$.

On the PNW self-position scale, university students' mean position was close to the polar position of extremely opposed to nuclear weapons (5.54), and was not significantly different from the means of high school students' position (5.65), or church members' (5.86). However, the university students' mean position was more opposed to nuclear weaponry than those of middle income earners (4.87), $t(488) = 2.69$, $p < .01$, and migrants (2.24), $t(488) = 8.3$, $p < .001$.

Again the high school students' mean PNW position did not differ significantly from the church members', $p > .05$, but was more opposed to nuclear weaponry than the middle income earners', $t(488) = 3.03$, $p < .01$, and migrants', $t(488) = 8.47$, $p < .001$. The church members' mean position was more opposed to nuclear weaponry than the position of middle income earners, $t(488) = 3.24$, $p < .01$, and migrants, $t(488) = 8.34$, $p < .001$.

Females overall were more strongly anti-nuclear in their mean NARQ scores (69.48) than males (65.86), $F(4,488) = 5.56$, $p < .05$, and in their mean position on the PNW scale (5.66 > 5.41), $F(1,477) = 10.65$, $p < .05$. Mean NARQ and PNW scores for group and gender are shown in Table 1.

Thus, university and school students were more consistently anti-nuclear in their attitudes than adults, except for the church members who, in turn, were more consistently opposed to nuclear weapons and were more strongly anti-nuclear in their views than the other middle-class and migrant groups. As in the Peterson *et al.* (1990) study, women were more solidly against nuclear arms than men, and in our study, that held for community groups as well as university and high school students.

The extremely low NARQ scores of the migrant group has strong face validity, since they were from communist-bloc countries, and could understandably be more hawkish in their political and military attitudes than Australians who had no experience of totalitarian governments. Their mean position on the PNW also was near the end defined as extremely in favour of nuclear weapons, and correlated highly with their general views, $r = .81$ $p < .01$. Correlations of NARQ and PNW scores were high for all subjects, $r = .70$, and for university students, $r = .71$, $p < .05$.

TABLE 1:

Mean NARQ and PNW Scores for Five Groups. and Gender

(a) Group	University	High School	Church	Middle-Income	Migrant
Scale					
NARQ	69.62	68.02	66.64	59.48	24.84**
s.d.	.88	.68	.77	.89	.55
PNW	5.54	5.65	5.86	4.87	2.24*
s.d.	1.55	1.48	1.39	1.90	1.30
(b) Gender		Male	Female		
NARQ		65.86	69.48*		
s.d.		.93	.83		
PNW		5.41	5.66*		
s.d.		1.71	1.54		

* $p < .05$. ** $p < .001$.

The general similarity of university students' nuclear-related views to those of high school students and middle class church members was consistent with students' descriptions of their own lack of activism in an earlier study. These were not marginal students who differed radically from all other community groups. These trends pointed to the significance of asking students for their own versions of the arms race problem, and the meanings they attach to the different dimensions of the overall issue of nuclear weaponry. Therefore a second, qualitative study was conducted to investigate the individual ways in which students represented the issues for themselves, and the types of solutions they would propose.

A similar qualitative approach had been used to examine the similarities and differences in representations of the nuclear arms race produced by Australian and American experts (Voss, Wolfe, Lawrence and Engle, in press). Subjects were given a general formulation of the arms race problem and were asked to work through the problem and suggest a solution. Basically, breaking down subjects' accounts in their individual representations and solution steps revealed that experts in the area had a range of ways of viewing the arms race, and that their representations were influenced by the concerns of their own cultures and commitments. In our second study, we wanted to give some students the opportunity to generate and expand their own representations of the nuclear arms problem. We also expected that these extended interviews would shed some light on the sample trends.

Study 2: Students' Representations of the Nuclear Arms Problem

The study involved in-depth interviews with another ten university students from the Perth area. Seven undergraduates were asked if they would answer questions on a nuclear problem after they had taken part in a study of genetics problem solving, and three other undergraduates volunteered after taking part in one of our earlier nuclear survey studies. None of these students was chosen on the basis of their involvement in, or knowledge of the peace and disarmament movement. All were science students.

