NUCLEAR ISSUES AND STUDENT SENSE OF CONTROL: THE EFFECTS OF A PILOT PROJECT OF PEACE EDUCATION

by

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NUCLEAR ISSUES AND STUDENT SENSE OF CONTROL: THE EFFECTS OF A PILOT PROJECT OF PEACE EDUCATION

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Abstract

Recent studies in Canada, the United States, the Soviet Union, Finland, and Sweden show that youths are aware of and concerned about the possibility of a nuclear war. Many Burnaby youth feel anxious about the nuclear threat, believe it will materialize in their lifetime, and feel helpless to prevent it or to survive it. Yet, they rarely share their nuclear fears with others. In an attempt to respond to this felt need, the Burnaby school district, Public Education for Peace Society, and Simon Fraser University developed a peace education curriculum at the grade 7 level and piloted it at the elementary school level. A similar intervention was piloted at the university level. Evaluation of the psychological effects resulting from such a curriculum was deemed necessary given the sensitive and controversial nature of the subject matter and given the lack of evidence thus far about student change due to teaching about nuclear issues.

The purpose, then, of this study was to evaluate the impact of the curriculum on student attitudes of personal control in preventing nuclear war. A secondary purpose was to investigate relationships between attitudes of personal control and other variables (e.g., worry about nuclear issues). The samples, 199 elementary students (primarily grade 7s) and 52 university students, were tested before and after the intervention. Test repertoire for the grade 7 group included the "Canadian Children's Concern about the Future" questionnaire, the State-trait Anxiety inventory,

and scales of knowledge about the curriculum and locus of control. Similar, age-appropriate measures were used for the university group.

The results, for the grade 7 sample, were: a significant increase in personal control to prevent nuclear war, and positive correlations between thinking about, talking about, and worrying about the nuclear threat. At the university level, the attitude of personal control to prevent nuclear war did not change; however, it did correlate positively with internal locus of control and with actions to prevent nuclear war. These data will be helpful in modifying nuclear education interventions and in justifying their continued use.

DEDICATION

This work is dedicated to my sister, Mary Ann Morris, a peace activist who challenged me.

ACKNOWLEDGEMENTS

Many thanks to Dr. Bryan Hiebert, my Senior Supervisor, who provided me with consistent guidance and practical help throughout this study. Dr. Michael Manley-Casimir, my Second Member, offered many helpful suggestions regarding writing style, and Dr. Neil Kyle, in probing my thoughts about the results, helped me to impose meaning on them. Special thanks to Dawn Schell, my research partner and friend, for all of her moral support and useful advice.

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BACKGROUND AND STATEMENT OF THE PROBLEM

Introduction

Concern about the risks and consequences of nuclear war has been growing throughout the world. Several important events have focused the public's attention: the bombing of Hiroshima and Nagasaki in 1945, the Cuban Missile Crisis in the early 1960s, failure to ratify the Salt II treaty, deployment of nuclear missiles in Europe in 1983, breakdown of arms control talks and further deterioration of relations between the superpowers, and recent completion of the Pentagon's master plan to give the U.S. the supposed capability of winning a protracted nuclear war with the USSR (Gearhart, 1984; Krotz, 1984). People are becoming aware of the dangers posed by the arms race: indeed, the psychological effects are present even without an actual nuclear confrontation.

Synopsis of Research Results

Studies carried out in the U.S., the U.S.S.R., Sweden, Finland, and Canada show that youth are aware of nuclear weapons and concerned about the possibility of nuclear war (Eisenbud, Van Hoorn & Berger Gould, in press). Soviet students, however, feel that they can contribute personally to the prevention of nuclear war while Canadian students feel that there is little that they could do. There is speculation that Soviet youths' attitudes may be due to

participating in state-sponsored peace activities, being informed at school about the nuclear threat, and taking part in discussions about nuclear issues at school and at home (Chivian, et al., 1985). In contrast, few Canadian youth undertake any personal action to diminish the nuclear threat. These youth indicate the need for nuclear education, but they report that they rarely discuss their nuclear fears with others (Hargraves, 1984; Harvey, Howell & Colthorpe, 1985).

Adult Response

The development of curricula and programs about nuclear issues and the formulation of organizations such as Educators for Social Responsibility to promote peace education are concrete examples of responses to a felt need in society. Locally, the Public Education for Peace Society (PEPS) was formed in 1982 with its main goals being to develop teaching materials about peace, disarmament, and justice, and to implement a program for public dissemination of this information (Hargraves, 1984).

Yet, much opposition to nuclear education exists. Hargraves (1984) found that in reaction to PEPS presentations, parents argued that their children were unaware of nuclear issues and that any teaching about such issues would introduce new fears. Along the same lines, Adelson and Finn (1985) contend that nuclear curricula typically involve false and misleading political information. Further, Card (1985), a sociologist of

education at the University of Alberta, notes that teachers are reluctant to teach about nuclear issues because the issues are too controversial and because they are uncertain as to what grade level and in what context to introduce the information.

A common reaction by many adults, one which interferes with efforts for nuclear education, is to develop defense mechanisms in the face of the nuclear threat itself. Ross (1985), a founding member of Psychologists for Social Responsibility, describes these defense mechanisms as characterized by: 1) "denial" of extremely unpleasant and threatening ideas, 2) depersonalizing the arms race where one substitutes abstract statistics for death of individuals, 3) projecting what is bad onto the other side (e.g., the Soviets are evil) in order to justify war waged against innocent civilians, and 4) leading a double life where one carries on with daily business as if there is no prospect of nuclear annhilation. Such defense mechanisms prevent facing and responding to a real and imminent threat to survival (Markusen & Harris, 1984).

Need for Intervention

It is clear, from several studies, that youth develop nuclear awareness from an early age. Zeitlin (1984), a family therapist, claims that children are silent often about the issue in an attempt to protect their parents whom typically feel helpless about the nuclear peril. Other researchers report that children are angry and resentful

that adults seem unconcerned and apathetic (Harvey et al., 1985; Schwebel, 1982; Verdon-Roe, 1983). Sommers, Goldberg, Levinson, Ross, and LaCombe (1985) note that there is a growing mistrust of the adult world. Goodman, Mack, Beardslee, and Snow (1983) speculate that growing up in an environment that tolerates and ignores the threat of annihilation may lead to a sense of powerlessness and futurelessness.

It is necessary, then, for adults to broach nuclear issues with youth. Given that the danger posed by nuclear weapons is real, it is appropriate that children's concerns are recognized and validated, especially with twelve-year-olds where nuclear anxiety peaks (Hargraves, 1984). "We need to educate young people to the realities of the nuclear threat so that they can overcome at least that aspect of fear that stems from ignorance." (Goodman et al., 1983, p. 528) This is of particular significance since children's current information may not be accurate (Committee on Children and Nuclear War, 1986). It is further recommended that adults model action-oriented problem-solving skills and that they help children to choose age-appropriate actions that would enhance a feeling of control and mastery.

Harvey et al. (1985) caution that while there is no consensus about the content of an intervention, it is paramount to provide a balanced viewpoint rather than propaganda "... the complexity of the issues and the

pluralistic nature of our culture demand an evaluative approach" (p. 59). There should be complete and free exploration of all sides of the issue, opportunites for informed thinking and critical analyses (Kanet, 1983). Tizard (1984) suggests consideration of a much wider intellectual context which includes, for example, moral values about war and peace and political attitudes about the Soviet Union. Finally, it is recommended that children learn to deal with conflict positively and nonviolently and how to apply such skills from an interpersonal to a societal level (Myers-Walls & Fry-Miller, 1984; Reifel, 1984; Schwebel, 1982).

Role of Educators

Evidence is accumulating that a major problem is affecting many youth. Educators have the responsibility of dealing with the nuclear fears of children; indeed, they may be obligated since education plays a pivotal role in preventing nuclear war (Markusen & Harris, 1984). Schools contribute to the momentum towards annihilation by ignoring the issues and thus, preventing individuals from receiving the information they require to understand the implications of nuclear weapons, to evaluate relevant policies and proposals, and to participate in the public debate. "There is no institution of society that could contribute more to achieving peace, and the basis of that contribution would be to incorporate the topic into the core curriculum." (Whitely, 1984, p. 83)

Nuclear education is new and of a sensitive and controversial nature. Therefore, it must be accompanied by sound research. Most studies so far can be criticized on methodological grounds: small and unrepresentative samples, loaded questions, anecdotal data, unjustified generalizations, and so on (Adelson & Finn, 1985; Reifel, 1984). Most importantly, research has been concerned with simple descriptive issues and little is known about the interrelationships between variables such as knowledge and personal control (Tizard, 1984). Yet, it is understanding of these interrelationships that will enable us to help youth face the difficulties of living in today's nuclear age.

Purpose of this Study

An intervention was developed by Simon Fraser University and PEPS in cooperation with the Burnaby School District in an attempt to respond to the nuclear concerns of Burnaby youth. The intervention involved an examination and comparison of conflict from the personal level to the global level. In addition, alternative solutions to conflict situations were generated and the first steps involved in putting those solutions into action were identified. A similar intervention was developed and introduced to a first year psychology course at the university level.

The purpose of this study was to evaluate the impact of these curricula on student attitudes of personal control regarding nuclear war. A secondary purpose of this study

was to investigate the relationship between certain variables, e.g., attitude of personal control regarding nuclear war and locus of control.

Organization of the Thesis

This thesis is organized in the following way. Chapter I describes the context and background and gives a statement of the problem. There is a review of the pertinent literature and listing of hypotheses in Chapter II. Chapter III delineates the method of the study, including data collection procedures, instrumentation, and sample characteristics. Chapter IV presents the results of the study. Finally, Chapter V provides a discussion of the results, limitations of the study, and implications for future research.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The research problem was to investigate the impact of an educational intervention on student attitudes of personal control in preventing nuclear war. The following chapter reviews themes and major research findings that are relevant to the research problem. Sources consulted are research studies (primarily in the form of surveys) and expert opinion. Very few interventions or experiments are reviewed since most of the research thus far has focused on descriptive issues. Problems with the evidence are discussed and conclusions are drawn. Finally, hypotheses pertaining to the current study are stated.

Major Findings

Nuclear Fears And Attitudes Towards Prevention

Numerous surveys show that youth are aware of and concerned about nuclear issues. Since the early 60s, American teens have been expressing concern about nuclear war (Escalona, 1982; Schwebel, 1982). A task force report in 1982 showed that a large sample of youths residing in Los Angeles, Boston, Baltimore, and Philadelphia were concerned about nuclear technology (Beardslee & Mack, 1982). In a study praised as being methodologically rigorous, huge, nationally representative samples of American high school seniors, surveyed annually from 1976 to 1982, showed a

dramatic increase in worry about nuclear war (Bachman, 1983). The number one concern of Soviet, Finnish, and Swedish youth was nuclear war (Chivian et al., 1985; Holmberg & Bergstrom, cited in Eisenbud et al., in press; Solantaus, Rimpela, & Taipale, 1984). A large sample of Toronto youth also reported nuclear war as their number one worry (Sommers, Goldberg, Levinson, Ross, & LaCombe, 1984). In British Columbia, 81% of a sample of Victoria teens reported fear of the nuclear threat (Harvey et al., 1985); 34% of a sample of Burnaby elementary school students were frightened "often" or "all the time" and 53% were frightened "sometimes" (Hargraves, 1984).

Van Hoorn and French (cited in Eisenbud et al., in press) found that frequent thinking about the possibility of nuclear war was correlated positively with the belief that personal action could help prevent it. The sample was drawn from two areas in northern California whose ethnic, socioeconomic, and political backgrounds were different; it was composed of 405 highschool students, 721 college students, and 158 subjects contacted through a random phone survey.

Goldenring and Doctor (1984) found that worrying about nuclear war was correlated positively with the belief that nuclear war could be prevented. In an attempt to compare student worries about nuclear war with other traditional concerns, 913 grades 7 - 12 students, from 2 major Californian cities were surveyed. The sample was drawn from

lower-middle to middle income families and the ethnic distribution was broad and representative of the area studied. Among a list of 20 worries, "death of a parent" received the highest rating, followed by "bad grades", and then "nuclear war". Students were asked to choose their five greatest worries from the list and rank-order them. Here, "death of a parent" received the highest ranking followed by "nuclear war".

Finally, Goldberg et al. (1985) found that feelings of fear and anxiety were correlated positively with belief of personal influence in preventing nuclear war. In a study parallel to the one conducted by Sommers et al. (1984), Goldberg et al. (1985) surveyed a sample of approximately 1000 students (grade 7 to 13) in an urban centre in Ontario. Although random sampling was not practiced, the authors compared the demographic characteristics of their sample with those of a recent school board survey and subsequently claimed that their sample was representative of the school population. The questionnaire was similar to the one used by Goldenring and Doctor (1984) and was not solely concerned with nuclear issues.

In summary, the surveys show that widespread concern about nuclear war exists among youth, regardless of country or socioeconomic status. These findings are contrary to what many people believe, such as Coles (cited in Butterfield, 1984) who claims that nuclear fears are an exclusively middle to upper class phenomenon, and they

undermine the common argument that nuclear education would introduce fear where none exists. Further, these findings are surprising and promising because they demonstrate that worrying about the nuclear threat is not linked with despair, rather, frequent thinking and worrying about the nuclear threat is associated with optimism about prevention and a belief in the utility of personal contribution to that prevention. Given that the nuclear threat is real, worry about it is legitimate; and given that such worry is linked to hope and feelings of efficacy, then perhaps the worry response is a healthy one in this case.

Nuclear Fears And Personal Control

Despite the high level of worry and concern about the nuclear threat, few children verbalize these fears. Sommers et al. (1984) pointed out that in comparison to other traditional concerns (high unemployment and job and career plans), the least discussed subject among youth at home was the nuclear concern. Of the Toronto sample, 43% of respondents had not talked at all about the nuclear subject at school and 36% had not talked about it at home. Similar findings are reported for the Burnaby sample (Hargraves, 1984), the Californian sample (Goldenring & Doctor, 1984) and the Swedish sample (Holmberg & Bergstrom, cited in Eisenbud et al., in press).

In comparison to their foreign counterparts, Finnish youth talk about their nuclear fears relatively frequently. Solantaus et al. (1984) conducted a nationwide study to

chart the extent of fear of war in relation to other fears in Finnish youth. Of the 1757 12 - 18 year olds sampled, 81% responded to the postal questionnaire. It was found that one third of students stated that they had discussed nuclear issues at home during the preceding month. Discussing war and peace with others correlated with anxiety and also with optimism about youth's own role in preventing nuclear war (Solantaus et al., cited in Santa Barbara, 1985).

Similar correlational data were provided by Goldberg et al. (1985) from their survey of Toronto youth and by Van Hoorn and French (cited in Eisenbud et al., in press) from their survey of Californian youth. In the former study, the "daily fear" group (students who reported experiencing fear at the thought of nuclear war on a daily basis) tended to be those who felt most influence in preventing nuclear war and those who discussed nuclear war most often. In the latter study, frequency of expressing opinions about nuclear war to family and friends was positively related to the belief that one could personally help to prevent nuclear war.

Findings from research studies are supplemented by opinion from prominent American family therapists. Zeitlin (1984) claimed that the majority of children interviewed responded positively to opportunities for open discussion about nuclear issues, saying that they felt reassured knowing what others thought and sharing feelings with family members. "Follow-up interviews also indicated that once

emotional isolation is reduced, kids especially, are freer to think and learn about these issues". (Zeitlin, 1984, p. 39)

In summary, the surveys tell us that youth do not articulate their fears about nuclear war. When they are given an opportunity, however, they respond positively. Further, talking about nuclear war is correlated with anxiety (not necessarily a negative response) and with a belief in personal control regarding prevention. This seems to support the common assumption that it is healthier to express and share fears than to deny them.

Nuclear Awareness And Future Plans

Children rarely talk about their nuclear fears to others, yet, these fears are affecting their plans for the future. The majority of Beardslee and Mack's (1982) sample reported that nuclear developments had affected their thoughts about getting married and having children. Goldenring and Doctor (cited in Eisenbud et al., in press) noted that 24% of their sample indicated that thinking about nuclear war had affected their plans for the future. Comparable findings emerged from Canadian studies. First, among the Toronto sample, 28% claimed that the nuclear threat impacted their plans for marriage and children, and 24% said it impacted their desire to live only for today and forget about the future (Sommers et al., 1984). Second, among the Burnaby sample, 29% of secondary students indicated that nuclear developments had affected their

thoughts about marriage and having children (Hargraves, 1984).

Qualitative data from interviews may help us to interpret quantitative findings from studies noted. Harvey et al. (1985) reported that during interviews with a subsample of their Victoria sample, "Exactly how to plan for the future, and, more importantly, exactly why to plan for the future were not imminently clear to many of those interviewed" (p.59). Verdon-Roe (1983), an educator who interviewed Boston area children for the film: "Growing up in the nuclear shadow - what can the children tell us?" found that a common message was "I'm scared I won't grow up". Her impression was that it is difficult for youth to form stable ideals and values in a world that does not appear to be stable. Others concur that doubt about the future might make some youth highly present-oriented and not willing to defer pleasure (Beardslee & Mack, 1982; Ross, 1985).

Indeed, some speculation exists that the arms race and its accompanying perception of life as unstable may be implicated in many behavioural problems among today's children. Kanet (1983), from the education and school program of the Intercommunity Centre for Justice and Peace of New York City, claimed that "there is a sense of futurelessness, a get-it-now attitude, ... an escape to cults and fundamentalist ideas ... a distrust also of lasting relationships, a turning to drugs, and all to often,

to suicide"(p.28). However, Chivian, a staff psychiatrist at Massachusetts Institute of Technology, maintains that nuclear anxiety is not responsible for all youth problems, but that it does affect youth in significant ways (cited in Van Ornum & Van Ornum, 1984); yet, he did not qualify the term 'significant'. Krotz (1984) added perspective with "Even if the bombs never go off, the psychology and the personality of our children and our society will have been changed profoundly" (p. 32a). We still do not know how to evaluate the psychological effects of this image of extinction.

In summary, speculation abounds about how the spectre of nuclear annihilation affects youth. Little hard data exist to substantiate these speculations. What the surveys do tell us, however, is that many young people fear that their lives will be shortened unnaturally and that this affects their planning.

Educational Resources Regarding Nuclear Issues

In light of the findings that children are aware of and anxious about the nuclear situation and that these fears affect their future planning, it is noteworthy that children receive their nuclear information from the media, rather than from school or from home. The majority of Beardslee and Mack's (1982) American sample reported that the media was the main way that they became aware of the nuclear threat. Sommers et al.(1984) found that 75% of their Toronto sample reported learning "a fair amount" or "a lot"

about nuclear issues from television. Hargraves (1985) noted, too, that the majority of the Burnaby sample found out about the nuclear situation through the media.

A common message from youth is that they learn very little about nuclear issues at home and at school and that they wish it were otherwise. Goldenring and Doctor (cited in Eisenbud, et al., in press) reported that 42% of their Californian respondents indicated that the amount of information that they had received in school about nuclear war was not sufficient . Of the Burnaby elementary school respondents, 75% indicated that they had learned "nothing" or "very little" about the nuclear subject at school; 83% thought that schools should be teaching "quite a bit" or "a lot" (Hargraves, 1985). As Sommers et al. (1985) pointed out, "Our homes and schools do not, as yet, appear to be major places of learning about the nuclear threat. Yet, the nuclear threat is moulding the future plans and present life styles of many young people" (p. 18).

Since very little teaching about nuclear issues has occurred in the schools, one can only guess at the impact a nuclear issues/peace education curriculum might have on its participants. A common assumption, endorsed by 27% of Victoria teens surveyed, is that nuclear fears would be reduced by information on the subject (Harvey et al., 1985). Yet, Goodman et al. (1983) found, after interviewing Boston teens, that those students who had had some nuclear education were just as fearful but were better able to

channel their feelings in constructive ways. Apparently, they believed that they could and would affect change.

Surveys show that Soviet children feel more optimistic about the possibilities of preventing nuclear war and more pessimistic (or realistic) about their chances of surviving it than are American children (Chivian et al., 1985). The attitudes of Soviet children may be due to systematic teaching of nuclear issues in Soviet schools (Vartanyan, 1985). The team of American and Soviet psychiatrists who conducted the study observed that Soviet children learn about the effects of nuclear weapons at school, through television news, and discussions at home, while American children receive their information in a more sporadic way, mostly from the media (Chivian et al., 1985).

London (1985) conducted a study to evaluate the impact of an educational workshop on nuclear issues on anxiety and attitudes of highschool students. The sample was composed of 72 students in a private highschool in an upper-middle class community in north-eastern USA. Members of the Physicians for Social Responsibility group presented information, in the context of a supportive environment, about the effects of nuclear war. The only variable that showed significant change as a result of the workshop was knowledge. Given these findings, London (1985) suggested that "most students in this study can reflect on nuclear war issues in a productive manner without experiencing substantial anxiety" (p. 212).

French's (1985) study provided some data on the interaction between nuclear knowledge and the attitude of countenancing. He surveyed 2311 adult subjects in the San Francisco area before and after physicians' presentations on medical/environmental effects of nuclear war. At pretest, knowledge about nuclear weapons' effects was positively correlated with reluctance to countenance nuclear war. Of those subjects (10% of total sample) indicating a contingent acceptance of nuclear war, 46% changed their response after an educational intervention about nuclear weapons and their consequences.

In summary, the effects of a peace education curriculum are unknown, given that very little data are reported in the literature. Although a common assumption among peace education advocates is that information on the subject would reduce fears, no evidence exists to substantiate this assumption. In fact, correlational data suggest otherwise. Obviously, nuclear education will result in more frequent thinking and talking about nuclear issues, which might be accompanied by more frequent worrying and feelings of optimism and personal control in contributing to prevention of nuclear war. Apparently, accurate information decreases expectations for survival and the willingness to countenance nuclear war.

Nuclear Issues And Survival Attitudes

Surveys of children's attitudes toward nuclear war reveal a divided group with respect to attitudes of

survival. Soviet children showed a significantly greater degree of pessimism regarding survival than did a comparable sample of American children (Chivian et al., 1985). For example, on questions concerned with individual and family survival following a nuclear war, 2.7% of Soviet children believed this "probable" or "definite" compared to 16.4% of American children. Of Harvey et al.'s (1985) sample of Victoria teens, 60% indicated that it was likely that another world war would end in widespread nuclear destruction. Hargraves (1985) found that 72 - 79% of elementary school respondents believed that neither they, nor their country would survive a nuclear war. Among Hargraves' secondary school sample, most believe that if a nuclear war started, it would destroy North America.

Some data exist to suggest that the perception of civil defense is related to the locus of control. Mayton (1985) conducted a study to investigate the relationship between individual characteristics and the nuclear threat. Using four measures of perception of nuclear war and Rotter's locus of control scale, Mayton surveyed 102 college students in an introductory psychology class in the Pacific northwest. He found that students "more external" viewed civil defense activities as effective in reducing casulties while those "more internal" saw civil defense as useless.