Students were interviewed individually by the same male interviewer, and were asked to rate the extent of their own knowledge about nuclear issues and their involvement in peace and disarmament movements on 0 to 5 scales, and then to 'think out loud' uninterrupted while setting up and solving the arms race problem used in the Voss *et al.* study, and a further question about Australia's involvement. The problem questions were as follows:

- (1) A major problem facing the world to-day is focused upon nuclear weapons. Describe what you think the problem is, and how you think it came about. In addition, what solution to the problem would you propose if given the opportunity, and how would you implement your solution?
- (2) Do you think there are any special problems about disarmament or armament facing Australia, and how would you deal with those problems?

Think-aloud protocols have been used in other in-depth studies of people's mental representations of political and social problems and their subsequent solutions of problems as they set them up for themselves. For example, Voss, Greene, Post and Penner (1984) found that Latin American experts reformulated a problem of Soviet Union grain distribution in terms related to the significant features of such problems in their own area of expertise, and that they proposed subsequent solutions that were suitable for South American rather than European conditions.

In our study, students' answers to the think aloud questions were analyzed for their representations and solutions of the world-wide nuclear armament problem, and their identification of Australia's specific problems.

The ten interviewees' responses revealed the kind of heterogeneous approaches that were found in the quantitative trends. None of them were actively involved in any peace or nuclear movement, although all but one said they were interested or very interested in nuclear issues. Their ratings of their commitments and knowledge of nuclear issues were skewed at the lower end of the five point scales, with median and mode both at 2 for the group. So these students had not involved themselves actively in the peace and disarmament cause, but like the majority of students in the other studies, were interested without taking any action. They said that most of their nuclear-related knowledge came from the media, discussions with friends, and the content of their university human biology course or earlier school courses.

Defining the Nuclear Arms Race Problem

The ways the students set up the nuclear arms race problem and its possible solutions provide a window on how they represented nuclear-related issues for themselves, and how they thought world-powers, their nation, or they themselves could be effective in any moves to change the

situation. Students' formulations of the arms race problem are shown in Figure 2, together with their proposed solutions.

Specifying the Problem.

Eight of the ten students identified the problem as the build-up of nuclear weapons by the two super-powers of the US and USSR. Another represented the arms race problem as the interaction of human nature with the advance in technical knowledge. Knowledge was getting out of hand, and the difficulty of getting rid of current weapons was an outcome of a deeper human issue. He said,

I think the problem from the start would have been, like man thought he had too much knowledge, ..well he kept furthering his development of nuclear weapons, well he hadn't used his brains to create something that was for the good of mankind. He's created something for bad of mankind (S4).

Another student (S1) chiefly identified the problem in terms of global destruction, and the prospect of nuclear winter as the effects of using nuclear power for weapons rather than for peaceful energy.

Proposing Solutions.

Students' suggestions of possible solutions gave further indications of the kinds of views and beliefs that were associated with nuclear issues for these students. Overall, their proposals were illustrative of the pessimistic and concerned views that have been found in our and other researchers' questionnaire studies (e.g., Beardslee and Mack 1983; Newcomb 1986; Tizard 1984; Zweigenhaft *et al.* 1986).

The eight students who had set up the problem in terms of the super-power conflict expressed different possible outcomes. Six of them talked of solutions in despairing and hopeless ways. S7 was fatalistic about the possibility of avoiding disaster, because he could envisage no agreement between nations.

If something's going to happen, then it'll happen. And there's nothing really anybody can do about it, unless all the governments get together and disarm. But I still think even then there'll never be any agreement between the governments, so I don't really think there's much hope (S7).

S5 also expressed personal powerlessness along with his pessimism about any co-operativeness

You've got two totally different ideas, ideologies in the type of people that live there, and the government they've got out there at the moment. And so unless one of them is prepared to bend, which I can't really see, or both of them are prepared to bend a bit. There's not much that anyone ... at my level could do (S5).

He added that pacts could be signed, 'but wouldn't hold', and that public marches would not 'have any great overall effect'.

Figure 2

Ten Students, Representations and Solutions of Nuclear Arms Race Problems

IDENTIFICATION OF ARMS RACE PROBLEM

	Super-Power Weaponry Build-up	World Destruction Knowledge	Human Nature/ Technical
n=	(8)	(1)	(1)

SOLUTION

No solution, governments will never agree	Powerless, solutions only possible for the powerful	Stop production, destroy existing supplies	Agreement between Super-Powers, & nations against terrorism	Non-enrichment, tighter controls on uranium, security	Personal peace by individuals, self & siblings
(2)	(4)	(1)	(1)	(1)	(1)

Three others (S3, S8, S9) could only envisage solutions by the powerful, whom they identified as individual leaders of nations. These students did not confer power on ordinary people, and it is possible that a similar feeling of impotence was behind some of the lack of involvement discernable in the data. S2 simply said he had no solution.

Of the other two students who focused on the super-power conflict, S10 specified that the important action to be taken involved, 'talking to the heads of state, developing better agreements between the two super-powers, and increasing friendship'. S6 advocated stopping production and destroying existing weaponry 'supplies', noting that it also was important for smaller nations to destroy their stockpiles along with the super-powers.

A solution was understandably formulated in very different terms by the student who had defined the problem in human terms (S4). His proposal expressed the grass-roots call for co-operation among individuals that is the major emphasis of one wing of the peace education movement. Better relations between individuals was his route to peace, and he believed the process should start with himself and his siblings.

Its (peace) got to start between just people from the streets, before you can start doing it between countries, and all over the world. And then after you have peace, you can trust each other, and then they won't have to create these weapons to keep themselves safe, 'cos they know they can trust the other country (S4).

The student (S1) whose problem was the prospect of global destruction and nuclear winter had a sophisticated idea about ways to retain nuclear energy for peaceful use, without stockpiling more weapons. He believed that: scientists had to work to ensure that uranium could not be enriched; a better political system of co-operation and control had to be set up to monitor distribution of uranium; and a tight security system had to be established to prevent terrorists from gaining access to materials to make nuclear bombs.

Turning to the particular issues for Australia, four students specified the presence of US warships and bases in Australia, along with the nation's alliance with the US (S2,3,4,6). In contrast, S5 said that while other people saw the US presence as a problem, he did not, because the American presence was good for the economy, and necessary for Australia's defense, 'America will look up to us, and there's no way that

Australia can defend themselves'. S9 vaguely referred to US installations at Pine Gap in central Australia and to the public's lack of information, 'as to what the situation really is in Australia, because I don't know myself'.

Two students who focused on uranium mining also expressed opposing views. S8 thought that the country's deposits of uranium should be left in the ground, but in contrast, S1 said that it was good for Australia to have uranium, and that the real problem involved care in its use and export, and making sure it was used only for peaceful purposes. S7 said he knew of no special problems facing Australia, 'except if they did have a nuclear war, we'd be blow off the map', and S8 misunderstood the question.

Thus, in a small sample, students identified different aspects of the arms race as major problems, with the Australian/US connection and Australia's role viewed in different ways, with lines of agreement mainly residing in the students' feelings of powerlessness and pessimism. Formulations of salient aspects of the nuclear arms race and possible solutions were not uniform, and focused on the different aspects of the arms race that they had individually identified as salient.

Discussion

Several dimensions of these Australian students' views are of wider interest than a mere description of what young people in an isolated city think about the nuclear arms race. The students' condemnations of nuclear weapons and their rejection of deterrence as the means of obtaining peace is not remarkable, for it echoes similar views found in other studies and other countries (e.g., Beardslee and Mack 1983; Tizard 1984). Their concerns and pessimism about the world and its future, and their own future in a threatened world, also agree with young people's views in other countries (e.g., Zweigenhaft *et al.* 1986). However, Kramer *et al.*'s (1983) American data are relevant to our findings that university and high school students' were more anti-nuclear in their views than middle class and migrant adults. Historically and culturally, nuclear related concerns had not increased dramatically over 20 years, and deep concern was felt by only a minority of adults in large surveys. Kramer *et al.* recommend that nuclear related opinions be examined outside the United States, and our data suggest that special groups, such as immigrants from one part of the world to another may express specialised views. Thus, we need to examine more the views of older people in relation to the consistent finding of youthful worries. The church mem-

bers' anti-nuclear views indicate that other social and personal issues may be influencing views of nuclear issues, and Petersen *et al.*'s law and order orientations point to political as well as religious concomitants of peace commitments.

These data contribute to the general picture of young adults' and adolescents' disaffection with the arms race in discovering the different emphases and focuses in students' attitudes when they respond to a range of issues covering military and political policies, and global and local issues. Opposition to nuclear armament is not of the same intensity in all of its ramifications, and it certainly does not always carry with it willingness to become politically active. Relatively undemanding and shared opposition to the arms race and support for international multilateral-disarmament proposals, seems to give way to less agreement when nuclear issues can be opposed to national interests and policies.