In summary, surveys indicate that survival attitudes are related to locus of control and that they may be affected by exposure to accurate information on the nuclear

subject. Individuals who believe that their actions impact outcome (e.g., are internal in their locus of control) tend to view civil defense as useless. And, youth who receive accurate and detailed information on the consequences of nuclear war are pessimistic about their chances for survival. Such negative attitudes might be considered realistic, and hence desirable to promote in others given the accumulation of "... evidence that civil defense will not work, and that nuclear shelters will become crematoria" (Mack, 1982, p. 594).

Nuclear Fears And Helplessness

In light of the finding that a common fear of youth is nuclear war, it is disturbing to note prevalent feelings of hopelessness and helplessness about preventing nuclear war. These attitudes vary from country to country and within countries from sample to sample. Escalona (1982) and Schwebel (1982) conducted interviews with American teens in the early 60s and found that most subjects conveyed a sense of personal powerlessness about the nuclear threat. Goodman et al. (1983) reported comparable findings from their interviews with Boston teens. Yet, Goldenring and Doctor (cited in Eisenbud et al., in press) found that in response to the question "do you think that nuclear war between the U.S. and the U.S.S.R. can be prevented?", 77% of the Californian sample said "definitely" or "probably", 11% said "probably not" and 4% said "definitely not".

Surveys of Canadian youth show them to be a uniformly pessimistic group who feel they have little or no control in preventing a nuclear holocaust. From the Victoria study, Harvey et al.(1985) observed that during interviews, adolescents dwelt on their feelings of helplessness and hopelessness about the future. Indeed, the majority of respondents (62%) in the Toronto study (Sommers et al., 1984) indicated that they had no personal influence in preventing nuclear attack, yet, 83% believed that they could affect their job or career plans.

Although a general finding is that youth feel helpless in preventing nuclear war, some studies suggest that helplessness varies with other attitudes. French (1985) found that those subjects who considered nuclear war unacceptable under any circumstances were more optimistic about their own capacity to contribute towards the prevention of nuclear war, in contrast to subjects who found nuclear war contingently acceptable.

Tyler and McGraw (1983) conducted a study to investigate the psychological antecedents of behavioural responses to the nuclear threat. Using four items from Rotter's scale, along with other measures, they surveyed members of the general public, an antinuclear activist group, and a survivalist group. A correlational finding was that those higher in internal control were more likely to believe that war is preventable but less likely to believe that war is survivable. This finding is consistent with

Mayton's (1985) finding that students higher in internal control viewed civil defense as useless.

In summary, despite survey findings of prevalent feelings of helplessness in diminishing the nuclear threat, some variability exists. Higher levels of personal control are related to the belief that nuclear war is preventable and that nuclear war is not acceptable under any conditions.

Attitudes Of Personal Control And Behaviour

The causal link between the attitude of personal control in attempting to prevent nuclear war and behaviour related to attempting to prevent nuclear war is unclear. It is evident, however, that a positive relationship exists between the two variables. Verdon-Roe (1983) noticed that during interviews it became apparent that there was one basic difference between youth who felt hopeless and helpless and youth who felt positive and optimistic about their future: those who felt helpless were not involved in any way in changing what caused them so much anxiety, while those who felt optimistic were actively doing something to alter the situation.

The Soviet children interviewed felt that they could help prevent nuclear war and they referred often to their involvement in peace-related activities to support this belief. Chivian et al. (1985) speculated that it is these activities, officially sanctioned and organized by the state-run schools, that may be the basis for Soviet children's optimism because they imply that such activities

are useful and will be successful. "By contrast, in the United States, antinuclear activities among children are scattered, confined to a minority, and are not in general supported by the government, schools, or other official bodies". (Chivian et al., 1985, p. 498)

Survey data exist to support Chivian et al.'s (1985) assertion that antinuclear activities among American children are scattered. Beardslee and Mack (1982) found that out of their 1151 participants, few had participated directly in any activity related to nuclear weapons or nuclear power. Among Toronto students, 11% indicated that they had taken any actions to prevent nuclear war (Sommers et al., 1984) and among Burnaby elementary students, only 2% reported attending peace marches or demonstrations (Hargraves, 1985).

Tyler and McGraw (1983) identified several psychological antecedents of behavioural responses to the nuclear threat. They found that prevention behaviours (e.g., participating in public demonstrations) and survival behaviours (e.g., making plans for self-protection in the event of nuclear war) were negatively correlated. Indeed, those who considered war preventable were more likely to engage in prevention behaviours while those who considered nuclear war as survivable were more likely to engage in survival behaviours. Prevention behaviours were strongly related to worry, perceived risk, and feelings of moral responsibility.

In summary, surveys show that few youth have taken any actions to prevent nuclear war. This is unfavourable for two reasons: 1) the finding that associated with an increase in prevention-oriented behaviours is a concomitant increase in feelings of efficacy, and 2) the broader implication that if individual citizens do not act on the issue, they increase the momentum towards nuclear war. Those people who do engage in behaviours to prevent nuclear war tend to be people who perceive the risk of nuclear war as high, who worry about the prospect of nuclear war, who view nuclear war as preventable, and who feel some moral responsibility to prevent nuclear war.

Problems with the Evidence

Sampling

The majority of studies cited suffer from a significant weakness: they do not have random or systematic sampling. Beardslee and Mack (1982) point out that although their sample represents a range of ages, geographic areas, and public and private sectors, subjects chosen were those who lived in the same communities where task force members resided. The samples of interview studies are small and unrepresentative of the population (Escalona, 1982; Schwebel, 1982; Verdon-Roe, 1983). Other studies feature randomly chosen subjects but only from school boards sympathetic to the cause, which may reflect a bias. For example, several schools refused Hargraves (1984) and

Sommers et al. (1984) access into their schools to conduct their studies.

Some studies do not describe how their samples were derived and/or the nature of their samples. In Goodman et al.'s (1983) study, apparently "teachers, parents, and counsellors helped in locating students during the summer". London (1985) did not reveal the sampling method of his study either although he describes his sample as being a rather select one: private high school students in an upper-middle class community in northeastern United States. The derivation and demographic characteristics of Mayton's (1985) sample are not revealed.

Instrument Design

Several studies cited (Beardslee & Mack, 1982; Hargraves, 1984; Harvey et al., 1985) use instruments that were concerned only with the threat of nuclear war and may have cued the participants to a heightened sense of the importance of these issues (Hargraves, 1984). Many respondents may have sensed the purpose of the studies, and complied to please the researchers; others may have indicated concerns about nuclear issues that they would not have expressed if nuclear issues had been embedded in more general questions among several possiblities.

Correlational Data

The majority of studies cited are descriptive in nature; they are cross-sectional surveys conducted at one point in time. Few of them employ interventions. Thus,

only speculation exists about interrelationships among variables, e.g., knowledge and nuclear anxiety. Only London's (1985) and French's (1985) studies involved interventions; yet, their posttesting was conducted immediately after intervention. It could be that such attitude change is only temporary and that further studies are necessary to confirm the duration of attitude change.

Summary

Despite the weaknesses of the studies cited, it is clear that there are certain consistent findings: many youth report fear of nuclear war, a fear that they believe will materialize in their lifetime; young people feel helpless in contributing to the prevention of nuclear war; they rarely share their feelings about nuclear war with others and they learn little about nuclear issues at home or at school; the perceived threat, however, affects their future planning. Correlational data indicate that there are a few youth who do feel a higher sense of personal control with regard to nuclear issues. These same youth tend to be the ones who think about, talk about, and worry about the nuclear threat, their locus of control is more internal, and they engage in more actions aimed at preventing nuclear war. Expert opinion speculates that systematic teaching about the nuclear subject may empower students on the issues but that it may also increase preoccupation level, and worry in particular, about the issues. Such a response may be healthy, though, given that the nuclear threat is real and

that the broader context is one of hope, efficacy, and action.

Hypotheses

A study was undertaken to develop and field test two peace education curricula, one intended for university undergraduates and the other intended for grade seven students. Based on the above evidence, several hypotheses, pertaining to the field test, were generated:

1. When compared to a similar control group, the treatment group will demonstrate significant increases in measures of personal control to prevent nuclear war, knowledge about nuclear issues, prevention-oriented behaviours (university sample only), preoccupation with nuclear issues (grade seven sample only), and perceived influence of self, parents, and Canada to prevent nuclear war (grade seven sample only).
2. When compared to a similar control group, the treatment group will demonstrate significant decreases in measures of locus of control (e.g., become more internal), personal control to survive nuclear war, and survival-oriented behaviours (university sample only).
3. Among the whole sample at pretest, there will be positive correlations between personal control to prevent nuclear war and knowledge about nuclear issues, talking about nuclear issues, thinking

about nuclear issues, worrying about nuclear issues, prevention-oriented behaviours (university sample only), and personal responsibility to prevent nuclear war (university sample only).

4. Among the whole sample at pretest, there will be negative correlations between personal control to prevent nuclear war and personal control to survive nuclear war, survival-oriented behaviours (university sample only), locus of control (e.g., more external), and willingness to countenance nuclear war (university sample only).
5. Among the whole sample at pretest, there will be positive correlations between worry about nuclear issues and knowledge about nuclear issues, prevention-oriented behaviours (university sample only), thinking about nuclear issues, talking about nuclear issues, and between personal responsibility about preventing nuclear war and prevention-oriented behaviours (university sample only).
6. Among the whole sample at pretest, there will be negative correlations between knowledge about nuclear issues and personal control to survive nuclear war, survival-oriented behaviours (university sample only), and willingness to countenance nuclear war (university sample only), and between prevention-oriented behaviours and

survival-oriented behaviours (university sample only), and between locus of control and personal responsibility to prevent nuclear war (university sample).

CHAPTER III

METHOD AND PROCEDURE

Introduction

This chapter includes a description of the following components of the study: 1) the settings, 2) the populations and samples, 3) the interventions, 4) the instrumentation, and 5) data collection procedures. Following this is a discussion of problems encountered during data collection.

Setting

Burnaby School District

In May and June of 1984, Susan Hargraves (1984) conducted a study of the nuclear anxieties of Burnaby youth; the study served as the formal needs assessment phase of the curriculum implementation project (Project Peace, 1986). Following Hargraves' results, Peace Project staff obtained the support of the Burnaby School Board and recruited teachers to participate in the current project. In August and September of 1985, project staff met with these teachers to clarify their values about doing peace education, familiarize them with curriculum materials, and to finalize curriculum implementation procedures (Kalmakoff, 1986).

Hargraves (1984) says that she originally chose the Burnaby School District as the site to conduct her study because its proximity to the university made it geographically accessible and because its staff representatives were receptive and supportive of her research. She further notes that the Burnaby School District is a highly mixed demographic area with many lower

income townhouses throughout, suburban areas of middle-low income families in the centre of the district, apartments above businesses along major thoroughfares, and expensive single family dwellings in other areas.

Simon Fraser University

Simon Fraser University (SFU) is a small 20-year-old university located on Burnaby Mountain. During fall term of 1985, SFU's department of psychology offered a new course titled "Psychological Perspectives on Nuclear War". The course was at the first year level and required no prerequisites; hence, it was available to any interested SFU student. Dr. Neil Kyle, the course instructor, met with the researchers in July of 1985 and expressed interest in conducting research on student change resulting from attending the course.

Population and Sample

Procedures For Securing Participation Of Grade Seven Sample

Project Peace staff obtained consent for participation by treatment schools in the spring of 1985. Originally, ten teachers volunteered to teach the curriculum. One teacher withdrew early in the project, following a meeting attended by ten parents who expressed negative comments about one of the curriculum materials and concern that their children were too young for exposure to nuclear information. Three other teachers withdrew from the project reporting that they did not have the time required to contribute to the planning and the implementing stages of the curriculum.

Control-group schools were selected according to two criteria: location in the Burnaby School District and socioeconomic similarity to treatment group schools. Principals of chosen schools were contacted initially by telephone, asked if they had a "matching" class (in terms of grade level and size), and then sent samples of evaluation materials and parental consent letters. Out of seven principals contacted, five were able to meet this request. Only two principals declined, one of whom could not find a "matching" class, and another who received a high number of refusals from parents.

Participating teachers (both treatment and control groups) distributed parent consent forms (see Appendix D) to children. The forms described the test measures, ensured anonymity and confidentiality of each individual child's results, and asked parents to complete the forms if they <u>did not</u> consent to their child's participation. If the forms were not returned by children, it was assumed that parental permission had been granted. In order to accomodate the requests of two principals of two control schools, their classes used "active" consent forms where parents were asked to complete the form if they <u>did</u> consent to their child's participation.

Procedures For Securing Participation Of University Sample

During the second week of classes, Dr. Kyle introduced the researchers to the students of Psychology 106. The researchers briefly described the study and solicited student participation, emphasizing that participation or lack of would not affect grades and that responses would be kept confidential. Students were requested to indicate their consent or lack of consent by completing the first page of the questionnaires (see Appendix C).

In July, 1985, Dr. Michael Manley-Casimir, a professor at Simon Fraser University and a supervisor of the Peace Project, volunteered his class "Social Issues in Education" as a control group. A first year Education course, the curriculum did not involve nuclear issues (see Appendix A for course syllabus). During the second week of classes, Dr. Manley-Casimir introduced the researchers to his class, where the researchers followed identical procedures as with the treatment group in order to secure student participation.

Subjects

The final group who taught the public school curriculum were 6 teachers from 5 elementary schools. The sample consisted of 4 grade 7 classes, 1 grade 6/7 split, and 1 grade 6 level (the teacher was transferred from grade 7 to grade 6 after previously being involved in the project). A total of 170 children were pretested and a total of 102

children were posttested. From the control group sample, a total of 135 children were pretested and 97 children were. posttested. Table 1 further describes the elementary sample.

From Psychology 106, the treatment group, 80 subjects completed the pretest and 32 subjects completed the posttest. From Education 240. the control group, 42 subjects completed the pretest and 20 subjects completed the posttest. Table 2 further describes the university sample.

Intervention

Grade Seven Students

Project staff initially drafted the peace education curriculum; teachers further operationalized it for classroom use. The resulting 10-lesson curriculum (see Appendix A), called "Conflict and Change" included the following goals: defining conflict and understanding some of its causes, generating solutions to conflict situations, handling anger in positive and nonviolent ways, exploring images of the enemy, drawing comparisons between life under communism and under capitalism, identifying examples of social injustice and inequality, articulating a personal dream for social change, choosing a personal and concrete peace action, and working cooperatively in small groups in an effort to delineate steps for peace actions (Project Peace, 1986).

The curriculum materials included the films "Neighbours", "Capitalism and Communism, A Comparison",

Table 1
Demographic data for 199 elementary students +

	Sex		Age				Language			Father's SES**					Mother's SES**							Lives with				Grade	
	M	F	10	11	12	13	Eng.	Other	Two*	1	2	3	4	5	1	2	3	4	5	6	Hswf	Both	mother	father	guardian	grp. home	6	7
Treatment	50	48	1	16	72	9	45	20	13	21	14	8	7	10	11	15	14	4	3	0	16	51	23	2	0	2	22	76
Control	50	45	0	3	86	5	47	23	21	14	9	8	18	25	8	9	18	13	5	1	31	78	12	0	1	0	0	94

+ numbers do not add up to 199 in each cell because not all of the students responded to each question

* two languages or more spoken at home

**SES= socioeconomic status
This is from Blishen's socioeconomic index. Based on income level, educational status and prestige.
1= Below 30
2= 30.00-39.99
3= 40.00-49.99
4= 50.00-59.99
5= 60.00-69.99
6= 70+
Hswf= housewife

Table 2

Demographic data for 52 university students+

	Sex		Marital Status			Children*		Religious Activity**					Fulltime		Major***		Years at University				
	M	F	Mar.	Sng.	Oth.	Yes	No	None	Some	Reg-	Reg	Reg+	Yes	No	Yes	No	0-1	1-2	3-4	Bach.	Other
Treatment	15	17	3	27	1	2	29	15	8	1	3	2	24	7	23	7	8	11	9	2	1
Control	4	16	3	14	0	4	13	8	5	0	4	2	17	2	9	7	3	12	4	0	0

+ numbers do not add up to 52 in each cell because not all of the students responded to each question

Average age: Treatment x=22.3 s.d.=4.8
Control x=23.3 s.d.=8.4

*Children's ages: Treatment range 2-14 years
Control range 3-21 years

**Reg- = less than regular attendance
Reg = regular attendance
Reg+ = regular attendance plus committes, etc.

***Major refers to the fact that the student has declared a major

"What Soviet Children Are Saying About Nuclear War", and "Martin Luther King Jr.", and the video "Notes on Nuclear War" parts 1 and 2. The curriculum was taught between October 17 and December 6, 1985, at a typical rate of 2 lessons per week.

University Students

Psychology 106 (see Appendix A for course syllabus) explored psychological theory and research applicable to the understanding of international relations with a focus on the effects of the nuclear threat. The curriculum included information on medical-environmental consequences of nuclear war, the psychology of deterrence theory, psychological effects of nuclear war, skills for effective communication and attitude change, the role of trust regarding arms verification, international decision-making and crisis management, the application of therapeutic approaches and group processes to international conflict, and resolution of conflict through positive non-violent methods.

The course was taught between September and early December at a rate of a weekly 3 hour class and a weekly 1 hour tutorial. Grades were assigned on the basis of 2 exams (1 midterm and 1 final) and 1 assignment, the assignment being a choice of either a paper or an individual project.

Instrumentation

Grade Sevens' Measures

Ross Parker questionnaire. This questionnaire (see Appendix B) was developed by the "Children's Mental Health

Research Group" located in Toronto, Ontario. It was used as the major tool in a study which surveyed junior and senior high school students across the country. It was also used in this study and was extended to include some questions pertinent to this thesis.

First, students were asked to state their three strongest hopes and their three greatest worries. Secondly, students were presented with a list of nine possible hopes and nine possible worries and asked to rate each as to how important they were to them. Thirdly, students were asked parallel questions about the three future-oriented domains of current unemployment rates, job and career plans, and the threat of nuclear war. The questions covered were: frequency of thinking or talking about the issue, amount learned about the issue from 6 possible information sources, how much control they felt they, their parents, or Canada had over the situation, and frequency of feelings of worry or fear and of dreams about the issue. Students responded to these questions using a 4-point Likert scale.

Some additional questions about nuclear war were posed: how much the threat of nuclear war affected their (students') future plans, how likely they thought it was that nuclear war would occur in their lifetimes, how much difference they thought their involvement in certain activities would make in preventing nuclear war, and how much difference they thought their involvement in certain activities would make in surviving nuclear war. Again,

students responded to these items using a 4-point Likert scale. Other questions using a dichotomous yes/no response format were posed: whether they or their parents had taken any actions to prevent nuclear war, whether it was likely and desirable to survive a nuclear war, whether they expected Soviet children and American children to hold the same views as them, and whether they had sought counselling for any of 8 reasons.

Background information questionnaire. This questionnarie (see Appendix B) was created by Project Staff and by the researchers and further modified through teachers' feedback. Questions were posed regarding subjects' age, grade level, and sex. Twelve items assessed knowledge about the "conflict and change" curriculum. Finally, 16 items measured locus of control or generalized expectancy by asking the subject to choose between alternatives that reflect a fatalistic, external-control viewpoint and those indicating a belief in one's own ability to affect and control the events in one's life.

Letters to parents. Demographic information was obtained via a letter to parents (see Appendix D). This format was chosen because the research team believed that parents were better able to answer certain queries, such as their job title and an explanation of their occupations. The following demographic information was collected: whether the child lived with one or both parents, race parent(s) identified with, occupations of parent(s),

language(s) spoken at home, group of religious affiliation, and degree of religious activity. These data are presented in Table 1.

Adults' Measures

Nuclear War Attitude Survey. French (1985), a member of Physicians for Social Responsibility, designed this questionnaire (see Appendix C). Dr. Neil Kyle provided some supplemental questions and the research team further modified the questionnaire.

The survey was designed to assess subjects' attitudes toward nuclear war, including: likelihood, manageability and limitability, preventability, survivability, attributions of responsibility for preventing nuclear war, acceptability of nuclear war, fear and anxiety from thoughts about nuclear war, and impact of nuclear war on plans for the future. Subjects were also asked about their personal actions to prevent or to survive nuclear war and how effective they thought these actions would be. Subjects responded to these questions using a likert format.

The front page of the Survey posed queries about: age, gender, marital status, whether the subject had children, ages of children, whether the subject had an academic major, nature of the major, whether the subject was a full-time student, level of education completed, occupation of principal earner in family, and degree of religious activity. These data are presented in Table 2.

The last page of the Survey had 9 items to assess knowledge level about nuclear issues. These items were deemed valid for this purpose by a group of 14 members of the scientific staff of the Stanford Linear Acceleration Center (French, 1985).

Rotter's I-E Scale. The I-E (Internal-External Control of Reinforcement) Scale (see Appendix C) was developed by Julian Rotter and his colleagues at Ohio State University (Rotter, 1966). The basis for selecting items was internal consistency and validity data from two studies. The scale consists of 23 forced-choice items along with 6 filler items to make the test purpose less obvious. The subject is asked to choose between alternatives that reflect a fatalistic, external-control viewpoint and those indicating a belief in one's own ability to affect and control the events in one's life.

The I-E scale is a measure of generalized expectancy; its items sample I-E beliefs across a range of situations. Phares (1976) suspects that it is the additive nature of the test that resulted in the moderate but rather uniform set of internal consistency estimates by Rotter (1966). These estimates range from .65 to .79. Test-retest reliabilities range from .49 to .83, depending upon the time interval and the sample involved. Correlations between I-E scale scores and social desirability and between I-E scale scores and intelligence measures are negligible or very low.

Phares (1976) claims that the I-E scale remains the most-used test to assess individual differences in locus of control beliefs. Many studies have demonstrated the I-E scale's utility over a wide range of predictive situations. The score it yields is broadly derived and tends to predict moderately well in a variety of situations but may do poorly in any specific situation.

Data Collection

Description Of Procedures

Grade seven students. Before and after the intervention, teachers administered questionnaires to subjects using a script of instructions, prepared by the researchers. The script provided an introduction to the test instruments and definitions for sophisticated terminology; in addition, teachers were requested to assign numbers to students and to retain the list for posttesting. Testing required about 60 minutes and took place over 2 periods of class time. Each control class was tested during the same week as its corresponding treatment class.

To obtain demographic information, children took home letters, prepared by the researchers, to their parents. Parents were asked to complete the questions, put the letter in the envelope provided, seal the envelope, and return the letter via the child.

Peace Project staff collected additional data and employed other procedures in an effort to evaluate the intervention. Teachers and students provided written and

verbal reports of usefulness of the curriculum; project staff and the researchers made observations and records of individual lessons; and project staff and the researchers made videotapes of certain lessons in progress and subsequently analysed the tapes as a check of teacher fidelity to the curriculum. The results of these alternate forms of evaluation appear in a document prepared by the Project Staff (1986).

University students. The researchers administered questionnaires to subjects using a script of instructions. The script provided an introduction to the study and to test instruments. Testing required approximately 40 minutes and took place during class time. Two weeks after each course began, pretesting occurred; during the last class of each course, posttesting occurred.

Problems With Data Collection

Identification of elementary subjects. Several unforeseeable events interfered with the data collection process with the end result being fewer data gathered. In two classes (one treatment and one control), teachers did not assign numbers to students at the time of pretest; therefore, it was impossible to match pretest data with posttest data. In both cases, pretest data were kept for normative purposes. Finally, in one treatment class, the teacher did not assign student numbers at posttest. The researchers returned to that class and asked the children to identify their questionnaires which did not appear to be a

problem because of the large quantity of handwriting on the forms.

Stait-Trait Anxiety Scale. Other problems concerned administration procedures with the university sample. Although students were instructed to respond to all items, many failed to answer the second side of the Stait-Trait Anxiety scale. This problem was partly rectified during the posttest when the researchers specifically indicated that the Stait-Trait had two sides and asked students to manually turn the Stait-Trait over during instructions. But even in this case, some subjects managed to complete only one side of the questionnaires.

Poor attendance at university posttest. Although university students were more prudent about responding to questionnaries during the posttest, there were fewer subjects. This was partly due to the occurrence of a severe snowstorm the evening of testing of the treatment group. Buses were not running and cars had great difficulty ascending Burnaby mountain. As well, for both the treatment and the control group, posttesting took place during the last class, which few students attended, and it was not possible to contact students at a later date.

CHAPTER IV

RESULTS AND ANALYSIS

Introduction

The primary purpose of this study was to measure the impact of a curriculum on student attitudes and a secondary purpose was to investigate relationships among psychological variables. This chapter discusses the research findings in terms of the hypotheses stated at the end of Chapter II. The first section presents the inter-rater reliability ratings. The second section addresses the hypotheses about the impact of the curriculum, using multivariate analysis of variance (MANOVA). The third section addresses the hypotheses about relationships between variables, using the product moment coefficient. Finally, the last section includes descriptive analyses.

Inter-rater Reliability

Reliability values were calculated for agreement among raters for selected items. The items were any which required subjective judgment on the part of the researchers who were coding the questionnaires. For example, when coding a grade 7 student's three greatest hopes and worries, responses were assigned a number that corresponded to a category. Other selected items included occupation (requiring an S.E.S. rating), religious affiliation, language, and major at school. Thirty randomly chosen questionnaires (10 Canadian Children's Concerns about the

Future, 10 letters to parents, and 10 Nuclear Issues Surveys) were photocopied and distributed to the researchers, who in turn, completed their coding independent of each other. Inter-rater reliability values were number of agreements divided by the denominator of number of agreements plus number of disgreements. The values obtained were high, ranging from 86% to 100% (see Table 3).

Impact of the Curriculum

Grade 7s' Sample

Statement of the hypothesis. There will be significant increases in measures of personal control to prevent nuclear war (PREVAT) and knowledge of the curriculum (KNOWL) for treatment subjects but not for control subjects. There will be significant decreases in measures of locus of control (ROT) (e.g., become more external) and personal control to survive nuclear war (SURVAT) for treatment subjects but not for control subjects.

Data Analysis. Due to the loss of data because of problems with data collection (discussed in Chapter 111), the analyses were performed with 67 children in the treatment group and 71 children in the control group. The data were analysed using a 2 X 2 (group X time) multivariate analysis of variance. Means and standard deviations for each cell in the design are found in Table 4.

A significant omnibus F was obtained for a group effect ($F(6,131) = 2.46$, $p=.03$), a time effect ($F(6,131) = 3.84$, $p<0.01$), and a group by time interaction effect

Table 3

Reliability Coefficients (r) for Joint Coding of Questionnaires

	r
(grade seven subjects)	
hopes	.98*
worries	.97*
(parents of grade seven subjects)	
language at home	.90**
father's s.e.s.[a]	.89**
mother's s.e.s.[a]	.89**
religious affiliation	1.00**
(university subjects)	
s.e.s[a]	.85**
major	1.00**

* 4 coders
** 2 coders
a - s.e.s. means socioeconomic status (Blishen scale)

Table 4

Pretest and Posttest Scores for Grade 7s' Scales

		time	
Measure	Group	Pretest	Posttest
PREVAT	Treatment	9.76(3.02)	11.12(3.16)
	Control	9.76(2.82)	8.90(3.01)
SURVAT	Treatment	10.69(4.50)	10.33(4.18)
	Control	10.92(4.34)	10.35(4.48)
KNOWL	Treatment	4.02(1.61)	5.24(1.38)
	Control	4.34(1.37)	4.42(1.76)
ROT	Treatment	5.61(2.36)	5.34(2.47)
	Control	5.07(2.72)	4.96(2.64)
STAIC1	Treatment	30.88(6.06)	31.75(5.94)
	Control	31.14(5.32)	29.69(5.58)
STAIC2	Treatment	35.81(7.07)	36.78(8.49)
	Control	36.14(7.01)	35.49(8.03)
PROCUPT	Treatment	8.81(2.57)	8.44(2.63)
	Control	8.92(2.93)	8.09(2.53)
PROCJCP	Treatment	10.42(3.34)	10.12(2.89)
	Control	10.65(2.98)	10.01(2.79)
INFLUPT	Treatment	7.03(1.61)	6.97(1.75)
	Control	7.26(1.39)	7.05(1.53)
INFLJCP	Treatment	7.59(1.67)	7.31(1.97)
	Control	7.88(1.57)	7.56(1.75)
INFLNW	Treatment	5.94(1.93)	6.22(1.94)
	Control	5.89(1.68)	5.48(1.74)
NWFP	Treatment	5.44(2.22)	5.67(2.54)
	Control	4.88(2.10)	4.53(1.77)

*standard deviations are given in parentheses

($F(6,131) = 6.56$, $p < .01$) (see Appendix M for the summary scores of MANOVA #1). Subsequent univariate analyses (see Appendix M) revealed that the significant group effect was due to differences between the groups on the personal control to prevent nuclear war (PREVAT) scale, that the significant time effect was due to significant changes over time on the knowledge (KNOWL) scale. Finally, the interaction effect was due to significant differential change between groups across time on the scales of personal control, knowledge of the curriculum (KNOWL), state anxiety (STAIC1), and trait anxiety (STAIC2). Differential improvement between the experimental and the control group on the PREVAT and KNOWL scales suggests that the treatment group did acquire more knowledge about peace education while the control group did not, and that this increase in knowledge was accompanied by significant increases in the belief in personal control for preventing nuclear war (see figures 1 and 2). Therefore, this is support for the hypotheses stated above.

University Sample

Statement of the Hypothesis. There will be significant increases in measures of personal control to prevent nuclear war (PREVAT), prevention-oriented behaviours (PREVBH), and knowledge of nuclear issues (KNOW) for the treatment subjects but not for the control subjects. There will be significant decreases in measures of personal control to

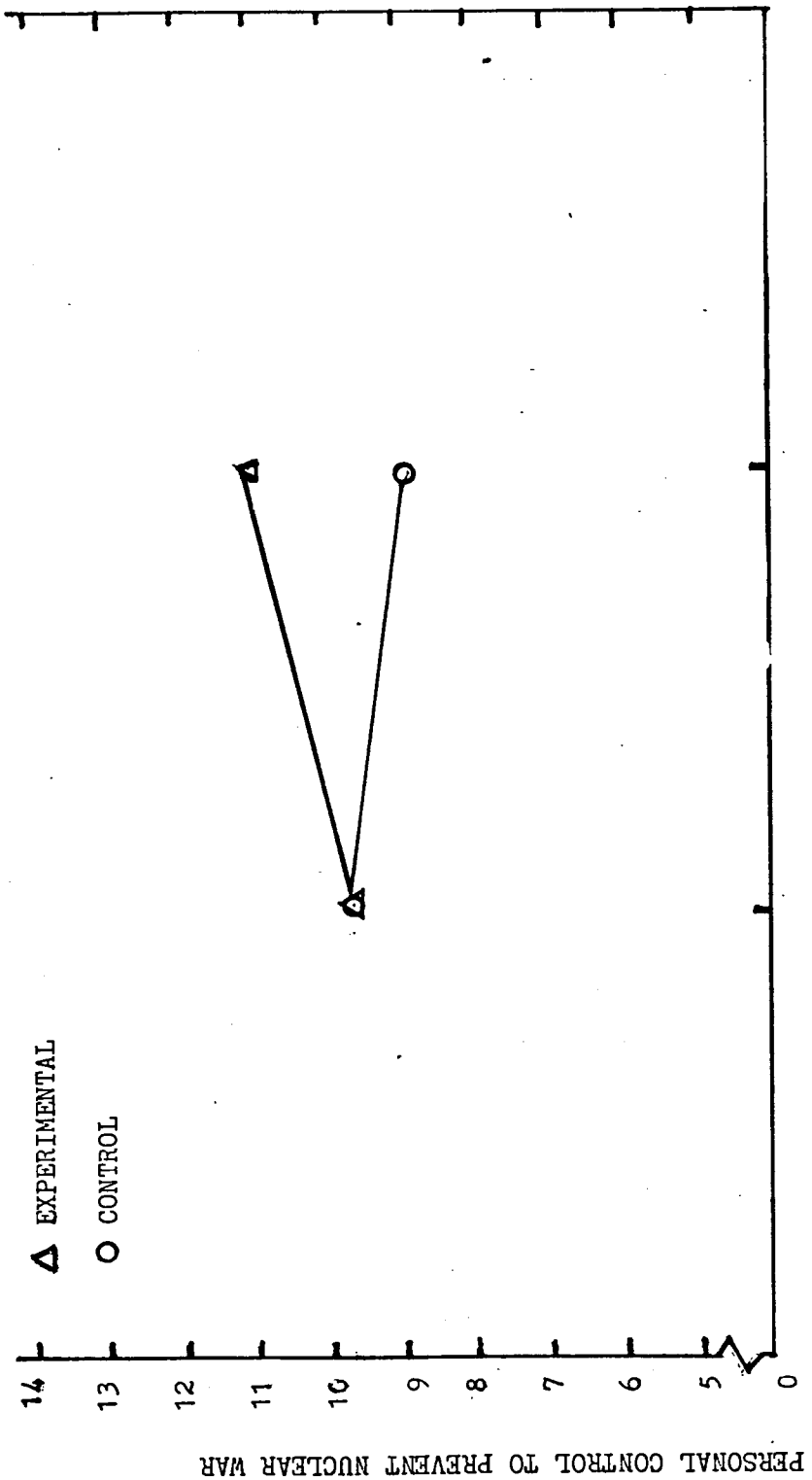


Figure 1. Personal Control to Prevent Nuclear War Scores (Grade 7 Sample)

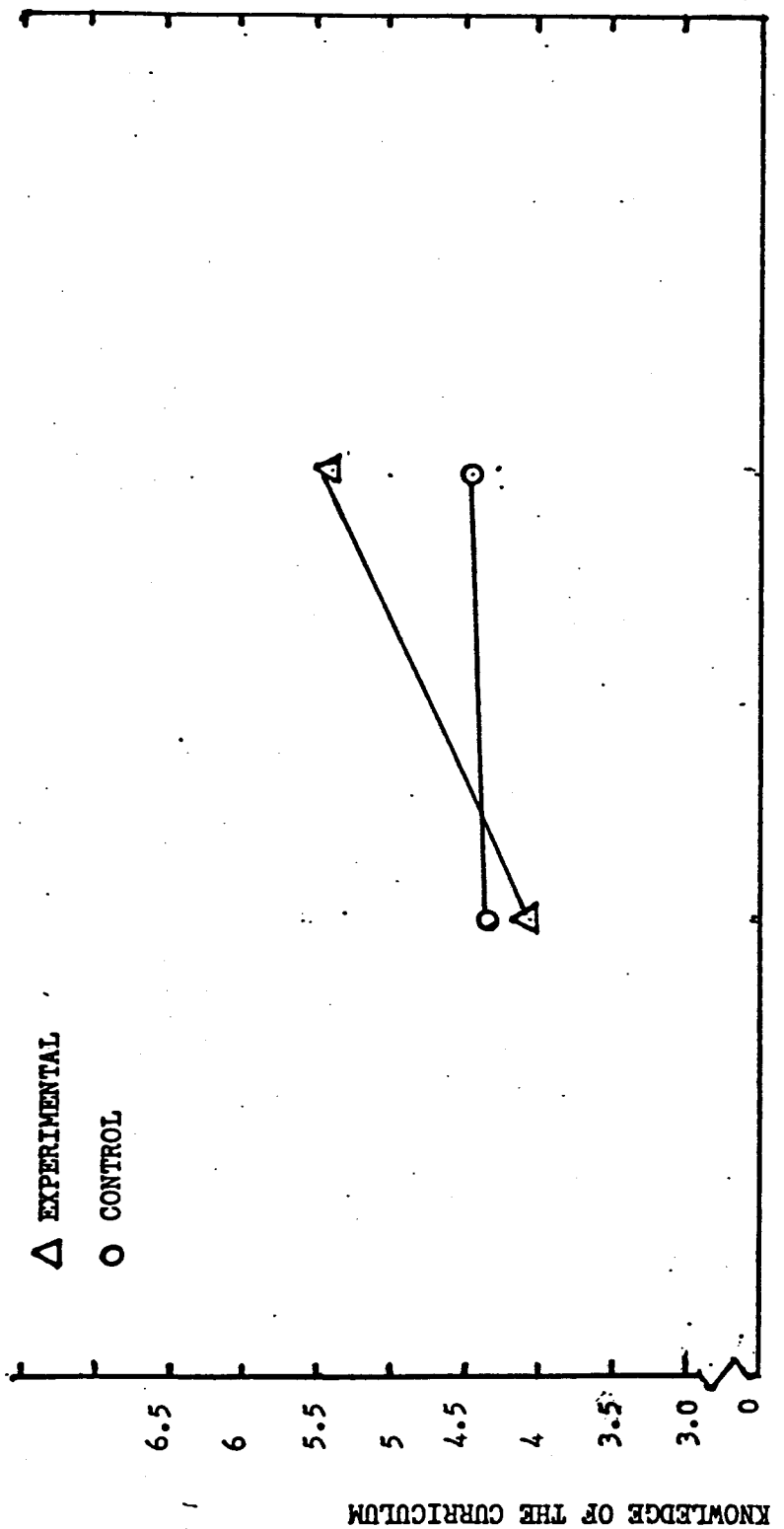


Figure 2. Knowledge Of The Curriculum Scores (Grade 7 Sample)

survive nuclear war (SURVAT), survival-oriented behaviours (SURVBH), and locus of control (ROTTER) (e.g., become more external) for the treatment subjects but not for the control subjects.

Data analysis. Again, due to data collection problems resulting in loss of data, the analyses were performed with 19 students in the treatment group and 9 students in the control group. The data were analysed using a 2 X 2 (group X time) multivariate analysis of variance. Since the scale of survival-oriented behaviours had a low homogeneity of variance, it was eliminated from the analysis. Means and standard deviations for the remaining 8 dependent variables in the design are found in Table 5.

A significant omnibus F was obtained for a time effect: $F(8,19) = 3.85$, $p<.01$ (see Appendix N for the summary scores of MANOVA #3). Subsequent univariate analyses revealed that the significant time effect was due to significant changes over time on the scales of personal control to survive nuclear war (SURVAT), trait anxiety (STAIF2), and prevention-oriented behaviours (PREVBH). There was no evidence of significant interaction effects; hence, no support exists for the hypotheses pertaining to attitudes of prevention, survival, behaviours, or knowledge.

Grade 7s' Sample

Statement of the hypothesis. There will be significant increases in preoccupation with nuclear war (PROCNW) and

Table 5

Pretest and Posttest Scores for University Scales

Measure	Group	time	
		pre	post
LHD	treatment	12.79(2.66)	13.68(3.00)
	control	12.67(4.15)	13.44(2.70)
SURVAT	treatment	17.74(5.76)	12.00(4.51)
	control	18.67(4.69)	17.22(6.00)
PREVAT	treatment	21.58(5.36)	24.58(4.76)
	control	22.33(4.90)	21.67(4.66)
PREVBH	treatment	8.00(2.71)	9.32(2.81)
	control	8.33(2.45)	8.78(3.15)
KNOW	treatment	4.79(1.47)	4.79(1.69)
	control	3.89(1.27)	4.67(1.22)
STAIF1	treatment	42.58(10.15)	41.42(11.02)
	control	36.22(13.81)	31.22(9.86)
STAIF2	treatment	47.74(11.91)	44.95(12.38)
	control	40.78(12.14)	37.11(11.12)
ROTTER	treatment	10.79(3.63)	8.79(3.15)
	control	10.78(3.67)	10.44(3.17)

*standard deviations are given in parentheses

influence on nuclear war (INFLNW) for treatment subjects but not for control subjects.

Data Analysis. The analyses were performed with 95 children in the treatment group and 93 children in the control group. The data were analysed using a third 2 X 2 (group X time) multivariate analysis of variance. Since PROCNW had a low homogeneity of variance, it was eliminated from the analysis. Means and standard deviations for the remaining variables in the design are found in table 4.

A significant omnibus F was obtained for a group effect (F (6, 181) = 3.42, p<.01)), and a time effect (F(6,181) = 2.43, p<.05)) (see Appendix O for summary scores of MANOVA #3). Subsequent univariate analyses revealed that the significant group effect was due to differences between the groups on the scale of nuclear war affects future planning (NWFP) and that the significant time effect was due to significant changes across time on the scales of preoccupation with unemployment (PROCUPT), preoccupation with job and career plans (PROCJCP), and influence on job and career plans (INFLJCP). There were no significant interaction effects; hence, no support exists for the hypotheses that children who receive the curriculum become more preoccupied with nuclear war or that they become more confident that they, their parents, or Canada have influence in preventing nuclear war.

Summary Of MANOVA Results

There were six hypotheses for the grade 7s' sample and 6 hypotheses for the university sample. Evidence was presented to support the hypotheses that compared to subjects in the grade 7 control group, subjects in the grade 7 treatment group showed significant increases on measures of personal control to prevent nuclear war and knowledge of the curriculum. There were significant differences between the groups on the scales of personal control to prevent nuclear war (PREVAT) and nuclear war affects future planning (NWFP). There were significant differences across time on the scales of knowledge of the curriculum (KNOWL), preoccupation with unemployment (PROCUPT), preoccupation with job and career plans (PROCJCP), and influence on job and career plans (INFLJCP). At the university level, there was no evidence of significant interaction effects; hence, no support existed for the six hypotheses stated. However, there were significant differences across time on the scales of personal control to survive nuclear war (SURVAT), trait anxiety (STAIF2), and prevention-oriented behaviours (PREVBH).

Relationships between Variables

Grade 7s' Sample

Statement of the hypothesis. There will be significant positive relationships between personal control to prevent nuclear war (PREVAT) and the following variables:

knowledge of the curriculum (KNOWL), talking about nuclear issues (TLK), thinking about nuclear issues (THT), and worrying about nuclear issues (WOR). There will be negative correlations between personal control to prevent nuclear war (PREVAT) and the variables of: personal control to survive nuclear war (SURVAT) and externality of locus of control (ROT).

Data Analyses. The Pearson product moment coefficient was used to explore the degree of relationship among variables. The analyses were performed with the treatment and control samples combined at pretest. The results indicate that personal control to prevent nuclear war is related positively to the following variables: talking about nuclear issues (r = .27, p<.01), thinking about nuclear issues (r = .24, p<.01), and worrying about nuclear issues (r = .33, p<.01). Such results support the hypotheses stated above, except for the hypotheses relating personal control to prevent nuclear war to knowledge of the curriculum, and locus of control, where there were not significant correlations. In addition, contrary to the researcher's expectations, there was a positive correlation between personal control to prevent nuclear war and personal control to survive nuclear war (r= .46, p<.01).

University Sample

Statement of the hypothesis. There will be positive relationships between personal control to prevent nuclear war (PREVAT) and the following variables: knowledge of

nuclear issues (KNOW), talking about nuclear issues (TLK), thinking about nuclear issues (THT), worrying about nuclear issues (WOR), prevention-oriented behaviours (PREVBH), and degree of personal responsibility in preventing nuclear war (PRS). There will be negative relationships between personal control to prevent nuclear war (PREVAT) and the following variables: personal control to survive nuclear war (SURVAT), survival-oriented behaviours (SURVBH), externality of locus of control (ROTTER), and willingness to countenance nuclear war (OK).

Data Analysis. The product moment coefficient was employed to investigate relationships among variables. The analyses were performed with the treatment and control samples combined at pretest. The results indicate that personal control to prevent nuclear war is related positively to the following variables: talking about nuclear issues (r = .27, p<.01), thinking about nuclear issues (r = .20, p=.02), prevention-oriented behaviours (r = .75, p<.01), and degree of personal responsibility in preventing nuclear war ((r = -.26 (scale reverse scored), p<.01). Further, the results indicate that personal control to prevent nuclear war is related negatively to locus of control (r = -.23, p<.01). Hence, these results provide support for several of the hypotheses stated.

There was no support for the hypotheses relating personal control to prevent nuclear war to the variables of worry about nuclear issues, knowledge of nuclear issues,

personal control to survive nuclear war, willingness to countenance nuclear war, and survival-oriented behaviours, because of a failure to find significant results.

Grade 7s' Sample

Statement of the hypothesis. There will be positive relationships between worry about nuclear issues (WOR) and the following variables: knowledge about the curriculum (KNOWL), thinking about nuclear issues (THT), and talking about nuclear issues (TLK). There will be negative relationships between knowledge of nuclear issues (KNOWL) and personal control to survive nuclear war (SURVAT).

Data Analysis. The product moment coefficient was used to analyse the data. Again, the analyses were performed with the treatment and control samples combined at pretest. The results indicated that worrying about nuclear issues was correlated positively with thinking about nuclear issues (r = .68, $p<.01$), and talking about nuclear issues (r= .45, $p<.01$). There was a negative correlation between knowledge of the curriculum and personal control to survive nuclear war (r = -.13, $p<.01$). Such results support the hypotheses stated above. However, there was no significant finding regarding worry about nuclear issues and knowledge of the curriculum; hence, little support exists for that hypothesis.

University Sample

Statement of the hypothesis. There will be positive correlations between worry about nuclear issues and the

following variables: Knowledge of nuclear issues (KNOW), thinking about nuclear issues (THT), talking about nuclear issues (TLK) , prevention-oriented behaviours (PREVBH), and degree of personal responsibility to prevent nuclear war (PRS). There will be negative correlations between knowledge of nuclear issues (KNOW) and the following variables: personal control to survive nuclear war (SURVAT), survival-oriented behaviours (SURVBH), and willingness to countenance nuclear war (OK) . Further, negative correlations will exist between prevention-oriented behaviours (PREVBH) and survival-oriented behaviours (SURVBH) and between locus of control (ROTTER) and personal responsibility to prevent nuclear war(PRS).