The finding that only a hard core anti-nuclear group among the students consistently endorsed the most intensely nuclear attitudes is supported by van IJzendoorn's (1986) Dutch study. He also found that only a small number of his sample of students were critical of NATO to the extent of believing the Netherlands should withdraw from that alliance. Interestingly, they were the students who, as well as having most experience in anti-nuclear protests, obtained the highest moral judgment scores on a Kohlbergian measure. Such correlates were not available to us, although neither quantitative nor qualitative data suggested that strongly nuclear-pacific views led to student activism in the peace movement.

It has become almost uninformative to say that adolescents and young adults are against nuclear weapons and nuclear war. Few people would admit to being in favour of a wholesale nuclear-armed conflict, although, central European migrants predictably were not so sure about giving up nuclear weapons

Most people are uneasy about suggesting immediate and direct action to reduce nuclear arms stockpiles. Kimmel's (1985) distinction between beliefs about 'peace through strength' and 'peace through cooperation' is relevant here as is his observation that people are unsure about how to prevent a nuclear disaster. Indeed, the Australian and American experts in the Voss *et al.* (in press) study disagreed in whether they thought that action belonged to the government or the populous. It may be that the hard core of intensely antinuclear students have scathing views of Australia's alliances and policies, but there is no more unanimity among students than others on solutions to the problem, and these students did

not agree on the best way to achieve peace. The views of youth are complex and cannot be seen simply as 'anti-nuke' radicalism of marginal students, nor of the psychologically impaired as Newcomb's (1986) data would lead us to think. We would argue against Newcomb's idea that support for disarmament and peace belongs to the lunatic fringe, and instead argue for Fiske, Pratto and Pavelchak's (1983) position that we need to look at the mental representations which underlie expressed attitudes and activism. Middle class Anglican church members shared the students' general anti-nuclear views, although these data cannot say why.

One of the advantages of using interviews along with questionnaires is that it makes available some of the images of the arms race that belong with endorsements of different actions. For example, fatalism and powerlessness are plausible consequences of confining abilities to change things to the political realm; while personal commitment to peaceful interactions is a consequence of representing the global problem as the outcome of essential human aggression and conflict.

As with our interviewees, some students' pessimism may be related to feelings of powerlessness, with the sense that action is a job for national politicians, and chiefly for super-power leaders. There is a sense of giving up and handing over responsibility to those from whom one does not expect much effective action, and one interviewee aptly expressed distrust of the powerful, 'You can't say, 'Look I'll stop if you will', because you can't trust either of them' (S7). If effective action is believed to be far away and beyond you, and if you are fairly cynical about the possibility of super-powers and nations making consolidated moves towards world peace, then you are not likely to become involved in what you see as ineffective activity.

Of course, students may be reflecting youthful adoption of the soft option that requires little of oneself and avoids commitment and action. This type of inertia has been associated with youthful privatistic, hedonistic retreat from political involvement (Poole and Cooney 1987). Inaction, however, is not exclusive to younger subjects, but on the nuclear question, also is evident among older and professional subjects (Fiske *et al.*, 1983; Pavelchak and Schofield, 1985; Yatani, 1986). We may be seeing the non-political, selfabsorbed character of the eighties in these trends, or it may be a special sense of futility that arises from the sheer enormity of the nuclear threat. In that case, the inertia would be related to what Hoffman (1986, p.21) calls the 'ambiguity of living in a nuclear world', which may lead to its own brand of pessimism.

The issues that divided students are not without a cultural setting.

Perceptions of Australia's problems and role, and in particular about what should be done about alliances and dependence on the US are complicated matters related to finding a national identity and feeling some security in isolation. Australians in general are not sure of their nation's place in the world, and Australian youth is reflecting the uncertainties of a national split image. Poole and Cooney (1987) interpreted as hedonistic and self-absorbed their Australian 15 year olds' disparate images of happy futures for themselves in the context of a world with a gloomy future. We need more empirical work like van IJzendoorn's (1986) that seeks to relate the nuclear problem to general justice constructs. Complex views and feelings are not inappropriate responses to complex issues, and the values dimensions of peace and disarmament questions are bound to divide most groups of people.

Acknowledgements

We wish to thank Denise Chalmers, Alastair Gumley and Geraldine Stack for their assistance with data collection and analysis. This research was supported by grants from the Australian Research Council and Melbourne and Murdoch Universities. Correspondence should be addressed to Jeanette Lawrence, Department of Psychology, The University of Melbourne, Parkville, Vic., 3052.

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