Data Analysis. The results indicate that worry about nuclear issues is correlated positively with thinking about nuclear issues (r = .24, p<.01), talking about nuclear issues (r = .39, p<.01), and personal responsibility to prevent nuclear war ((r = -.19 (scale score reversed), p= .02). Such results support the hypotheses stated above. However, there is no support for the hypotheses pertaining to relationships between worry about nuclear issues, prevention-oriented behaviours, and knowledge of nuclear issues. Further, there was no support for the relationship between knowledge of nuclear issues, personal control to survive nuclear war, survival-oriented behaviours, and willingness to countenance nuclear war. Finally, there is no support for hypotheses pertaining to relationships

between prevention-oriented behaviours and survival-oriented behaviours, and between locus of control and personal responsibility to prevent nuclear war.

Summary Of The Correlational Results

Of the 10 hypotheses for the grade 7 sample, 7 were supported by the evidence and of the 20 hypotheses for the university sample, 8 were supported by the evidence. Among both samples at pretest, positive and significant correlations were found between measures of personal control to prevent nuclear war and talking about nuclear issues, thinking about nuclear issues, and between worrying about nuclear issues and thinking about nuclear issues and talking about nuclear issues. For the grade 7s' sample only, personal control to prevent nuclear war correlated postively with worry about nuclear issues, and personal control to survive nuclear war; knowledge of the curriculum correlated negatively with personal control to survive nuclear war. For the university sample only, personal control to prevent nuclear war correlated positively with prevention-oriented behaviours and personal responsibility to prevent nuclear war and negatively with locus of control (that is, degree of externality).

Descriptive Analyses

Grade 7s' responses

The following section on descriptive analyses of grade 7s' responses refers to frequencies of the treatment group at pretest (see Appendix E), the control group at pretest

(see Appendix F), the treatment group at postest (see Appendix G), and the control group at posttest (see Appendix H).

Personal control to prevent nuclear war. Students were asked, "How much difference would your involvement in the following activities make in preventing nuclear war?" The four activities included: thinking about actions to prevent nuclear war, speaking to a friend or family member about nuclear concerns, communicating with a politician about nuclear concerns, and attending meetings of a peace group. Responses across activities could be collapsed. At pretest, 35.8% of the treatment group responded "some" or "a lot", compared to 35.2% of the control group. At posttest, the treatment group showed an increased level of perceived control with 40.9% reporting "some" or "a lot", compared to 23.2% of the control group.

Prevention-oriented behaviours. In response to the question, "Have you taken any actions to prevent nuclear war?", 18.1% of the treatment group indicated "yes" at pretest, compared to 6.0% of the control group. At posttest, however, 22.1% of the treatment group said "yes", compared to 6.3% of the control group.

Preoccupation with nuclear war. Indicators of preoccupation with nuclear war were frequency of thinking about it, talking about it, and experiencing fear or worry about it. Each of the three items began, "In the last month, how often..." with response options ranging from

"never" to "almost everyday". Over time, the treatment group increased in thinking and talking about nuclear war and remained the same on fear and worry, while the control group decreased in all three items.

Specifically, at pretest, 30.2% of the treatment group reported thinking about the nuclear threat "once or twice per week" or "almost everyday", compared to 26.5% of the control group; at posttest, the treatment group had increased to 41.6%, compared to 11.5% of the control group. At pretest, 11.3% of the treatment group reported talking about the nuclear threat "once or twice per week" or "almost everyday", compared to 34.6% of the control group; at posttest, the treatment group increased to 34.6%, compared to a decrease of 5.3% of the control group. The most probable explanation for these results is that the curriculum initiated changes in the treatment group that offset the effects of the historical events (like the conclusion of an unproductive summit conference) on the control group.

Finally, at pretest, 26.0% of the treatment group reported fear or worry about the nuclear threat at a frequency of "once or twice per week" or "almost everyday", compared to 20.8% of the control group. The treatment group showed no change over time, while the control group showed a decrease to a reported 9.5%. In addition to this one item focusing specifically on fear or worry about nuclear issues was the STAIC inventory which measures state anxiety and

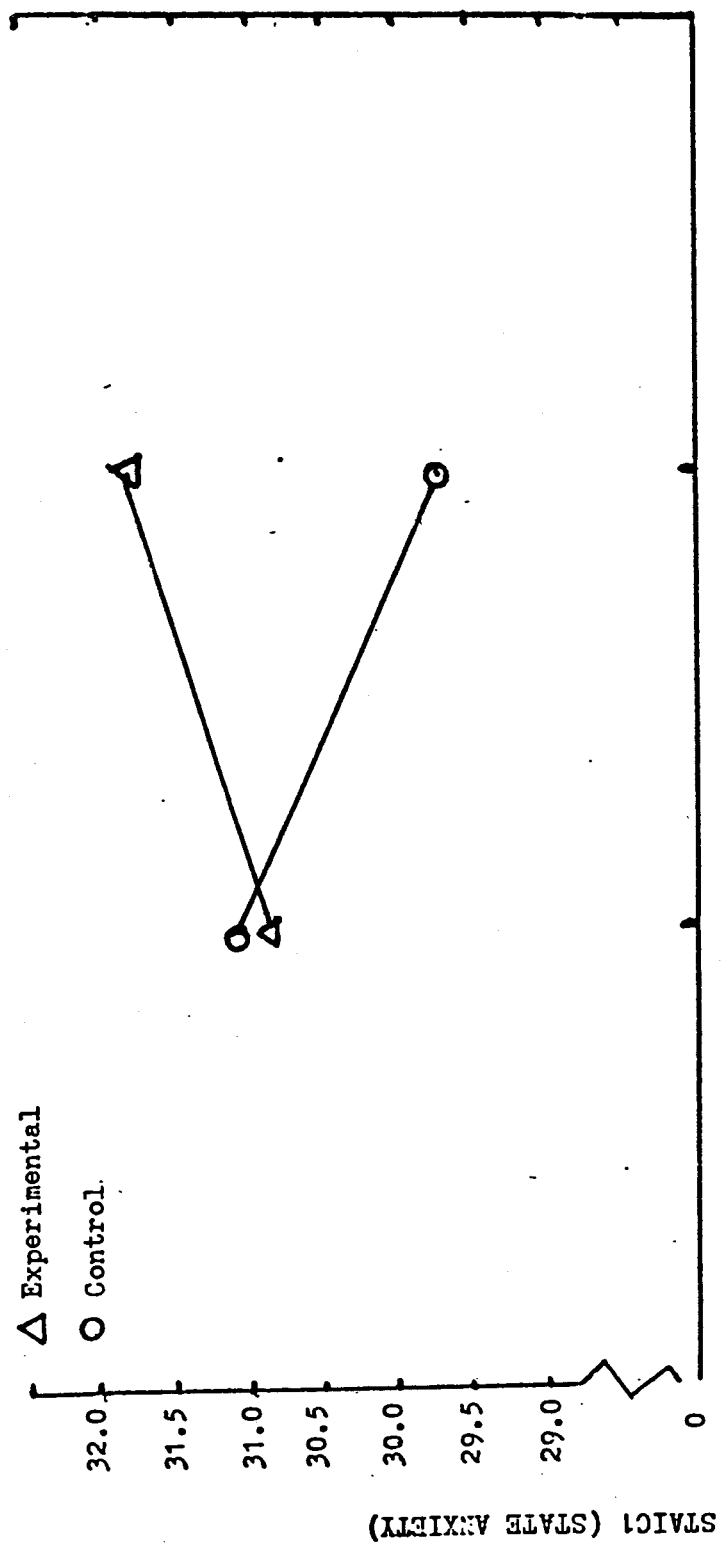


Figure 3. STAIC1 (State Anxiety) Scores (Grade 7 Sample)

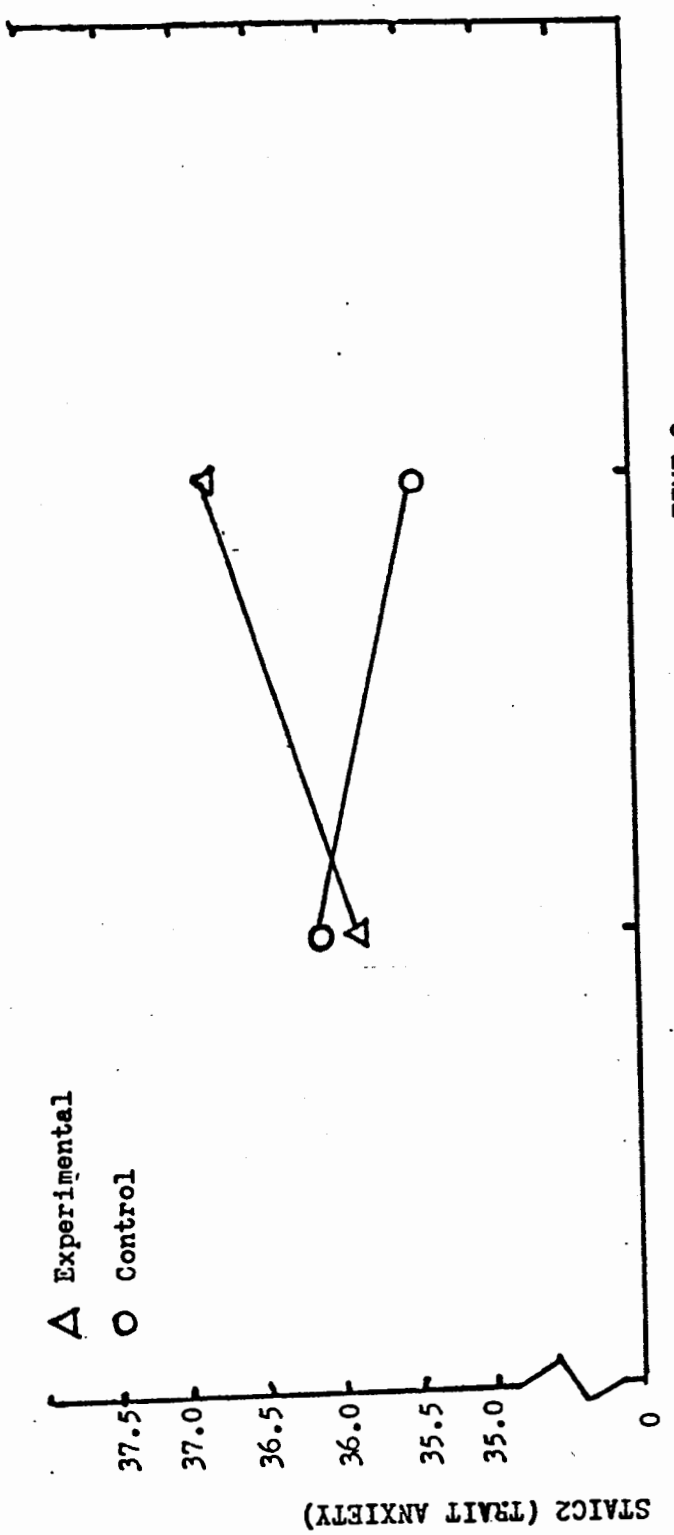


Figure 4. STAIC2 (Trait Anxiety) Scores (Grade 7 Sample)

trait anxiety. As was mentioned previously in the MANOVA section, compared to grade 7 control subjects, grade 7 treatment subjects increased significantly on both state anxiety and trait anxiety (see figures 3 and 4).

Attitudes toward Soviet children. In response to the question, "Would you expect Soviet children to hold the same views on these issues as you do?", 60.0% of the treatment group marked "yes" at pretest, compared to 49% of the control group. At posttest, the proportion indicating "yes" had increased for both groups: 85% of the treatment group and 59% of the control group.

Hopes for the future. Students were asked to write down their three greatest hopes for the future (see Appendix B). At pretest, "career" (e.g., getting a good job, becoming a doctor or dancer) was the most frequently listed hope (as one of the three hopes) by both groups; it was mentioned by 56.8% of the treatment group and 69.3% of the control group. "Peace" (e.g., no war, no bombs) was the second most common hope among the treatment group (noted by 44.4%), while "family" (e.g., good marriage, parents reunited) was for the control group, followed by "peace". At posttest, "career" remained the most common hope, being mentioned by 69.6% of the treatment group and 70.8% of the control group. "Peace" remained the second most frequently listed hope for the control group, increasing in percentage to 60.3%; it slipped to 24.1% for the control group,

Table 6

Three greatest hopes of elementary sample

Name of hope	Group	time: pretest %	time: posttest %
Peace	Control	30.7	24.1
	Treatment	44.4	60.3*
Career	Control	69.3	70.8
	Treatment	56.8	69.6
Money	Control	22.3	20.1
	Treatment	30.4	15.7
Family	Control	56.7	65.6
	Treatment	41.9	39.3
Good grades	Control	7.0	3.5
	Treatment	6.2	3.2
Good education	Control	19.8	14.7
	Treatment	18.2	19.2
Friends	Control	8.9	11.4
	Treatment	7.1	5.5
Good health	Control	16.6	21.6
	Treatment	22.1	28.7
Specific possessions	Control	16.8	12.3
	Treatment	17.1	13.8
Happiness	Control	15.8	17.6
	Treatment	16.7	15.0
Attributes of self	Control	8.7	4.3
	Treatment	9.5	3.1
Social concerns	Control	15.2	11.2
	Treatment	8.4	7.6
Other	Control	12.1	22.8
	Treatment	21.1	19.1

* note increase

following once again after "family". See Table 6 for these data.

Worries about the future. Students were asked to write down their three greatest worries about the future. At pretest, "war" was the most frequently mentioned worry by both groups, mentioned by 62.8% of the treatment group and 57.2% of the control group. The second most common worry was "family" for the treatment group and "school" for the control group. Over time, "war" not only remained the most frequently mentioned worry, but also increased in frequency level. At posttest, 80.9% of the treatment group listed it (war) as one of their top three worries, compared to 59.4% of the control group.

University responses

The following section on descriptive analyses of university responses refers to frequencies of the treatment group at pretest (see Appendix I), the treatment group at posttest (see Appendix J), the control group at pretest (see Appendix K), and the control group at posttest (see Appendix L).

Personal control to prevent nuclear war. The items to measure this attitude were parallel to those posed to grade 7s. At pretest, 45.6% of the treatment group reported "some" or "a lot" of perceived control in preventing nuclear war, compared to 42.1% of the treatment group. At posttest,

Table 7

Three greatest worries of elementary sample

Worry	Group	Time: Pretest	Time: Posttest
Death (self)	Control	37.0	39.3
	Treatment	31.7	40.4
Death (family)	Control	12.3	13.4
	Treatment	16.3	15.3
Death (friends)	Control	2.5	1.2
	Treatment	2.1	1.1
War	Control	57.2	59.4
	Treatment	62.8	80.9*
Family	Control	34.1	31.5
	Treatment	36.8	32.9
School	Control	42.8	29.5
	Treatment	36.6	22.4
Money	Control	15.6	14.9
	Treatment	14.5	14.9
Career	Control	28.4	29.5
	Treatment	21.3	19.1
My life, me	Control	12.8	7.9
	Treatment	11.2	6.8
Natural Disasters	Control	5.0	2.6
	Treatment	2.0	2.4
Social Concerns	Control	16.6	20.4
	Treatment	13.6	17.0
Friends	Control	10.0	16.1
	Treatment	13.8	9.2
Future	Control	4.0	3.8
	Treatment	8.0	5.6
Other	Control	21.7	30.8
	Treatment	29.5	32.0

* note increase

the treatment group's perceived level of control rose to 61.9%, compared to 33.0% of the control group.

Prevention-oriented behaviours. Students were asked,"To what extent have you done any of the following?". Five prevention-oriented activities were listed: thinking about actions that might be taken to prevent nuclear war, speaking to a friend or family members about nuclear concerns, writing or speaking to a politician or government official about nuclear concerns, and participating in public demonstrations or peace marches against nuclear war. Over time, the treatment group showed an increase in reported frequency of behaviours while the control group showed a slight decrease. Specifically, at pretest, 23.3% of the treatment group indicated "some" or "a lot" of prevention-oriented behaviours, compared to 22.6% of the control group. At posttest, these figures changed to 36.3% and 21.0% respectively.

Survival-oriented attitudes. Students were asked to "indicate the extent to which your engagement in the following activities would be effective in dealing with the possibility of nuclear war". The activities included: making plans for self or family protection, making plans for leaving Vancouver, stockpiling food or medicines, reading material on how to survive nuclear war, and attending meetings advocating survivalist activities. Responses across categories were combined. Over time, both groups

showed an increase in pessimism in personal control to survive nuclear war.

Specifically, at pretest, 63.8% of the treatment group reported "not at all" or "very little" perceived control in engaging in activities to survive nuclear war, compared to 66.3% of the control group. At posttest, 89.6% of the treatment group indicated "not at all" or "very little", compared to 69% of the control group.

Preoccupation with nuclear war. Indicators of preoccupation with nuclear war were thinking about it, talking about it, and experiencing feelings of fear or worry about it. On each of these indicators, the treatment group showed an increase over time, while the control group showed a decrease over time.

Students were asked how often they had thought about actions that might be taken to prevent nuclear war. At pretest, 44.3% of the treatment group indicated "some" or "a lot", compared to 35.9% of the control group; at posttest, however, 78.1% of the treatment group indicated "some" or "a lot", compared to 35.0% of the control group. In response to a question asking students how often they had spoken to a friend or a family member about nuclear concerns, 50.6% of the treatment group reported "some" or "a lot" at pretest compared to 59.0% of the control group; at posttest, however, these figures changed to 71.9% and 45.0% respectively. Finally, in response to the question, "In the last month, how often have thoughts about the threat of

nuclear war given you feelings of fear or anxiety?", 7.6% of the treatment group indicated "once or twice per week" or "almost every day", compared to 5.3% of the control group. At posttest, the reported frequency of the treatment group changed to 53.3%, while the reported frequency of the control group decreased to 0.

Summary Of Descriptive Analyses

Among the grade 7s' sample and the university sample, treatment subjects showed some interesting and expected changes over time which control subjects did not. These changes included: increases in attitude of personal control to prevent nuclear war, prevention-oriented behaviours, and preoccupation with nuclear war. Grade 7 treatment subjects showed a shift in attitudes toward Soviet children, an increase in spontaneous mention of worry of war and hope for peace, and an increase in state and trait anxiety. University treatment subjects showed an increase in degree of personal responsibility to prevent nuclear war and a decrease in personal control to survive nuclear war.

CHAPTER V

SUMMARY AND DISCUSSION

Introduction

This chapter interprets the results obtained in the present study. First, the results are summarized. Second, the results are discussed in comparison to each other (grade 7 sample versus university sample) and in comparison to findings reported in the literature. Third, the limitations of this study are delineated and the implications are suggested. Finally, a summary and a conclusion regarding nuclear education are presented.

Summary of Results

In the grade 7s' sample, significant group X time interactions, indicating treatment effects, were found for measures of personal control to prevent nuclear war and knowledge of the curriculum. Descriptive analyses revealed that treatment subjects, in comparison to control subjects, showed an increase in preoccupation with nuclear issues, a slight increase in behaviours to prevent nuclear war, and a shift in attitudes toward Soviet children. Using pretest data, significant positive correlations were found between measures of personal control to prevent nuclear war and talking about nuclear issues, thinking about nuclear issues, worrying about nuclear issues, and personal control to survive nuclear war. Worrying about nuclear issues were correlated positively with thinking about nuclear issues and

talking about nuclear issues. And, knowledge of the curriculum was correlated negatively with personal control to survive nuclear war.

In the university sample, there was no evidence of significant treatment effects since no group X time interactions were found. However, descriptive analyses revealed that treatment subjects, in comparison to control subjects, showed an increase in personal control to prevent nuclear war, in prevention-oriented behaviours, in preoccupation with nuclear war, and in personal responsibility to prevent nuclear war, and a decrease in perceived control to survive nuclear war. Using pretest data, significant positive correlations were found between measures of personal control to prevent nuclear war and talking about nuclear issues, thinking about nuclear issues, prevention-oriented behaviours, and personal responsibility to prevent nuclear war. Personal control to prevent nuclear war was correlated negatively with locus of control. Worry about nuclear issues was correlated positively with thinking about nuclear issues, talking about nuclear issues, and personal responsibility to prevent nuclear war.

Interpretation of Findings

The Personal Control Variable

Grade 7 sample. There was a significant group X time interaction on the attitude of personal control to prevent nuclear war, indicating the presence of treatment effects. The nature of the change in this attitude is partly

reflected in the descriptive analyses, showing that although both groups were scoring at the same level at pretest, 5% of the treatment group shifted to the categories of "some" or "a lot" of perceived control while 12% of the control group shifted away from such categories. It is difficult to explain the control group's reduced level of perceived control; perhaps this group's attitudes were more affected by the events that occurred during that time (e.g., a series of international terrorist acts and the unconstructive Summit by superpowers).

This finding, that peace education is accompanied by increases in children's perceived control to prevent nuclear war, is an important one, particularly in light of prevalent feelings of helplessness. At pretest, 65% of the total sample believed that their involvement would make "no" or "little" difference. This finding is consistent with reports by Sommers et al. (1984) that the majority of their respondents (62%) felt that they had no personal influence in preventing nuclear war, and also with reports by Harvey et al. (1985) that their subjects expressed much helplessness and hopelessness about the future.

The finding that nuclear education does impact attitudes of personal control to prevent nuclear war provides data to support speculation by Vartanyan (1985) and Chivian et al. (1985). These authors concluded that the attitudes of Soviet children (optimism about prevention and about their own role in contributing to that prevention) may

have been due to systematic teaching of nuclear issues in schools. Besides this speculation, no studies have been reported that measure the personal control attitude before and after an intervention; hence, there is no basis for comparison between the present study and others, except between samples (grade 7s and university) within this study.

University sample. There was no significant group X time interaction on the attitude of personal control to prevent nuclear war. Some change in this attitude did take place, according to descriptive analyses, but it is difficult to estimate how meaningful this change was, because of the small cell size at posttest. Of the treatment group, the reported percentage who increased to the "some" or "a lot" categories of perceived control was 16.3%, compared to 9.1% of the control group who moved away from such categories.

Several explanations can be offered regarding why the university sample did not show significant change on this attitude, unlike the grade 7 sample who did show significant change. One explanation might be that only a small number of responses were used in the MANOVA analysis, resulting in limited power in this analysis. A second reason might be that adults' attitudes are less malleable than children's attitudes. A third reason might be that university treatment subjects were expressing higher levels of perceived control than did grade seven treatment subjects

initially and this may have been why they were harder to impact.

A final explanation for differential findings regarding the personal control variable might be the nature of the different curricula. The grade 7 curriculum included both education about peace (transmission of knowledge and understanding about peace or war) as well as education for peace (transmission of skills and attitudes). The university curriculum focused on the former goal and did not intend to include the latter goal. Perhaps these new skills and attitudes were the "active ingredients" that were instrumental in altering the children's perceived control. Such an interpretation is supported by anecdotal data from those who taught the curriculum, "Some teachers indicated that children began to understand that they could bring about change and that lesson 10 [specifying actions they were willing to take to promote peace] in particular, encouraged this thinking" (Peace Project, 1986, p. 11).

Relationship Between The Personal Control Variable And Other Variables

In both samples (grade 7 and university) at pretest, several similar correlations were found between the variable of personal control to prevent nuclear war and other variables. Low, positive correlations were found between personal control to prevent nuclear war and thinking about nuclear issues and talking about nuclear issues. These findings are consistent with Van Hoorn and French's findings

(cited in Eisenbud, in press) that frequency of thinking about nuclear issues and discussing war and peace with others was related positively to the belief that one could personally help to prevent nuclear war.

Correlational data limit causal links and thus one cannot claim conclusively that thinking about nuclear issues and talking about nuclear issues leads to a higher level of perceived control in preventing nuclear war. However, it is apparent that treatment subjects had to be thinking and talking more about nuclear issues, due to the nature of their curriculum. And an increase in personal control to prevent nuclear war (among grade 7 subjects) can be attributed to the intervention. So, one might conclude that this provides some evidence that thinking and talking about nuclear issues is not harmful, as opponents of peace education claim; on the contrary, it is beneficial since children are expressing higher levels of perceived control.

The Knowledge Variable

Grade 7 sample. There was a significant group X time interaction effect for knowledge, indicating that children in the treatment group did learn what was intended in the curriculum. This finding is supplemented by another finding: treatment subjects showed a shift in perception regarding Soviet children. Although this item ("Would you expect Soviet children to hold the same views on these issues as you do?") was not part of the knowledge scale, it

did tap an attitude that the "Conflict and Change" curriculum was attempting to promote.

University sample. There was no significant group X time interaction effect regarding the Knowledge variable. However, the scale used to measure Knowledge sampled only a small range of highly technical Knowledge, and was not reflective of the Knowledge base that was presented in the Psychology 106 curriculum. Therefore, it was probably not sensitive to any treatment effects that may have been present. Grades were a more accurate measure of Knowledge of the Psychology 106 curriculum, but no comparison existed for the control group.

Relationship Between The Knowledge Variable And Other Variables

Of the six hypothesized relationships between Knowledge and other variables, only one relationship was significant. It is difficult to account for this failure to find significant results, except that it could be attributed, in part, to the weaknesses of the Knowledge scale (in the university sample). Regarding the grade 7s' sample, a small but significant negative correlation was found between Knowledge of the curriculum and perceived control to survive nuclear war. Again, although causal links cannot be made, this does seem to provide indirect support for Chivian et al.'s (1985) observation that lower expectations for survival are related to knowledge about the consequences of nuclear war.

Personal Control To Survive Nuclear War

Grade 7 sample. There was no significant group X time interaction effect. From pretest to posttest, both groups decreased a little in perceived control to survive nuclear war. Two factors may account for this failure to find significant results. Firstly, at pretest the grade 7 sample, as a whole, was already a highly pessimistic group -- 85% responded "no" to the inquiry, "Do you think that you could survive nuclear war?" Secondly, the curriculum did not explicitly address the survival question, nor did it include detailed information on the consequences of nuclear war. The graphic footage depicting human suffering and other effects from nuclear war was removed from the film "Notes on Nuclear War" because of concerns from parents and teachers that it would frighten children.

University sample. There was a significant time effect for perceived control to survive nuclear war, with both groups scoring lower at posttest. It is most likely that this finding can be attributed to some external factor in the environment which affected both groups. There was not a significant group X time interaction for this attitude, although descriptive analyses revealed differential change between the treatment group and the control group. At posttest, over 25% of the treatment group expressed lower perceived control than initially, compared to only 3% of the control group. The reason for such a shift may be due to

the curriculum which included accurate and detailed information on the physical, environmental, and biological consequences of nuclear war. The degree of significance of this shift is questionable, however, given the small cell size at posttest.

Prevention-oriented Behaviours

Grade 7 sample. No scale existed for this variable and only one item, with a limited response range (yes/no) sampled it on the children's questionnaire. At pretest, about 12% of the total sample indicated that they had taken some action to prevent nuclear war. This finding is consistent with Sommers et al.(1984) finding of 11%, and with reports by Beardslee and Mack (1982) and by Hargraves (1984). Descriptive analyses showed a very small increase for the treatment group -- at posttest, 3% more grade 7s had taken some action to prevent nuclear war -- and a negligible one for the control group. However, the accuracy of this self-report is questionnable, given that all children in the treatment group were involved in prevention-oriented activities as part of the curriculum. Lesson 10 of the Conflict and Change curriculum required students to think about and to operationalize steps they would be willing to take to promote peace.

University sample. There was a significant time effect for prevention-oriented behaviours, with both groups scoring higher on this variable at posttest. However, these mean scores obscure trends revealed by descriptive analyses. At

pretest, both groups scored at a similar level (23.3% of the treatment group indicated that they had taken "some" or "a lot" of prevention-oriented behaviours, compared to 22.6% of the control group); at posttest, these figures changed to 36.3% and 21.0% respectively. Again, it is difficult to estimate how meaningful such a shift was, given the small cell sizes at posttest.

Relationship Between Prevention-oriented Behaviours And Other Variables

Of the three hypothesized relationships between prevention-oriented behaviours and other variables, only one was significant. Among the university sample at pretest, a large and positive correlation existed between prevention-oriented behaviours and personal control to prevent nuclear war. This finding is consistent with Tyler and McGraw's (1985) correlational finding and also with observations by Verdon-Roe (1983) and Chivian et al. (1985) that individuals who feel optimistic about the future tend to be engaged in altering the situation that caused them anxiety.

Locus Of Control

There were no significant group X time interaction effects regarding the locus of control variable for the grade 7s' sample or for the university sample. It was expected that the curriculum might not only increase personal control in relation to nuclear issues but that it might also nurture a sense of perceived personal outcome in

general. In the grade 7s' case, a failure to find significant results may have been due to the unknown psychometric properties of the locus of control scale that was constructed by the researchers.

Only one significant correlation was found relating locus of control to perceived personal control to prevent nuclear war. In the university sample at pretest, degree of externality was correlated inversely with personal control to prevent nuclear war. Thus, those people who had a more external sense of control were more apt to feel that they have little control in preventing nuclear war. This finding is consistent with a finding reported by Mayton (1985).

The Preoccupation Variable

The preoccupation scale was eliminated from the grade 7s' MANOVA #3 because it had a low homogeneity of variance; no such scale existed for the university sample. However, in both samples descriptive analyses showed that treatment groups, compared to control groups, increased in frequency of talking about nuclear issues and thinking about nuclear issues. In the university sample, the treatment subjects showed a large increase in fear and worry about nuclear issues.

Although the grade 7 sample treatment group did not change on the one item dealing with fear or worry about nuclear issues, they did change on one informal indicator of anxiety -- spontaneous mention of "war" as one of their three worries. Initially, the number one worry listed by

the whole sample at pretest was "war". Such a finding is consistent with findings reported by Sommers et al. (1984), Chivian et al. (1985), Holmberg and Bergstrom (cited in Eisenbud et al., in press) and Solantaus et al. (1984). This worry about war increased in frequency for both the treatment group and the control group although the increment was more dramatic for the treatment group. The grade 7 treatment subjects showed significant increases on measures of state anxiety and trait anxiety. These increments were small and most likely not clinically significant; however they might a stimulus for action, a survival mechanism in the face of real danger. Such an interpretation of these data martial support for speculation put forth by Santa Barbara (1985).

Analyses of the correlational data revealed that indicators of preoccupation (thinking, talking,and worrying) with nuclear war were related to attitudes of personal control to prevent nuclear war. For both samples (grade 7s and university), perceived personal control to prevent nuclear war was correlated positively with frequent talking about nuclear war (also reported by Solantaus et al., 1984), and frequent thinking about nuclear war (consistent with Van Hoorn and French's finding, cited in Eisenbud et al., in press). For the grade 7 sample at pretest, frequent worrying about nuclear war was correlated positively with the belief that one could personally contribute to the prevention of nuclear war, similar to a correlational

findings reported by Goldberg et al. (1985) and Goldenring & Doctor (1984).

Limitations

Generalization

The study was conducted in Burnaby and therefore, the findings may be considered not generalizable beyond the community of Burnaby. Compounding this limitation is the fact that the Burnaby School Board accepted implementation of the curriculum while other school boards refused and may not be representative (e.g., these students and their district may be more concerned about nuclear issues than other schoolboards in the lower mainland). Further, although Project Peace solicited the participation of all grade 7 teachers (total of 32) in the Burnaby School Board, only 6 teachers taught the curriculum. Hence, the results of the study may have been due to the characteristics of this select group of teacher volunteers rather than the curriculum itself.

Along the same lines, it must be considered that the university sample was not chosen randomly, nor were subjects assigned randomly to conditions. The individuals who enrolled in "Psychological Perspectives on Nuclear War" may not have been representative, e.g., they may have been more interested and more active regarding nuclear issues than the general public. Thus, any research findings must be interpreted in light of this sampling bias.

Instrumentation

The university subjects' scale "Knowledge of nuclear issues" was not reflective of the Psychology 106 curriculum. Although the nine items were valid to assess knowledge of nuclear weapons and their effects, they were not valid to assess the broad base of knowledge that taught in Psychology 106 (see Appendix for curriculum). Therefore, they were not sensitive to any treatment effects that might resulted from taking the course. Grades assigned to the subjects in the treatment group were a more accurate measure of knowledge of nuclear issues but no comparison existed since no grades were assigned to the control group for this type of knowledge..

The university questionnaire (Nuclear Issues Survey), unlike the grade 7s' questionnaire, focused specifically on nuclear war and may have cued respondents to a heightened sense of concern about nuclear issues.

No follow-up testing

The results showed that grade 7 students who received the peace education curriculum increased significantly in the attitude of personal control to prevent nuclear war. Given that the posttesting was conducted immediately after the curriculum had been implemented, it could be argued that the demonstrated alteration in attitudes was only temporary. In order to show that attitude change was maintained over a period of time, follow-up testing would be necessary.

Correlational Data

The product moment coefficient was used to analyse some of the data. Although this technique can determine degree of relationship between variables, it cannot show causal links. For example, a positive and significant correlation between the measures talking about nuclear issues and personal control to prevent nuclear war does not necessarily mean that talking about nuclear issues leads to a sense of personal control these issues. The limitation, then, is that such findings are descriptive and not explanatory.

Implications

Peace Education Should Be Institutionalized

Research has documented a need for peace education and that peace education can address this need. "It appears to be time for educational professionals to consider seriously introducing the topic into the educational system". (Harvey et al., 1985, p. 59) At present, the "conflict and change" curriculum and suggested revisions (Project Peace, 1986) are at the Burnaby School Board. Expectations are that the Burnaby School Board will do the revisions and that a larger group of teachers will volunteer to teach the curriculum in the Fall of 1987. The end goal is for other school boards to incorporate the "conflict and change" curriculum into their core curriculum.

Peace Education Is A Political Process

Given that one of the goals of peace education is to provide balanced and reliable information about nuclear

issues, it is important that the curriculum continue to maintain its nonpartisan stance of these issues. At the same time, it is important to recognize and be ready for "the challenge that education about nuclear issues is likely to pose to prevailing assumptions embedded in the social system" (Mack, 1984, p. 266). For example, learners might begin to question the tendency of governments to exaggerate and polarize differences between nations.

Teachers Have A Responsibility To Teach Peace Education

The role of educators is to educate about nuclear issues, one of the most inherently troubling subjects in society. Structural and collective resistance to nuclear education exists, as does individual resistance. "This means that we must examine our attitudes and our priorities in light of the threat of nuclear war. We must learn about this threat, teach others, and act upon our knowledge". (Markusen & Harris, 1984, p. 303) Knowledge means not only power; it also suggests responsibility.

Nuclear Issues Belong On the Professional Agenda

Professionals might get organizations to include the nuclear threat as one of their concerns in meeting agendae and in committee activities. In-service programs could teach school board members, administrators, teachers, and counsellors about the potential physical, environmental, and psychological effects of nuclear war and nuclear threat. Kalmakoff (1986) notes that although inservice helped teachers in implementating the curriculum, the inservice was

limited and some teachers needed more background for successful use of cooperative activities and nontraditional ways of working (e.g., role-playing, brainstorming) that were endemic to peace education.

Counsellors Can Make Contributions

There are many reasons why counsellors must try to help people cope with the nuclear threat. Firstly, given that youth sense the nuclear subject as a tabooed subject, counsellors can give clients "permission" to talk and emphasize, to the general public, the therapeutic value of sharing of nuclear fears with others. "... it is almost a credo of the profession [counselling] that we cannot deal adequately with life's problems except by putting all of the facts and feelings on the table and facing them squarely". (Schwebel, 1984, p. 74) In addition to encouraging people to talk about their nuclear fears, counsellors can teach communication skills and conflict resolution skills. Ellis (1984) points out that counsellors are the experts on how to understand, deal with, and minimize human conflict -- important given that turbulence and violence are the result of clashing attitudes and values in the absence of conflict resolution skills.

Peace Educators Must Work Through Their Own Fears

In order to help others confront and cope effectively with nuclear issues, educators (teachers, counsellors, researchers, and parents) must attempt to overcome their own anxieties and ignorance. The troubled emotions stirred by

dealing with this subject need to be addressed by anyone who is involved in working with the issue. The grief and pain is similar but perhaps on a larger magnitude than that experienced by those who work with dying patients. It means not only contemplating one's own death but also the destruction of everyone and everything we know and love. Suggestions as to how one might begin to deal with one's own nuclear fears are to learn the basic facts about and implications of nuclear weapons, to recognize that a personal struggle is to be expected, and not to work alone (Beardslee & Mack, 1984).

Future Research About Nuclear Issues

Follow-up studies to the present study should be conducted to assess duration of attitude change. Indeed, the present study should be replicated when the revised peace education curriculum is implemented in the next school year. Evaluation and re-evaluation of any nuclear education programs is recommended given that student change is more than just in knowledge level and given the politically sensitive nature of the topic (Kyle, 1986). Finally, future research might pair questionnaires with interviews in the same sample over time (Beardslee & Mack, 1986). Questionnaires will provide broad scope and sampling validity; interviews may reveal the depth of fear and despair of youth and what this means in terms of their everyday lives.

Research About Nuclear Issues Must Be Sound

The subject of nuclear issues is a sensitive and controversial one. Discrepant political viewpoints make it difficult to obtain the necessary distance and objectivity to evaluate fully the effects of the nuclear threat. "It is important to separate the need for scientific objectivity from political rhetoric, and to be very clear how one's own views or prejudices may adversely affect the questions asked". (Beardslee & Mack, 1986, p. 2). Otherwise, studies in this area will continue to be plagued by legitimate criticism that they are methodologically "soft".

Summary and Conclusion

The results of this study were reviewed and interpreted. The significant change of the grade 7 treatment group was attributed to the curriculum and several of its active ingredients. The "Conflict and Change" curriculum, unlike the Psychology 106 course for university students, promoted the acquisition of skills and attitudes in addition to knowledge of nuclear issues; it encouraged age-appropriate behaviours for peace and it provided a forum for youths to discuss their nuclear fears. The slight increase in worry about nuclear issues and anxiety was interpreted as a mobilizing factor given that the larger context was one of hope, action, and mastery.

Several limitations of the study were noted: the findings may not have been considered generalizable beyond

Burnaby, the university knowledge scale was not valid to measure knowledge of the Psychology 106 curriculum, the demonstrated attitude change may not have been permanent, and the correlational analyses do not imply causal links. Even with these limitations, many implications were generated. It was suggested that peace education should be institutionalized, peace educators must be aware that peace education is a political process, and teachers are obligated to become informed about nuclear issues and teach others. Further, counsellors can make contributions in this area by emphasizing the therapeutic value of talking about nuclear fears and by teaching people communication skills. Suggestions for future research were that it continue to focus on the student change resulting from peace education and that it be separated from political rhetoric.

In conclusion, the results of the study demonstrate that in the school setting, children can learn about nuclear issues and how to cope more effectively with them. Raising these issues in the classroom does not create fear where none exists; clearly, children are already aware and afraid of the nuclear threat. What raising the issues in the classroom does do, if handled in a sensitive and cautious way, is to communicate the message to youth that their nuclear fears are recognized and understood, that there are actions they can take that will reduce the nuclear threat, and that there is reason to hope.

APPENDIX A

Course Outlines

COURSE SYLLABUS

Education 240: Social Issues in Education

Objective:

The objective of this course is to provide students with an understanding of the role and functions of the school as a social institution and of the issues that impinge on (and often swirl turbulently about) the school. In particular the course will examine the social forces impacting on the school; issues of injustice, e.g., sex-role stereotyping, institutional racism, the effect of social class on school learning, and school based processes; education as liberation and Paulo Friere's ideas of developing critical consciousness. The method of the course is to integrate audio-visual presentations with formal lectures and guest speakers.

Course Contents:

First Class: Course Orientation and Expectations
Social Issues: Analytic Perspectives
Convergence -- School: Role, Functions & Images
"High School" - Part I
"High School" - Part II
Divergence - Alternative Education
"Summerhill"
On Assembling and Writing the Cumulative Project
Schooling, Equal Opportunity and Justice
Dimensions of Structural Injustice
Sexism in School & Society
"Mens Lives"
Racism
Racism Presentation
Social Class
"Ridley: A Secret garden"
School Based Processes
Socialization & Cultural Reproduction
Education as Liberation
"Peru: Literacy for Social Change"
Paulo Friere on Literacy
"Starting from Nina"

"Conflict and Change" - Curriculum Outline

Lesson 1 - Conflict
- Definitions of conflict
- Examples of personal conflict situations
- Analysis of personal conflict: causes

Lesson 2 - Conflict Resolution
- Analysis of personal conflict: point of view
- Alternative resolutions to personal conflict situations
- "Win-win" resolutions

Lesson 3 - Handling Anger
- Definitions of anger
- Examples of anger-producing situations
- Usual angry responses
- Hurtful and non-hurtful responses

Lesson 4 - "What is Hate? Images of the Enemy"
- Analysis of hate: How it affects behaviour
- Video: "Neighbours"
- Transition from conflict on the personal level to conflict on the international level
- Analysis of international conflict: causes

Lesson 5 - The USSR
- Articulation and comparison of opinions on the USSR
- Articulation of opinions on the likelihood, survivability and preventability of nuclear war (using questions from video in Lesson 6)

Lesson 6 - Soviet Children and Nuclear War
- Video: "What Soviet Children are Saying About Nuclear War"
- Comparison of Soviet children's opinions with those of students
- Similarities and differences between Soviet and Canadian youth

Lesson 7 - Nuclear War, Part I
- Video: "Notes on Nuclear War" - Part I
- Opportunity for students to voice feelings about nuclear issues

Lesson 8 - Nuclear War, Part II
- Video: "Notes on Nuclear War" - Part II
- Further opportunity for students to voice feelings about nuclear issues
- Factual information on nuclear war and weapons

Lesson 9 - "I Have a Dream"
- Martin Luther King as a non-violent peacemaker
- Social justice as peace
- Articulation of students' personal dreams for peace

Lesson 10 - "I Can Do ..."
- Identification of concrete actions for peace
- Prioritizing actions
- Co-operative planning of steps towards realization of chosen action

Psychology 106 Social Issues

Psychological Perspectives on Nuclear War

Course Description: A discussion of psychological theory and research applicable to the understanding of international relations, specifically focussing upon the effects of the current potential for nuclear war.

Course Outline:

Weeks 1 - 6: Psychological Fallout before and After a Nuclear War.

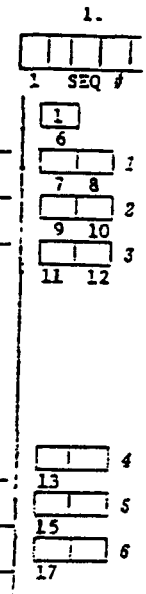
Week 1: Introduction. Basic Knowledge: Armaments Levels. Medical-environmental effects of nuclear--blast, thermal, radiation, physical disorders, medical services available, nuclear winter.
Week 2: The psychology of deterrence theory. Psychological effects of nuclear war: disaster studies, psychic numbing, Hiroshima survivors.
Week 3: The effects of nuclear fear on children: research on nuclear fears -- the results from studies done in Burnaby, Toronto, the USA, Europe, and, the USSR.
Week 4: Adult reactions: psychological defenses; apathy; thinking the unthinkable - habituation; survivalist or peace activist?
Week 5: Attitude change: Talking peace "workshop". Skills for effective communication and attitude change.
Week 6: EXAM

Weeks 7 - 12: Psychological Approaches to Peace.

Week 7: The central role of trust: Can we trust the Russians? Arms verification. the mirror image concept.
Week 8: International decision-making. Crisis management. Group-think.
Week 9: Co-operative ventures: Cross-cultural exchanges -- scientific, educational, tourist. Super-ordinate goals -- the Robbers Cave experiment.
Week 10: Applying therapeutic approaches and group processes to international conflict. The Irish experience. Sadat and Begin at Camp David.
Week 11: Conflict resolution: Beyond deterrence -- conflict denial, non-violent approaches, international bargaining and negotiations, creative alternatives.
Week 12: Star wars or mutually assured protection? Tension reduction: GRIT -- the Kennedy experiment in international relations.

Appendix B

Elementary Questionnaires (Blanks)



I. When you think of your life and future what three things do you hope for most?

_____

_____

_____

II. And what three things do you worry about the most?

_____

_____

_____

III. Here are some things others list as hopes. Circle the number that best describes how important each one is to you.

	Not important at all	Somewhat important	Important	Very Important	
1. Good grades	1	2	3	4	7 (10)
2. A good marriage	1	2	3	4	8 (20)
3. Good friends	1	2	3	4	9 (21)
4. Good health	1	2	3	4	10 (22)
5. A good job	1	2	3	4	11 (23)
6. An unpolluted environment	1	2	3	4	12 (24)
7. World peace	1	2	3	4	13 (25)
8. Children	1	2	3	4	14 (26)
9. Happiness	1	2	3	4	15 (27)

IV. Here are some things others list as worries. Circle the number that best describes how important each one is to you.

1. Violent crime	1	2	3	4	16 (28)
2. My own death	1	2	3	4	17 (29)
3. Bad grades	1	2	3	4	18 (30)
4. Lack of jobs	1	2	3	4	19 (31)
5. My parents' death	1	2	3	4	20 (32)
6. Nuclear war	1	2	3	4	21 (33)
7. Parents' divorce	1	2	3	4	22 (34)
8. Poverty	1	2	3	4	23 (35)
9. Nuclear power plant leaks	1	2	3	4	24 (36)

	None	A little	A lot	Total control	
6. How much influence do you feel you personally have in making your job or career plans work out?	1	2	3	4	☐ 64 5
7. How much influence do you think your parents can have in making your job and career plans work out?	1	2	3	4	☐ 65 5
8. How much influence do teachers and schools have in making your career plans work out?	1	2	3	4	☐ 66 5

VII. Concerns about the threat of nuclear war

Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day	
1. In the last month how often have you thought about the threat of nuclear war?	1	2	3	4	☐ 67 5
2. In the last month how often have you talked about the threat of nuclear war					
a. at home	1	2	3	4	☐ 68 5
b. at school	1	2	3	4	☐ 69 5
c. with friends	1	2	3	4	☐ 70 5
3. In the last month how often have thoughts about the threat of nuclear war given you feelings of fear or worry?	1	2	3	4	☐ 71 5
4. In the last month have you had any had dreams about nuclear war?	1	2	3	4	☐ 72 6

	Not at all	Very little	Some	A lot	
5. Thinking about the threat of nuclear war has affected my plans for the future ____	1	2	3	4	☐ 73 61
6. Thinking about the threat of nuclear war makes me wonder if I really want to get married and have children some day	1	2	3	4	☐ 74 62
7. Thinking about the threat of nuclear war makes me want to live only for today and forget about the future ___	1	2	3	4	☐ 75 63

(End of Card 1)

	None	A little	A lot	Total control	
7. How much influence do you think your parents can have in changing employment conditions?	1	2	3	4	38 (50)
8. How much influence do you feel the Canadian government can have in changing employment conditions?	1	2	3	4	39 (51)

VI. Concerns about job and career plans
Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day	
1. In the last month, how often have you thought about job and career plans?	1	2	3	4	40 (52)
2. In the last month, how often have you talked about job and career plans?					
a. at home	1	2	3	4	41 (53)
b. at school	1	2	3	4	42 (54)
c. with friends	1	2	3	4	43 (55)
3. In the last month how often have job and career plans given you feelings of fear or worry?	1	2	3	4	44 (56)
4. In the last month have you had any dreams related to job and career plans?	1	2	3	4	45 (57)

5. How much have you learned about job and career possibilities from each of the following?

	Nothing	A bit	A fair amount	A lot	
a. teachers or school	1	2	3	4	46 (58)
b. Newspapers and magazines	1	2	3	4	47 (59)
c. Books	1	2	3	4	48 (60)
d. Television	1	2	3	4	49 (61)
e. Family	1	2	3	4	50 (62)
f. Friends	1	2	3	4	51 (63)

In the next section we ask what you are doing about some worries. There are no right or wrong answers. We are interested in your experiences and thoughts

V. Concerns about high unemployment rates
Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day	
1. In the past month how often have you thought about high unemployment?	1	2	3	4	25 (37)
2. In the last month how often have you talked about high unemployment					
a. at home	1	2	3	4	26 (38)
b. at school	1	2	3	4	27 (39)
c. with your friends	1	2	3	4	28 (40)
3. In the last month how often have thoughts about high unemployment given you feelings of fear and worry?	1	2	3	4	29 (41)
4. In the last month have had any bad dreams about high unemployment?	1	2	3	4	30 (42)
5. How much have you learned about unemployment conditions from the following:					

	Nothing	A bit	A fair amount	A lot	
a. Teachers or school	1	2	3	4	31 (43)
b. Newspapers and magazines	1	2	3	4	32 (44)
c. Books	1	2	3	4	33 (45)
d. Television	1	2	3	4	34 (46)
e. Family	1	2	3	4	35 (47)
f. Friends	1	2	3	4	36 (48)

	None	A little	A lot	Total control	
6. How much influence do you feel that you personally can have in changing employment conditions	1	2	3	4	37 (49)

	Nothing	A bit	A fair amount	A lot	
8. How much have you learned about the threat of nuclear war from each of the following:					1 SEQ # 2
a. teachers	1	2	3	4	6 64
b. newspapers and magazines	1	2	3	4	7 65
c. books	1	2	3	4	8 66
d. television	1	2	3	4	9 67
e. family	1	2	3	4	10 68
f. friends	1	2	3	4	11 69

	None	A little	A lot	Total control	
9. How much influence do you feel that you personally can have in preventing nuclear war?	1	2	3	4	12 70
10. How much influence do you feel your parents can have in preventing nuclear war?	1	2	3	4	13 71
11. How much influence do you feel Canada as a nation can have in preventing nuclear war?	1	2	3	4	14 72

	Yes	No	
12. Have you taken any actions to prevent nuclear war?	1	2	15 73
13. Have your parents taken any actions to prevent nuclear war?	1	2	16 74

14. Below are some of the suggestions that have been made about what Canada can do to prevent nuclear war. Do you think the following will help prevent nuclear war?

	Yes	No	Undecided	
a. supporting a nuclear freeze	1	2	9	17 75
b. the West having more nuclear weapons than the Soviets	1	2	9	18 76
c. testing the cruise missile	1	2	9	19 77
d. refusing to test the cruise missile	1	2	9	20 78
e. refusing to manufacture nuclear weapons	1	2	9	21 79
f. do our share of manufacturing nuclear weapons	1	2	9	22 80
g make Canada a nuclear weapon free zone	1	2	9	23 81
h. withdraw from NATO	1	2	9	24 82
i. support NATO	1	2	9	25 83
j. other suggestions you have _____				26

VIII. General

1. Are you aware of what the Government is doing to prevent war of any kind?

Yes	No	Undecided
1	2	3

s 27

In your view, what else should the Government be doing in this regard?

_____

2. Are you aware that Canada is at the disarmament negotiating table in Stockholm, Vienna, Geneva and New York?

Yes	No
1	2

s 28

3. In your view, what is the most important reason why Canada has been at peace for forty years? (circle one)

s 29

(a) Geography

(b) Membership in NATO

(c) Peaceful Nature of Canadians

(d) No External Threat

(e) Other (please specify) _____

4. What do you think is the most important way we can reduce the threat of nuclear war? (circle one)

s 30

(a) Arms Control Negotiations

(b) Unilateral Disarmament

(c) People-to-People Exchanges

(d) Bilateral Disarmament

(e) Other

5. Are you concerned about other forms of warfare?

Yes	No	
1	2	31

If so, which? (circle one only) 32

(a) Conventional Warfare

(b) Chemical Warfare

(c) Other (please specify) _____.

6. What do you feel is the likelihood of nuclear war occurring in your lifetime?

Very Low	Low	Moderate	High	Very High	
1	2	3	4	5	90 33

7. Who do you think is responsible for whatever risk of nuclear war exists today?

USA	USSR	Both USA & USSR	Canada	Other (specify)	
1	2	3	4	5	91 34

8. Would you expect children in the United States to hold the same views of these issues as you do?

Yes	No	
1	2	92 35

9. Would you expect children in the Soviet Union to hold the same views on these issues as you do?

Yes	No	
1	2	93 36

10. Do you think you would survive a nuclear war?

Yes	No	
1	2	94 37

11. Would you want to survive a nuclear war?

Yes	No	
1	2	95 38

12. In your view, is there a greater risk of you being affected by a nuclear war or a non-nuclear war?

Nuclear	Non-Nuclear	
1	2	39

IX. General

1. In the last year have you seen anyone at school for advice or counselling about any of the following:

	Yes	No	
a. choosing courses	1	2	40
b. problems with a class	1	2	41
c. problems with a teacher	1	2	42
d. problems at home	1	2	43
e. personal problems	1	2	44
f. job or career plans	1	2	45
g. worries about unemployment	1	2	46
h. worries about nuclear war	1	2	47

2. In the past year have you seen a counsellor or therapist outside of school about any of the following:

a. choosing courses	1	2	48	105
b. problems with a class	1	2	49	106
c. problems with a teacher	1	2	50	107
d. problems at home	1	2	51	108
e. personal problems	1	2	52	109
f. job or career plans	1	2	53	110
g. worries about unemployment	1	2	54	111
h. worries about nuclear war	1	2	55	112

3. Is there anything you'd like to add? Please use the space below to tell us about your thoughts and feelings.

PLEASE READ EACH QUESTION AND CIRCLE ONE ANSWER.

4. How much difference would your involvement in the following activities make in preventing nuclear war?

	not at all	very little	some	a lot	
a) Thinking about actions that might be taken to prevent nuclear war?	1	2	3	4	56
b) Speaking to a friend or family member about your concerns about nuclear war?	1	2	3	4	57
c) Writing or speaking to a politician or government official about your concerns about nuclear war?	1	2	3	4	58
d) Attending meetings of a peace group?	1	2	3	4	59

5. How much difference would your involvement in the following activities make in dealing with the possibility of nuclear war?

	not at all	very little	some	a lot	
e) Making plans for self or family protection in the event of nuclear war?	1	2	3	4	60
f) Making plans for leaving Vancouver in the event of nuclear war?	1	2	3	4	61
g) Storing food or medicines for use after a nuclear war?	1	2	3	4	62
h) Reading materials or books on how to survive a nuclear war?	1	2	3	4	63
i) Attending meetings/activities about survival?	1	2	3	4	64

11. When something bad is about to happen, there's usually no way to stop it.

T F 37

12. Many of the unhappy things in my life are just due to bad luck.

T F 38

13. What happens to me is my own doing.

T F 39

14. When I work hard for something, I usually get it.

T F 40

15. I can usually find a way to make someone a friend.

T F 41

16. When I fail a test, it's because the teacher asks the wrong questions.

T F 42

X. BACKGROUND INFORMATION

These questions are asked so that we describe the group of students who answered the questionnaire.

A. Your age: _____ years

B. Grade _____

Circle the number that best describes you and fill in the blanks that apply:

C. Sex: 1 male 2 female

Circle the best answer. Choose one.

1. When two children are fighting over the same toy it is a fight over

   (a) needs
   (b) resources
   (c) values
   (d) other
   (e) don't know

2. In a fight between two people there can be

   (a) a winner and a loser
   (b) two winners
   (c) all of these
   (d) don't know

3. Things we do when we're mad

   (a) are always hurtful
   (b) always make other people mad
   (c) are sometimes helpful
   (d) don't know

4. The difference between two countries fighting with each other and two people fighting with each other is

   (a) the kind of things they fight about
   (b) the number of people
   (c) there is no difference
   (d) don't know

5. If a nuclear war were to start, how likely is it that it would stay small and not affect the whole world?

   (a) impossible
   (b) very unlikely
   (c) possible
   (d) very likely
   (e) absolutely certain

6. If a country believes that it is possible to fight and win a Limited Nuclear war it would

(a) be less willing to start a nuclear attack
(b) be more willing to start a nuclear attack
(c) be less concerned about its people
(d) make no difference
(e) don't know

20

7. A country that believes it could fight and win a nuclear war would probably

(a) develop weapons of attack instead of defence
(b) make a strong army of soldiers
(c) develop weapons of defence instead of attack
(d) none of these
(e) don't know

21

8. Cars run on gas. Capitalism runs on

(a) shared ownership
(b) unions
(c) money
(d) Marxism
(e) revolution

22

9. Communism runs on

(a) supply and demand
(b) free trade
(c) competition
(d) private ownership
(e) workers

23

10. Soviet youth my age

(a) want peace as much as we do
(b) never talk or think about nuclear war
(c) want Russia to destroy the rest of the world
(d) don't care about nuclear war
(e) believe they could win a nuclear war

24

11. Two countries in conflict are

(a) Canada and Holland
(b) Germany and England
(c) U.S. and U.S.S.R.
(d) New Zealand and Australia
(e) Rumania and Yugoslavia

25

12. Martin Luther King Jr. was famous for

(a) creating a nuclear bomb
(b) ending the Second World War
(c) the bus boycott
(d) his jazz music

☐ 26

Read each question. If you believe that the statement is true, circle T; if you believe that the statement is false, circle F.

1. I usually get blamed for things even when it's not my fault.

T F ☐ 27

2. When people are good to me, it is usually because of something I did.

T F ☐ 28

3. Even when I work hard for something, I usually don't get it.

T F ☐ 29

4. To matter how hard I try, no one seems to notice the good things I do.

T F ☐ 30

5. When I get a good mark, it's because I worked hard.

T F ☐ 31

6. People have no control over what happens to them.

T F ☐ 32

7. When someone is nice to me, it's because I did the right thing.

T F ☐ 33

8. I believe I can be whatever I want to be when I grow up.

T F ☐ 34

9. No matter how hard I try, some people just don't like me.

T F ☐ 35

10. When I make plans, I can count on them working out.

T F ☐ 36

11. When something bad is about to happen, there's usually no way to stop it.

T F ☐ 37

12. Many of the unhappy things in my life are just due to bad luck.

T F ☐ 38

13. What happens to me is my own doing.

T F ☐ 39

14. When I work hard for something, I usually get it.

T F ☐ 40

15. I can usually find a way to make someone a friend.

T F ☐ 41

16. When I fail a test, it's because the teacher asks the wrong questions.

T F ☐ 42

APPENDIX C

UNIVERSITY QUESTIONNAIRES (BLANK)

NUCLEAR ISSUES SURVEY PROJECT

Research Participation Consent Form for a Follow-Up Period

Investigators Neil Kyle, Ph.D., Department of Psychology
Susan Hargraves, M.A., Faculty of Education
Bryan Hiebert, Ph.D., Faculty of Education
Michael Manley-Casimir, Ph.D., Faculty of Education
Dawn Schell, Faculty of Education
Susan Morris, Faculty of Education

We have appreciated your involvement in the Nuclear Issues Survey Project during this fall semester. It is hoped that with additional funding we will be able to continue the research over a longer follow-up period. In research such as this it is possible to gain extremely valuable information by being able to follow changes or lack of changes in people over extended periods of time. We would greatly appreciate the opportunity to be able to contact you again in about six months. Your involvement would include the completion of a questionnaire similar to the present one. As before, your responses to the questionnaire will be kept strictly confidential. Your participation or your decision not to participate in the future in entirely voluntary and will not be part of your course grade assessment.

If you would be willing to continue your participation in this research beyond the fall semester please complete the following information.

NAME: (Please Print) _____
First Name Last Name

Student Number: _____

Signature: _____

Address: _____

_____

Phone: _____

Person & Phone number that you could be contacted through if necessary:

Name: _____

Phone: _____

SURVEY QUESTIONNAIRE

Note: If you are participating in this study please read and sign the attached consent form.

Name: (please print) _____
First Name Last Name

Student Number: _____

Class: _____

Demographic Information:

Sex: M F (circle one)

Birthdate: _____ Day _____ Month _____ Year Age: _____

Marital Status: Married/Commonlaw _____ Single _____

Other (specify) _____

Do you have children? Yes No If yes, ages: ____ ____ ____ ____

Occupation of principal earner in family:
(Please be specific in name of job) _____

Description of work: _____

Do you have a major (i.e., biology, psychology) Yes No

If yes, please indicate what it is: _____

Are you currently a full time student? Yes No

If no, please indicate your situation: Employed _____ Unemployed _____

Homemaker _____ Other (please specify) _____

If employed, please give occupation: _____

Level of education completed: 0-1 yrs. Univ. _____ 1-2 yrs Univ. _____

3-4 yrs. Univ. _____ Bachelor Degree _____ Other (specify) _____

Current degree of religious activity:

None at all _____

On some or all religious occasions only, i.e., Christmas, Easter, Ramadan _____

Somewhat less than regular attendance _____ Regular attendance _____

Regular attendance plus committees, meetings, etc. _____

In questions 1 - 20, please circle the number in the column whose heading best reflects your opinion. (There are no right or wrong answers to these questions).

For questions 1-4, in the next fifty years, how likely do you think it is that:	very unlikely	unlikely	un-decided	likely	very likely	
(1) a nuclear blast will occur somewhere on earth killing a great number of people (thousands or millions)?	1	2	3	4	5	__ c. 36
(2) a nuclear war will occur between two or more nations?	1	2	3	4	5	__
(3) the United States will be involved in a nuclear war with Russia?	1	2	3	4	5	__
(4) terrorists will plant a nuclear device in a populated area for purposes of extortion or political belief?	1	2	3	4	5	__
(5) How likely do you think it is that you, personally, will die from a nuclear blast or its fallout?	1	2	3	4	5	__
(6) How likely is it that Vancouver could survive a major nuclear war?	1	2	3	4	5	__ c. 41
(7) How likely is it that you could survive a major nuclear war?	1	2	3	4	5	__

	strongly agree	agree	undecided	disagree	strongly disagree	
(8) The United States could engage in a nuclear war with Russia and limit it to whatever size it chose.	1	2	3	4	5	__
(9) If arms control efforts involving the Soviet Union and the United States had been more successful at earlier times, the security of both nations would now be greater.	1	2	3	4	5	__

	strongly agree	agree	undecided	disagree	strongly disagree	
(10) There are causes worth fighting a nuclear war for.	1	2	3	4	5	__ c. 45
(11) Nuclear war can be prevented.	1	2	3	4	5	__
(12) You, yourself, could do something that might aid in the prevention of nuclear war.	1	2	3	4	5	__
(13) If necessary, you would be willing to join the armed forces and help fight a nuclear war to defend your beliefs or those of your country.	1	2	3	4	5	__
(14) The average citizen can have an influence over government decisions about nuclear issues.	1	2	3	4	5	__

For questions 15 19, indicate the extent to which your engagement in the following activities would be effective in preventing nuclear war.

	not at all	very little	some	a lot	
(15) Thinking about actions that might be taken to prevent nuclear war?	1	2	3	4	__
(16) Speaking to a friend or family member about your concerns about nuclear war?	1	2	3	4	__ c. 51
(17) Writing or speaking to a politician or government official about your concerns about nuclear war?	1	2	3	4	__
(18) Participating in public demonstrations or peace marches against nuclear war?	1	2	3	4	__
(19) Attending meetings of a peace or disarmament group?	1	2	3	4	__

For questions 20-24, indicate the extent to which your engagement in the following activities would be effective in dealing with the possibility of nuclear war.

	not at all	very little	some	a lot	
(20) Making plans for self or family protection in the event of nuclear war?	1	2	3	4	__
(21) Making plans for leaving Vancouver in the event of nuclear war?	1	2	3	4	__ c. 56
(22) Stockpiling food or medicines for use after a nuclear war?	1	2	3	4	__
(23) Reading materials or books on how to survive a nuclear war?	1	2	3	4	__
(24) Attending meetings advocating survivalist activities?	1	2	3	4	__

	not at all	a few times	once or twice per week	almost every day	
(25) In the last month how often have thoughts about the threat of nuclear war given you feelings of fear or anxiety?	1	2	3	4	__

	not at all	very little	some	a lot	
(26) To what extent has thinking about threat of nuclear war affected your plans for the future.	1	2	3	4	__ c. 61

6.

To what extent have you done any of the following:

	not at all	very little	some	a lot	
(27) Thought about actions that might be taken to prevent nuclear war?	1	2	3	4	___
(28) Spoken to a friend or family member about your concerns about nuclear war?	1	2	3	4	___
(29) Written or spoken to a politician or government official about your concerns about nuclear war?	1	2	3	4	___
(30) Participated in public demonstrations or peace marches against nuclear war?	1	2	3	4	___
(31) Attended meetings of a peace or disarmament group?	1	2	3	4	___ c. 66
(32) Made plans for self or family protection in the event of nuclear war?	1	2	3	4	___
(33) Made plans for leaving Vancouver in the event of war?	1	2	3	4	___
(34) Stockpiled food or medicines for use after a nuclear war?	1	2	3	4	___
(35) Read materials or books on how to survive a nuclear war?	1	2	3	4	___
(36) Attended meetings advocating survivalist activities?	1	2	3	4	___ c. 71

To what extent is it the responsibility of the following groups or people to act to prevent nuclear war?

	very high responsi-bility	high responsi-bility	moderate responsi-bility	low responsi-bility	very little responsi-bility	
(37) Citizens (like yourself)	1	2	3	4	5	___
(38) Elected representatives	1	2	3	4	5	___
(39) The Prime Minister	1	2	3	4	5	___
(40) Canadian military leaders	1	2	3	4	5	___ c. 75

In questions 41 - 49, please circle the answer you believe to be correct. If you have no idea which answer is correct, please make a guess. It doesn't matter if you don't know some or any of the answers. We are simply interested in finding out how much information people have about these issues.

(41) The biggest modern nuclear bombs (approx. 25 megatons) are how much more powerful than the one that destroyed the city of Hiroshima?	160x	560x	1800x	5800x
(42) How many nuclear warheads are stockpiled worldwide	50	600	5000	50,000
(43) Do peaceful nuclear power plants use technology and material from which nuclear weapons can be made?		yes	no	
(44) How much of the world's stockpile of nuclear weapons do the United States and the Soviet Union own between them?	50%	80%	95%	99%
(45) ccording to former President Carter, what percentage of the United States' nuclear forces would it take to effectively destroy most of Russia's major cities? (1979 figures)	2%	32%	70%	90%
(46) Would bomb shelters offer significant protection in a populated area targeted by a nuclear bomb?		yes	no	
(47) Two large (20 megaton) nuclear bombs detonated over San Francisco would immediately kill what percentage of the city's population?	25%	50%	75%	100%
(48) How many hospital beds are there in Canada and in the United States capable of providing the burn care required by the surviving victims of a nuclear blast?	1,000	10,000	100,000	500,000
(49) How many Federally funded Canadian agencies are devoted to increasing our understanding of arms control and disarmament?	0	2	4	12

THANK YOU FOR YOUR HELP

APPENDIX D

LETTERS TO PARENTS

SIMON FRASER UNIVERSITY

FACULTY OF EDUCATION

BURNABY, BRITISH COLUMBIA V5A 1S6
Telephone: (604) 291-3395

October 1985.

Dear Parent:

The Burnaby School Board and Simon Fraser University are collaborating in a curriculum project on "Conflict and Change" for grade 6 and 7 students. Your child's class has been selected to participate in this pilot project.

In a series of 10 lessons students will explore causes and results of conflict at personal and national levels. At each of these levels students will be asked to suggest ways in which conflict can be resolved without violence or hurting others, and in so doing, to change the widely held notion often reinforced by T.V. and other media, that conflict usually results in violence. Students will draw parallels between - conflict between individuals and conflict between nations - and learn that differences need not necessarily result in hatred or war.

We invite you to attend an Information Meeting at Schou Resource Centre on Thursday, October 17th at 7:30 p.m. to find our more about this project. There will be an opportunity to view audio-visual materials to be used in the lessons and to discuss the lesson content. Bring your questions.

This project grows out of earlier research conducted in Burnaby schools which identified a significant level of concerns students voiced about their futures and the prospect of nuclear war. Our project also has a research base. It seeks to determine whether information which demonstrates that violence is not the only response to conflict will alleviate children's concerns about nuclear war in their future. Before and after the lessons your children will be asked to fill out an anonymous questionnaire that surveys their concerns for their future, if any; their knowledge about conflict-resolution; and their general level of anxiety. The results of this questionnaire will be strictly confidential; your child's name will not appear on the questionnaire forms. No individual questionnaire results will be released. The purpose is not to check any one child's attitudes or knowledge but to obtain information on the attitudes and knowledge of all children.

. . . continued

Part of the project will involve the use of video tape. Some lessons will be taped in order to document the project for others who might want to adopt the same curriculum. We need your consent for your child to be video-taped for this purpose. Participation in this project is entirely voluntary and may be withdrawn at any time.

Participation in the project will have no bearing on your child's regular classroom work or grades. The project has been given unconditional approval by the research committee of the Burnaby School Board and has been examined by the Simon Fraser University Committee on Ethics in Research.

If you do not wish your child to participate in the project or the video-taping fill in the form below and return it to the school by tomorrow. If we do not receive this form, we will assume that your child has your permission to participate.

I hope that you will agree to your child taking part in this project. Your child's participation may have impact on future studies of children in B.C.

Sincerely,

Susan Hargraves

Susan Hargraves,
Research Associate,
Faculty of Education,
Simon Fraser University.

SH/ac

My Child _____ may not participate in the "Conflict and Change" project.

Name: _____ Signature: _____

My child _____ may participate in the project, but not in the video-taping.

Name: _____ Signature: _____

SIMON FRASER UNIVERSITY

FACULTY OF EDUCATION

BURNABY, BRITISH COLUMBIA V5A 1S6
Telephone: (604) 291-3395

October 1985.

Dear Parent:

We will be asking your son or daughter to be a part of a study about student worries and hopes for the future. Each student in the study will spend about one hour filling in a questionnaire sometime in October and again in December. It asks students what they hope for and worry about and what they do about their hopes and worries.

Students will not put their names on the questionnaires so that all information will be private. The results will be used to describe the entire group of students rather than any one person. A report will be made to the Burnaby School Board and you can request a report from them or from us at Simon Fraser University, Faculty of Education.

We think that students will be interested in answering our questions. Your son or daughter will have the choice as to whether or not they would like to participate in the study. Whether or not a student participates will not affect grades or standing in school activities.

If you have reservations and are not prepared to give him/her permission to participte, please sign the form below and return it to the school in the next day or two.

If we do not receive this form, we will assume that your child has your permission to participate.

Yours sincerely,

Susan Hargraves,
Research Associate.

SH/ac

Child's name: _____ may not participate in study, Children's Concerns for the Future.

Name: _____ Signature: _____

December 1985.

Dear Parent:

As you know your child has been participating in a research project conducted by the Burnaby School District and Simon Fraser University. This research project asked students what they hope for and worry about and what they do about their hopes and worries. Students completed questionnaires in October and December.

In order to make comparisons between the students involved in this project and students involved in a similar national study we would like to collect some background information. The information that you give us will be kept strictly confidential. The results will be used to describe the entire group of students rather than any one person.

If you would be willing to assist us in making these kinds of comparisons, please return the questionnaire in the envelope provided. Please do this in the next day or two.

Thank-you for allowing your child to participate in this study and also for your own involvement. A report will be made to the Burnaby School Board and you can request a report from them or from us at Simon Fraser University, Faculty of Education.

Yours sincerely,

Susan Morris
Research Assistant

Dawn Schell
Research Assistant

Background Information

These questions are asked so that we can describe the group of students answered the questionnaires.

A. Was your child born in Canada? __ yes __no, what country? _____

B. Before your child started school what language was spoken at home? (Circle more than one if necessary.)
1. English
2. French
3. Another language _____
Please tell which language

C. People sometimes identify themselves by race and colour. Which category below do you use to describe your immediate family?
1. Black
2. White
3. Native Canadian Indian, Inuit or Metis
4. Asian descent _____
Specify, e.g. Chinese, Japanese, etc.

5. South Asian descent _____
Specify, e.g. East Indian, Pakistan

6. Other _____
Specify, if not included above

D. Does your child live with (choose one):

1. Both parents
2. mother
3. father
4. guardian
5. group home
6. alone

E. What is the child's father's job? _____

Description of work: _____
Is he working now? 1 yes ___ 2 no ___

F. What is the child's mother's job? _____

Description of work: _____
Is she working now? 1 yes ___ 2 no _____

G. If the child lives with a guardian, what is the guardian's job?
_____

Description of work: _____
Is he or she working now? 1 yes _____ 2 no _____

H. Are you and your child are affiliated with a particular religious group?
2 no _____

1 yes _____ name of group _____

Feel free to make any comments about your reactions to our study or your child's participation in our study. Please use reverse side.

Appendix E

Elementary Treatment Group Pretest Frequencies

III. Here are some things others list as hopes. Circle the number that best describes how important each one is to you.

	Not important at all	Somewhat important	Important	Very Important
1. Good grades	1 (.6)	11 (6.5)	39 (23.2)	117 (69.6)
2. A good marriage	9 (5.3)	14 (8.2)	56 (32.9)	91 (53.5)
3. Good friends	1 (.6)	19 (11.2)	67 (39.4)	83 (48.3)
4. Good health	0	6 (3.6)	27 (16.0)	136 (80.5)
5. A good job	1 (.6)	4 (2.4)	51 (30.4)	112 (66.7)
6. An unpolluted environment	10 (6.0)	29 (17.4)	70 (41.9)	58 (34.7)
7. World peace	2 (1.2)	9 (5.3)	28 (16.6)	130 (76.9)
8. Children	14 (8.4)	31 (18.6)	58 (34.7)	64 (38.3)
9. Happiness	3 (1.8)	7(4.1)	48 (28.2)	112 (65.9)

IV. Here are some things others list as worries. Circle the number that best describes how important each one is to you.

1. Violent crime	25 (14.9)	29 (17.3)	59 (35.1)	55 (32.7)
2. My own death	9 (5.4)	22 (13.1)	40 (23.8)	97 (57.7)
3. Bad grades	20 (11.8)	13 (7.7)	40 (23.7)	96 (56.8)
4. Lack of jobs	13 (7.7)	13 (7.7)	66 (39.1)	77 (45.6)
5. My parents' death	4 (2.4)	7 (4.1)	19 (11.2)	140 (82.4)
6. Nuclear war	13 (7.6)	9 (5.3)	37 (21.8)	111 (65.3)
7. Parents' divorce	17 (10.4)	17 (10.4)	48 (29.3)	82 (50.0)
8. Poverty	11 (6.9)	40 (25.0)	61 (38.1)	48 (30.0)
9. Nuclear power plant leaks	15 (9.0)	20 (12.0)	49 (29.3)	83 (49.7)

In the next section we ask what you are doing about some worries. There are no right or wrong answers. We are interested in your experiences and thoughts

V. Concerns about high unemployment rates
Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day
1. In the past month how often have you thought about high unemployment?	52 (30.3)	76 (45.0)	32 (18.9)	9 (5.3)
2. In the last month how often have you talked about high unemployment				
a. at home	66 (40.0)	72 (43.6)	21 (12.7)	6 (3.6)
b. at school	111 (72.5)	34 (22.2)	8 (5.2)	0
c. with your friends	122 (78.2)	21 (13.5)	9 (5.8)	4 (2.6)
3. In the last month how often have thoughts about high unemployment given you feelings of fear and worry?	53 (32.1)	84 (50.9)	20 (12.1)	8 (4.8)
4. In the last month have had any bad dreams about high unemployment?	150(88.8)	13 (7.7)	5 (3.0)	1 (.6)
5. How much have you learned about unemployment conditions from the following:				
	Nothing	A bit	A fair amount	A lot
a. Teachers or school	48 (29.6)	72 (44.4)	32 (19.8)	10 (6.2)
b. Newspapers and magazines	35 (21.5)	62 (38.0)	45 (27.6)	21 (12.9)
c. Books	75 (47.8)	56 (35.7)	14 (8.9)	12 (7.6)
d. Television	15 (9.3)	36 (22.2)	56 (34.6)	55 (34.0)
e. Family	32 (19.5)	58 (35.4)	36 (22.0)	38 (23.2)
f. Friends	91 (56.5)	39 (24.2)	20 (12.4)	11 (6.8)
	None	A little	A lot	Total control
6. How much influence do you feel that you personally can have in changing employment conditions	48 (29.1)	86 (52.1)	23 (13.9)	8 (4.8)

	None	A little	A lot	Total control
7. How much influence do you think your parents can have in changing employment conditions?	26 (15.5)	92 (54.8)	45 (26.8)	5 (3.0)
8. How much influence do you feel the Canadian government can have in changing employment conditions?	7 (4.2)	23 (13.9)	70 (42.4)	65 (39.4)

VI. Concerns about job and career plans

Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day
1. In the last month, how often have you thought about job and career plans?	21 (12.4)	77 (45.6)	46 (27.2)	25 (14.8)
2. In the last month, how often have you talked about job and career plans?				
a. at home	52 (31.7)	68 (41.5)	33 (20.1)	11 (6.7)
b. at school	90 (58.1)	50 (32.3)	14 (9.0)	1 (.6)
c. with friends	72 (45.6)	62 (39.2)	15 (9.5)	9 (5.7)
3. In the last month how often have job and career plans given you feelings of fear or worry?	85 (50.9)	56 (33.5)	21 (12.6)	5 (3.0)
4. In the last month have you had any dreams related to job and career plans?	110 (65.5)	40 (23.8)	12 (7.1)	6 (3.6)

5. How much have you learned about job and career possibilities from each of the following?

	Nothing	A bit	A fair amount	A lot
a. teachers or school	50 (30.7)	75 (46.0)	28 (17.2)	10 (6.1)
b. Newspapers and magazines	46 (28.2)	70 (42.9)	35 (21.5)	12 (7.4)
c. Books	68 (42.8)	68 (42.8)	13 (8.2)	10 (6.3)
d. Television	23 (14.2)	50 (30.9)	53 (32.7)	36 (22.2)
e. Family	22 (13.6)	57 (35.2)	49 (30.2)	34 (21.0)
f. Friends	85 (52.1)	51 (31.3)	17 (10.4)	10 (6.1)

	None	A little	A lot	Total control
6. How much influence do you feel you personally have in making your job or career plans work out?	11 (6.5)	55 (32.4)	84 (49.4)	20 (11.8)
7. How much influence do you think your parents can have in making your job and career plans work out?	13 (7.7.)	67 (39.9)	79 (47.0)	9 (5.4)
8. How much influence do teachers and schools have in making your career plans work out?	27 (16.0)	61 (36.1)	63 (37.3)	18 (10.7)

VII. Concerns about the threat of nuclear war

Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day
1. In the last month how often have you thought about the threat of nuclear war?	47 (27.8)	71 (42.0)	27 (16.0)	24 (14.2)
2. In the last month how often have you talked about the threat of nuclear war				
a. at home	78 (47.3)	66 (40.0)	16 (9.7)	5 (3.0)
b. at school	63 (39.1)	73 (45.3)	23 (14.3)	2 (1.2)
c. with friends	101 (64.7)	46 (29.5)	7 (4.5)	2 (1.3)
3. In the last month how often have thoughts about the threat of nuclear war given you feelings of fear or worry?	61 (36.1)	64 (37.9)	25 (14.8)	19 (11.2)
4. In the last month have you had any had dreams about nuclear war?	126 (75.0)	21 (12.5)	15 (8.9)	6 (3.6)
	Not at all	Very little	Some	A lot
5. Thinking about the threat of nuclear war has affected my plans for the future	50 (29.6)	56 (33.1)	41 (24.3)	22 (13.0)
6. Thinking about the threat of nuclear war makes me wonder if I really want to get married and have children some day	85 (50.6)	33 (19.6)	33 (19.6)	17 (10.1)
7. Thinking about the threat of nuclear war makes me want to live only for today and forget about the future	111 (65.7)	30 (17.8)	17 (10.1)	11 (6.5)

	Nothing	A bit	A fair amount	A lot
8. How much have you learned about the threat of nuclear war from each of the following:				
a. teachers	38 (23.3)	69 (42.3)	44 (27.0)	12 (7.4)
b. newspapers and magazines	35 (21.7)	61 (37.9)	44 (27.3)	21 (13.0)
c. books	66 (41.5)	61 (38.4)	22 (13.8)	10 (6.3)
d. television	10 (6.2)	39 (24.2)	59 (36.6)	53 (32.9)
e. family	38 (23.6)	68 (42.2)	34 (21.1)	21 (13.0)
f. friends	94 (58.4)	46 (28.6)	13 (8.1)	8 (5.0)

	None	A little	A lot	Total control
9. How much influence do you feel that you personally can have in preventing nuclear war?	72 (43.6)	59 (35.8)	31 (18.8)	3 (1.8)
10. How much influence do you feel your parents can have in preventing nuclear war?	58 (35.4)	74 (45.1)	30 (18.3)	2 (1.2)
11. How much influence do you feel Canada as a nation can have in preventing nuclear war?	12 (7.3)	44 (26.7)	84 (50.9)	25 (15.2)

	Yes	No
12. Have you taken any actions to prevent nuclear war?	30 (18.1)	136 (81.9)
13. Have your parents taken any actions to prevent nuclear war?	25 (15.6)	135 (84.4)

14. Below are some of the suggestions that have been made about what Canada can do to prevent nuclear war. Do you think the following will help prevent nuclear war?

	Yes	No	Undecided
a. supporting a nuclear freeze	77 (48.7)	35 (22.2)	46 (29.1)
b. the West having more nuclear weapons than the Soviets	21 (12.8)	114 (69.5)	29 (17.7)
c. testing the cruise missile	20 (12.2)	122 (74.4)	22 (13.4)
d. refusing to test the cruise missile	98 (61.2)	33 (20.6)	29 (18.1)
e. refusing to manufacture nuclear weapons	107 (66.5)	30 (18.6)	24 (14.9)
f. do our share of manufacturing nuclear weapons	28 (17.3)	107 (66.0)	27 (16.7)
g make Canada a nuclear weapon free zone	87 (53.7)	47 (29.0)	28 (17.3)
h. withdraw from NATO	31 (19.1)	87 (53.7)	44 (27.2)
i. support NATO	72 (44.4)	38 (23.5)	52 (32.1)
j. other suggestions you have			

VIII. General

1. Are you aware of what the Government is doing to prevent war of any kind?

Yes	No	Undecided
55 (32.7)	90 (53.6)	23 (13.7)

In your view, what else should the Government be doing in this regard?

_____

2. Are you aware that Canada is at the disarmament negotiating table in Stockholm, Vienna, Geneva and New York?

Yes	No
22 (13.5)	141 (86.5)

3. In your view, what is the most important reason why Canada has been at peace for forty years? (circle one)

(a)	Geography	6 (3.7)
(b)	Membership in NATO	23 (14.3)
(c)	Peaceful Nature of Canadians	80 (49.7)
(d)	No External Threat	40 (24.8)
(e)	Other (please specify)	12 (7.5)

4. What do you think is the most important way we can reduce the threat of nuclear war? (circle one)

(a)	Arms Control Negotiations	20 (12.4)
(b)	Unilateral Disarmament	11 (6.8)
(c)	People-to-People Exchanges	23 (14.3)
(d)	Bilateral Disarmament	81 (50.3)
(e)	Other	26 (16.1)

5. Are you concerned about other forms of warfare?

Yes	No
104 (64.6)	57 (35.4)

If so, which? (circle one only)

(a) Conventional Warfare 24 (21.1)

(b) Chemical Warfare 81 (71.1)

(c) Other (please specify) 9 (7.9) _____.

6. What do you feel is the likelihood of nuclear war occurring in your lifetime?

Very Low	Low	Moderate	High	Very High
22 (13.3)	27 (16.3)	83 (50.0)	23 (13.9)	11 (6.6)

7. Who do you think is responsible for whatever risk of nuclear war exists today?

USA	USSR	Both USA & USSR	Canada	Other (specify)
9 (5.5)	19 (11.6)	113 (68.9)	3 (1.8)	20 (12.2)

8. Would you expect children in the United States to hold the same views of these issues as you do?

Yes	No
109 (67.3)	53 (32.7)

9. Would you expect children in the Soviet Union to hold the same views on these issues as you do?

Yes	No
95 (59.4)	65 (40.6)

10. Do you think you would survive a nuclear war?

Yes	No
21 (13.0)	140 (87.0)

11. Would you want to survive a nuclear war?

Yes	No
71 (44.1)	90 (55.9)

12. In your view, is there a greater risk of you being affected by a nuclear war or a non-nuclear war?

Nuclear	Non-Nuclear
102 (68.0)	48 (32.0)

IX. General

1. In the last year have you seen anyone at school for advice or counselling about any of the following:

	Yes	No
a. choosing courses	21 (13.3)	137 (86.7)
b. problems with a class	47 (29.4)	113 (70.6)
c. problems with a teacher	42 (26.4)	117 (73.6)
d. problems at home	32 (20.1)	127 (79.9)
e. personal problems	52 (32.5)	109 (67.5)
f. job or career plans	20 (12.7)	138 (87.3)
g. worries about unemployment	22 (13.7)	138 (86.2)
h. worries about nuclear war	44 (27.5)	116 (72.5)

2. In the past year have you seen a counsellor or therapist outside of school about any of the following:

a. choosing courses	11 (7.0)	147 (93.0)
b. problems with a class	19 (11.9)	140 (88.1)
c. problems with a teacher	18 (11.4)	140 (88.6)
d. problems at home	26 (16.5)	132 (83.5)
e. personal problems	31 (19.4)	129 (80.6)
f. job or career plans	17 (10.7)	142 (89.3)
g. worries about unemployment	18 (11.3)	141 (88.7)
h. worries about nuclear war	29 (18.2)	130 (81.8)

3. Is there anything you'd like to add? Please use the space below to tell us about your thoughts and feelings.

PLEASE READ EACH QUESTION AND CIRCLE ONE ANSWER.

4. How much difference would your involvement in the following activities make in preventing nuclear war?

	not at all	very little	some	a lot
a) Thinking about actions that might be taken to prevent nuclear war?	42(26.2)	56(35.0)	43(26.9)	19 (11.9)
b) Speaking to a friend or family member about your concerns about nuclear war?	67(41.3)	50(31.3)	37(23.1)	6(3.7)
c) Writing or speaking to a politician or government official about your concerns about nuclear war?	54(34.0)	43(27.0)	50 (31.4)	12(7.5)
d) Attending meetings of a peace group?	66(41.0)	32(19.9)	43(26.7)	20(12.4)

5. How much difference would your involvement in the following activities make in dealing with the possibility of nuclear war?

	not at all	very little	some	a lot
e) Making plans for self or family protection in the event of nuclear war?	58(37.2)	43(27.6)	38(24.4)	17(10.9)
f) Making plans for leaving Vancouver in the event of nuclear war?	83(52.9)	36(22.9)	34(21.7)	4(2.5)
g) Storing food or medicines for use after a nuclear war?	61(38.4)	39(24.5)	34(21.4)	25(15.7)
h) Reading materials or books on how to survive a nuclear war?	70(44.3)	38(24.1)	30(19.0)	20(12.7)
i) Attending meetings/activities about survival?	69(43.4)	37(23.3)	35(22.0)	18(11.3)

Appendix F

Elementary Control Group Pretest Frequencies

III. Here are some things others list as hopes. Circle the number that best describes how important each one is to you.

	Not important at all	Somewhat important	Important	Very Important
1. Good grades	1 (.7)	1 (.7)	30 (22.4)	102(76.1)
2. A good marriage	3 (2.2)	2(1.5)	34(25.4)	95(70.9)
3. Good friends	1(0.8)	1(0.8)	45(33.8)	86(64.7)
4. Good health	0	2(1.5)	17(12.7)	115(85.8)
5. A good job	1(0.7)	1(0.7)	29(21.6)	103(76.9)
6. An unpolluted environment	4(3.0)	25(18.7)	45(33.6)	60(44.8)
7. World peace	1(.7)	5(3.7)	22(16.4)	106(79.1)
8. Children	7(5.2)	16(11.9)	40(29.9)	71(53.0)
9. Happiness	2(1.5)	1(0.7)	27(20.1)	104(77.6)

IV. Here are some things others list as worries. Circle the number that best describes how important each one is to you.

1. Violent crime	10(7.6)	17(13.0)	41(31.3)	63(48.1)
2. My own death	8(6.2)	22(16.9)	36(27.7)	64(49.2)
3. Bad grades	12(9.2)	6(4.6)	27(20.8)	85(65.4)
4. Lack of jobs	4(3.1)	11(8.5)	36(27.7)	79(60.8)
5. My parents' death	3(2.3)	0	13(9.9)	115(87.8)
6. Nuclear war	6(4.6)	6(4.6)	20(15.3)	99(75.6)
7. Parents' divorce	11(8.5)	5(3.9)	29(22.5)	84(65.1)
8. Poverty	7(5.6)	10(8.0)	62(49.6)	46(36.8)
9. Nuclear power plant leaks	10(7.6)	21(16.0)	38(29.0)	62(47.3)

In the next section we ask what you are doing about some worries. There are no right or wrong answers. We are interested in your experiences and thoughts

V. Concerns about high unemployment rates

Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day
1. In the past month how often have you thought about high unemployment?	42(31.6)	62(46.6)	24(18.0)	5(3.8)
2. In the last month how often have you talked about high unemployment				
a. at home	66(51.2)	42(32.6)	18(14.0)	3(2.3)
b. at school	86(71.1)	25(20.7)	8(6.6)	2(1.7)
c. with your friends	89(71.2)	26(21.0)	6(4.8)	3(2.4)
3. In the last month how often have thoughts about high unemployment given you feelings of fear and worry?	56(42.4)	56(42.4)	14(10.6)	6(4.5)
4. In the last month have had any bad dreams about high unemployment?	122(92.4)	7(5.3)	2(1.5)	1(0.8)
5. How much have you learned about unemployment conditions from the following:				

	Nothing	A bit	A fair amount	A lot
a. Teachers or school	39(30.5)	59(46.1)	22(17.2)	8(6.3)
b. Newspapers and magazines	27(20.8)	39(30.0)	43(33.1)	21(16.2)
c. Books	59(45.7)	43(33.3)	24(18.6)	3(2.3)
d. Television	13(9.9)	33(25.2)	34(26.0)	51(38.9)
e. Family	27(20.9)	36(27.9)	30(23.3)	36(27.9)
f. Friends	81(63.3)	32(25.0)	8(6.3)	7(5.5)

	None	A little	A lot	Total control
6. How much influence do you feel that you personally can have in changing employment conditions	40(30.3)	67(50.8)	20(15.2)	5(3.8)

	None	A little	A lot	Total control
7. How much influence do you think your parents can have in changing employment conditions?	20(15.2)	85(64.4)	25(18.9)	2(1.5)
8. How much influence do you feel the Canadian government can have in changing employment conditions?	7(5.3)	15(11.3)	55(41.4)	56(42.1)

VI. Concerns about job and career plans
Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day
1. In the last month, how often have you thought about job and career plans?	12(9.0)	55(41.0)	36(26.9)	31(23.1)
2. In the last month, how often have you talked about job and career plans?				
a. at home	32(24.4)	67(51.5)	23(17.6)	9(6.9)
b. at school	81(64.3)	39(31.0)	4(3.2)	2(1.6)
c. with friends	55(42.3)	64(49.2)	8(6.2)	3(2.3)
3. In the last month how often have job and career plans given you feelings of fear or worry?	60(45.5)	51(38.6)	15(11.4)	6(4.5)
4. In the last month have you had any dreams related to job and career plans?	98(77.2)	22(17.3)	2(1.6)	5(3.9)

5. How much have you learned about job and career possibilities from each of the following?	Nothing	A bit	A fair amount	A lot
a. teachers or school	50(38.2)	55(42.0)	25(19.1)	1(0.8)
b. Newspapers and magazines	30(22.7)	53(40.2)	39(29.5)	10(7.6)
c. Books	54(41.2)	44(33.6)	24(18.3)	9(6.9)
d. Television	22(16.9)	39(30.0)	40(30.8)	29(22.3)
e. Family	16(12.2)	39(29.8)	44(33.6)	32(24.4)
f. Friends	74(56.1)	41(31.1)	11(8.3)	6(4.5)

	None	A little	A lot	Total control
6. How much influence do you feel you personally have in making your job or career plans work out?	4(3.1)	26(19.8)	77(58.8)	24(18.3)
7. How much influence do you think your parents can have in making your job and career plans work out?	8(6.1)	49(37.4)	68(51.9)	6(4.6)
8. How much influence do teachers and schools have in making your career plans work out?	18(13.8)	45(34.6)	59(45.4)	8(6.2)

VII. Concerns about the threat of nuclear war

Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day
1. In the last month how often have you thought about the threat of nuclear war?	34(25.8)	63(47.7)	23(17.4)	12(9.1)
2. In the last month how often have you talked about the threat of nuclear war				
a. at home	69(54.3)	47(37.0)	9(7.1)	2(1.6)
b. at school	83(65.4)	36(28.3)	7(5.5)	1(0.8)
c. with friends	84(65.6)	39(30.5)	3(2.3)	2(1.6)
3. In the last month how often have thoughts about the threat of nuclear war given you feelings of fear or worry?	40(30.8)	63(48.5)	19(14.6)	8(6.2)
4. In the last month have you had any had dreams about nuclear war?	100(78.1)	20(15.6)	5(3.9)	3(2.3)
	Not at all	Very little	Some	A lot
5. Thinking about the threat of nuclear war has affected my plans for the future ____	62(47.3)	36(27.5)	26(19.8)	7(5.3)
6. Thinking about the threat of nuclear war makes me wonder if I really want to get married and have children some day	80(61.1)	29(22.1)	13(9.9)	9(6.9)
7. Thinking about the threat of nuclear war makes me want to live only for today and forget about the future ___	92(69.7)	23(17.4)	10(7.6)	7(5.3)

	Nothing	A bit	A fair amount	A lot
8. How much have you learned about the threat of nuclear war from each of the following:				
a. teachers	46(35.1)	61(46.6)	22(16.8)	2(1.5)
b. newspapers and magazines	24(18.5)	39(30.0)	47(36.2)	20(15.4)
c. books	58(44.3)	46(35.1)	20(15.3)	7(5.3)
d. television	16(12.1)	27(20.5)	52(39.4)	37(28.0)
e. family	23(17.7)	51(39.2)	44(33.8)	12(9.2)
f. friends	82(62.6)	40(30.5)	7(5.3)	2 (1.5)

	None	A little	A lot	Total control
9. How much influence do you feel that you personally can have in preventing nuclear war?	75(56.0)	48(35.8)	10(7.5)	1(0.7)
10. How much influence do you feel your parents can have in preventing nuclear war?	59(44.0)	58(43.3)	16(11.9)	1(0.7)
11. How much influence do you feel Canada as a nation can have in preventing nuclear war?	9(6.8)	37(28.0)	79(59.8)	7(5.3)

	Yes	No
12. Have you taken any actions to prevent nuclear war?	8(6.0)	125(94.0)
13. Have your parents taken any actions to prevent nuclear war?	11(8.5)	119(91.5)

14. Below are some of the suggestions that have been made about what Canada can do to prevent nuclear war. Do you think the following will help prevent nuclear war?

	Yes	No	Undecided
a. supporting a nuclear freeze	61(46.9)	36(27.7)	33(25.4)
b. the West having more nuclear weapons than the Soviets	16(12.2)	89(67.9)	26(19.8)
c. testing the cruise missile	22(17.1)	92(71.3)	15(11.6)
d. refusing to test the cruise missile	31(62.8)	30(23.3)	18(14.0)
e. refusing to manufacture nuclear weapons	85(65.9)	33(25.6)	11(8.5)
f. do our share of manufacturing nuclear weapons	18(14.0)	92(71.3)	19(14.7)
g make Canada a nuclear weapon free zone	68(53.1)	37(28.9)	23(18.0)
h. withdraw from NATO	28(21.5)	83(63.8)	19(14.6)
i. support NATO	81(60.9)	26(19.5)	26(19.5)

j. other suggestions you have _____

_____

VIII. General

1. Are you aware of what the Government is doing to prevent war of any kind?

Yes	No	Undecided
44(32.8)	67(50.0)	23(17.2)

In your view, what else should the Government be doing in this regard?

_____

2. Are you aware that Canada is at the disarmament negotiating table in Stockholm, Vienna, Geneva and New York?

Yes	No
17(13.4)	110(86.6)

3. In your view, what is the most important reason why Canada has been at peace for forty years? (circle one)

(a)	Geography	2(1.5)
(b)	Membership in NATO	25(19.2)
(c)	Peaceful Nature of Canadians	64(49.2)
(d)	No External Threat	33(25.4)
(e)	Other (please specify)	6(4.6)

4. What do you think is the most important way we can reduce the threat of nuclear war? (circle one)

(a)	Arms Control Negotiations	21(16.2)
(b)	Unilateral Disarmament	10(7.7)
(c)	People-to-People Exchanges	15(11.5)
(d)	Bilateral Disarmament	77(59.2)
(e)	Other	7(5.4)

5. Are you concerned about other forms of warfare?

Yes	No
77(58.3)	55(41.7)

If so, which? (circle one only)

(a) Conventional Warfare 19(23.5)

(b) Chemical Warfare 50(61.7)

(c) Other (please specify) 12(14.8) _____

6. What do you feel is the likelihood of nuclear war occurring in your lifetime?

Very Low	Low	Moderate	High	Very High
22(16.7)	27(20.5)	61(46.2)	17(12.9)	5(3.8)

7. Who do you think is responsible for whatever risk of nuclear war exists today?

USA	USSR	Both USA & USSR	Canada	Other (specify)
3(2.3)	22(16.9)	97(74.6)	0	8(6.2)

8. Would you expect children in the United States to hold the same views of these issues as you do?

Yes	No
79(60.3)	52(39.7)

9. Would you expect children in the Soviet Union to hold the same views on these issues as you do?

Yes	No
64(49.2)	66(50.8)

10. Do you think you would survive a nuclear war?

Yes	No
23(17.7)	107(82.3)

11. Would you want to survive a nuclear war?

Yes	No
60(46.2)	70(53.8)

12. In your view, is there a greater risk of you being affected by a nuclear war or a non-nuclear war?

Nuclear	Non-Nuclear
86(68.8)	39(31.2)

IX. General

1. In the last year have you seen anyone at school for advice or counselling about any of the following:

	Yes	No
a. choosing courses	11(8.6)	117(91.4)
b. problems with a class	39(30.5)	89(69.5)
c. problems with a teacher	30(23.1)	100(76.9)
d. problems at home	27(20.9)	102(79.1)
e. personal problems	25(19.4)	104(80.6)
f. job or career plans	15(11.7)	113(88.3)
g. worries about unemployment	10(7.8)	118(92.2)
h. worries about nuclear war	24(18.6)	105(81.4)

2. In the past year have you seen a counsellor or therapist outside of school about any of the following:

a. choosing courses	11(8.5)	118(91.5)
b. problems with a class	15(11.6)	114(88.4)
c. problems with a teacher	9(6.9)	121(93.1)
d. problems at home	13(10.1)	116(89.9)
e. personal problems	16(12.4)	113(87.6)
f. job or career plans	9(6.9)	121(93.1)
g. worries about unemployment	9(7.0)	120(93.0)
h. worries about nuclear war	11(8.6)	117(91.4)

3. Is there anything you'd like to add? Please use the space below to tell us about your thoughts and feelings.

PLEASE READ EACH QUESTION AND CIRCLE ONE ANSWER.

4. How much difference would your involvement in the following activities make in preventing nuclear war?

	not at all	very little	some	a lot
a) Thinking about actions that might be taken to prevent nuclear war?	40(31.5)	38(29.9)	43(39.9)	6(4.7)
b) Speaking to a friend or family member about your concerns about nuclear war?	47(37.0)	57(44.9)	20(15.7)	3(2.4)
c) Writing or speaking to a politician or government official about your concerns about nuclear war?	43(33.9)	34(26.8)	35(27.6)	15(11.3)
d) Attending meetings of a peace group?	45(35.4)	33(26.0)	36(28.3)	13(10.2)

5. How much difference would your involvement in the following activities make in dealing with the possibility of nuclear war?

	not at all	very little	some	a lot
e) Making plans for self or family protection in the event of nuclear war?	39(31.0)	39(31.0)	29(23.0)	19(15.1)
f) Making plans for leaving Vancouver in the event of nuclear war?	55(44.0)	34(27.2)	24(19.2)	12(9.6)
g) Storing food or medicines for use after a nuclear war?	40(32.0)	29(23.2)	32(25.6)	24(19.2)
h) Reading materials or books on how to survive a nuclear war?	38(30.4)	37(29.6)	36(28.8)	14(11.2)
i) Attending meetings/activities about survival?	37(29.4)	31(24.6)	3(26.2)	25(19.5)

Appendix G
Elementary Treatment Group Posttest Frequencies

III. Here are some things others list as hopes. Circle the number that best describes how important each one is to you.

	Not important at all	Somewhat important	Important	Very Important
1. Good grades	0	3(2.9)	25 (24.5)	74 (72.5)
2. A good marriage	3 (2.9)	7 (6.9)	27 (26.5)	65 (63.7)
3. Good friends	0	5 (4.9)	34 (33.3)	63 (61.3)
4. Good health	0	1 (1.0)	13 (12.9)	87 (86.1)
5. A good job	1 (1.0)	1 (1.0)	24 (23.5)	76 (74.5)
6. An unpolluted environment	5 (4.9)	18 (17.6)	39 (38.2)	40 (39.2)
7. World peace	1 (1.0)	6 (5.9)	9 (8.8)	86 (84.3)
8. Children	4 (3.9)	16 (15.7)	38 (37.3)	44 (43.1)
9. Happiness	0	4 (3.9)	18 (17.6)	80 (78.4)

IV. Here are some things others list as worries. Circle the number that best describes how important each one is to you.

1. Violent crime	11 (11.0)	15 (15.0)	38 (38.0)	36 (36.0)
2. My own death	9 (8.9)	11 (10.9)	28 (27.7)	53 (52.5)
3. Bad grades	12 (12.0)	7 (7.0)	21 (21.0)	60 (60.0)
4. Lack of jobs	10 (9.9)	8 (7.9)	31 (30.7)	52 (51.5)
5. My parents' death	4 (4.0)	6 (5.9)	9 (8.9)	82 (81.2)
6. Nuclear war	6 (6.1)	6 (6.1)	12 (12.1)	75 (75.8)
7. Parents' divorce	16 (15.8)	8 (7.9)	22 (21.8)	55 (54.5)
8. Poverty	9 (9.4)	16 (16.7)	34 (35.4)	37 (38.5)
9. Nuclear power plant leaks	11 (10.9)	5 (5.0)	27 (26.7)	58 (57.4)

In the next section we ask what you are doing about some worries. There are no right or wrong answers. We are interested in your experiences and thoughts

V. Concerns about high unemployment rates
Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day
1. In the past month how often have you thought about high unemployment?	53 (52.5)	27 (26.7)	17 (16.8)	4 (4.0)
2. In the last month how often have you talked about high unemployment				
a. at home	56 (57.1)	32 (32.7)	7 (7.1)	3 (3.1)
b. at school	52 (55.3)	36 (38.3)	3 (3.2)	3 (3.2)
c. with your friends	82 (86.3)	10 (10.5)	2 (2.1)	1 (1.1)
3. In the last month how often have thoughts about high unemployment given you feelings of fear and worry?	52 (51.5)	32 (31.7)	13 (12.9)	4 (4.0)
4. In the last month have had any bad dreams about high unemployment?	95 (94.1)	5 (5.0)	0	1 (1.0)

5. How much have you learned about unemployment conditions from the following:

	Nothing	A bit	A fair amount	A lot
a. Teachers or school	31 (31.0)	49 (49.0)	17 (17.0)	3 (3.0)
b. Newspapers and magazines	25 (25.0)	35 (35.0)	34 (34.0)	6 (6.0)
c. Books	52 (52.0)	28 (28.0)	14 (14.0)	6 (6.0)
d. Television	10 (10.1)	31 (31.3)	33 (33.3)	25 (25.3)
e. Family	29 (28.7)	35 (34.7)	19 (18.8)	18 (17.8)
f. Friends	72 (71.3)	21 (20.8)	4 (4.0)	4 (4.0)

	None	A little	A lot	Total control
6. How much influence do you feel that you personally can have in changing employment conditions	33 (33.0)	46 (46.5)	20 (20,2)	0

	None	A little	A lot	Total control
7. How much influence do you think your parents can have in changing employment conditions?	22 (21.3)	50 (49.5)	28 (27.7)	1 (1.0)
8. How much influence do you feel the Canadian government can have in changing employment conditions?	8 (7.9)	13 (12.9)	46 (45.5)	34 (33.7)

VI. Concerns about job and career plans
Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day
1. In the last month, how often have you thought about job and career plans?	14 (13.9)	55 (54.5)	22 (21.8)	10 (9.9)
2. In the last month, how often have you talked about job and career plans?				
a. at home	27 (26.7)	46 (45.5)	22 (21.8)	6 (5.9)
b. at school	61 (62.9)	31 (32.0)	4 (4.1)	1 (1.0)
c. with friends	51 (52.6)	36 (37.1)	9 (9.3)	1 (1.0)
3. In the last month how often have job and career plans given you feelings of fear or worry?	56 (55.4)	39 (38.6)	3 (3.0)	3 (3.0)
4. In the last month have you had any dreams related to job and career plans?	73 (73.7)	23 (23.2)	1 (1.0)	2 (2.0)

5. How much have you learned about job and career possibilities from each of the following?	Nothing	A bit	A fair amount	A lot
a. teachers or school	33 (33.3)	54 (54.5)	12 (12.1)	0
b. Newspapers and magazines	31 (31.3)	35 (35.3)	24 (24.2)	9 (9.1)
c. Books	47 (48.0)	30 (30.6)	17 (17.3)	4 (4.1)
d. Television	16 (16.3)	34 (34.7)	25 (25.5)	23 (23.5)
e. Family	17 (17.3)	40 (40.8)	23 (23.5)	18 (18.4)
f. Friends	61 (61.6)	30 (30.3)	5 (5.1)	3 (3.0)

	None	A little	A lot	Total control
6. How much influence do you feel you personally have in making your job or career plans work out?	13 (13.1)	26 (26.3)	46 (46.5)	14 (14.1)
7. How much influence do you think your parents can have in making your job and career plans work out?	10 (10.1)	45 (45.5)	39 (39.4)	5 (5.1)
8. How much influence do teachers and schools have in making your career plans work out?	21 (21.2)	35 (35.4)	35 (35.4)	8 (8.1)

VII. Concerns about the threat of nuclear war

Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day
1. In the last month how often have you thought about the threat of nuclear war?	12 (11.9)	47 (46.5)	24 (23.8)	18 (17.8)
2. In the last month how often have you talked about the threat of nuclear war				
a. at home	39 (39.0)	48 (48.0)	8 (8.0)	5 (5.0)
b. at school	5 (5.1)	17 (17.2)	54 (54.5)	23 (23.2)
c. with friends	49 (49.5)	37 (37.4)	11 (11.1)	2 (2.0)
3. In the last month how often have thoughts about the threat of nuclear war given you feelings of fear or worry?	25 (25.0)	49 (49.0)	22 (22.0)	4 (4.0)
4. In the last month have you had any had dreams about nuclear war?	79 (79.8)	13 (13.1)	2 (2.0)	5 (5.1)

	Not at all	Very little	Some	A lot
5. Thinking about the threat of nuclear war has affected my plans for the future	34(34.7)	30 (30.6)	22 (22.4)	12 (12.2)
6. Thinking about the threat of nuclear war makes me wonder if I really want to get married and have children some day	42(42.4)	26 (26.3)	20 (20.2)	11 (11.1)
7. Thinking about the threat of nuclear war makes me want to live only for today and forget about the future	60(60.0)	18 (18.0)	14 (14.0)	8 (8.0)

	Nothing	A bit	A fair amount	A lot
8. How much have you learned about the threat of nuclear war from each of the following:				
a. teachers	4 (4.0)	17 (17.0)	37 (37.0)	42 (42.0)
b. newspapers and magazines	21(21.0)	37 (37.0)	32 (32.0)	10 (10.0)
c. books	45 (45.5)	31 (31.3)	13 (13.1)	10 (10.1)
d. television	9 (9.0)	32 (32.0)	34 (34.0)	25 (25.0)
e. family	27 (27.8)	40 (41.2)	15 (15.5)	15 (15.5)
f. friends	61 (61.0)	27 (27.0)	7 (7.0)	5 (5.0)

	None	A little	A lot	Total control
9. How much influence do you feel that you personally can have in preventing nuclear war?	35 (35.7)	46 (46.9)	15 (15.3)	2 (2.0)
10. How much influence do you feel your parents can have in preventing nuclear war?	35 (36.1)	50 (51.5)	11 (11.3)	1 (1.0)
11. How much influence do you feel Canada as a nation can have in preventing nuclear war?	11 (11.2)	19 (19.4)	58 (59.2)	10 (10.2)

	Yes	No
12. Have you taken any actions to prevent nuclear war?	21 (22.1)	74 (77.9)
13. Have your parents taken any actions to prevent nuclear war?	11 (11.6)	84 (88.4)

14. Below are some of the suggestions that have been made about what Canada can do to prevent nuclear war. Do you think the following will help prevent nuclear war?

	Yes	No	Undecided
a. supporting a nuclear freeze	46 (46.9)	21 (21.4)	31 (31.6)
b. the West having more nuclear weapons than the Soviets	8 (8.1)	81 (81.8)	10 (10.1)
c. testing the cruise missile	9 (9.1)	75 (75.8)	15 (15.2)
d. refusing to test the cruise missile	58(58.6)	20 (20.2)	21 (21.2)
e. refusing to manufacture nuclear weapons	66 (67.3)	16 (16.3)	16 (16.3)
f. do our share of manufacturing nuclear weapons	12 (12.4)	67 (69.1)	18 (18.6)
g make Canada a nuclear weapon free zone	66 (68.0)	17 (17.5)	14 (14.4)
h. withdraw from NATO	13 (12.7)	69 (67.6)	20 (19.6)
i. support NATO	61 (60.4)	18 (17.8)	22 (21.8)
j. other suggestions you have			

VIII. General

1. Are you aware of what the Government is doing to prevent war of any kind?

Yes	No	Undecided
29 (28.7)	52 (51.5)	20 (19.8)

In your view, what else should the Government be doing in this regard?

_____

2. Are you aware that Canada is at the disarmament negotiating table in Stockholm, Vienna, Geneva and New York?

Yes	No
21 (21.2)	78 (78.8)

3. In your view, what is the most important reason why Canada has been at peace for forty years? (circle one)

(a)	Geography	1 (1.0)
(b)	Membership in NATO	29 (29.9)
(c)	Peaceful Nature of Canadians	36 (37.1)
(d)	No External Threat	23 (23.7)
(e)	Other (please specify) _____	8 (8.2)

4. What do you think is the most important way we can reduce the threat of nuclear war? (circle one)

(a)	Arms Control Negotiations	3 (3.0)
(b)	Unilateral Disarmament	3 (3.0)
(c)	People-to-People Exchanges	14 (14.1)
(d)	Bilateral Disarmament	69 (69.7)
(e)	Other	10 (10.1)

5. Are you concerned about other forms of warfare?

Yes	No
65 (65.0)	35 (35.0)

If so, which? (circle one only)

(a) Conventional Warfare 16 (24.2)

(b) Chemical Warfare 40 (60.6)

(c) Other (please specify) 10 (15.2)

6. What do you feel is the likelihood of nuclear war occurring in your lifetime?

Very Low	Low	Moderate	High	Very High
18 (18.0)	17 (17.0)	48 (48.0)	11 (11.0)	6 (6.0)

7. Who do you think is responsible for whatever risk of nuclear war exists today?

USA	USSR	Both USA & USSR	Canada	Other (specify)
6 (6.0)	6 (6.0)	76 (76.0)	2 (2.0)	10 (10.0)

8. Would you expect children in the United States to hold the same views of these issues as you do?

Yes	No
75 (77.3)	22 (22.7)

9. Would you expect children in the Soviet Union to hold the same views on these issues as you do?

Yes	No
83 (84.7)	15 (15.3)

10. Do you think you would survive a nuclear war?

Yes	No
16 (16.7)	80 (83.3)

11. Would you want to survive a nuclear war?

Yes	No
33 (34.0)	64 (66.0)

12. In your view, is there a greater risk of you being affected by a nuclear war or a non-nuclear war?

Nuclear	Non-Nuclear
56 (61.7)	36 (38.3)

IX. General

1. In the last year have you seen anyone at school for advice or counselling about any of the following:

	Yes	No
a. choosing courses	11 (11.1)	88 (88.9)
b. problems with a class	24 (24.0)	76 (76.0)
c. problems with a teacher	20 (20.0)	80 (80.0)
d. problems at home	11 (11.0)	89 (89.0)
e. personal problems	19 (19.0)	81 (81.0)
f. job or career plans	11 (11.0)	89 (89.0)
g. worries about unemployment	10 (10.0)	90 (90.0)
h. worries about nuclear war	26 (26.0)	74 (74.0)

2. In the past year have you seen a counsellor or therapist outside of school about any of the following:

a. choosing courses	7 (7.3)	89 (92.7)
b. problems with a class	8 (8.2)	89 (91.8)
c. problems with a teacher	10 (10.2)	88 (89.8)
d. problems at home	11 (11.2)	87 (88.8)
e. personal problems	14 (14.3)	84 (85.7)
f. job or career plans	8 (8.2)	90 (91.8)
g. worries about unemployment	6 (6.1)	92 (93.9)
h. worries about nuclear war	12 (12.4)	85 (87.6)

3. Is there anything you'd like to add? Please use the space below to tell us about your thoughts and feelings.

PLEASE READ EACH QUESTION AND CIRCLE ONE ANSWER.

4. How much difference would your involvement in the following activities make in preventing nuclear war?

	not at all	very little	some	a lot
a) Thinking about actions that might be taken to prevent nuclear war?	19(19.6)	37(38.1)	30(30.9)	11(11.3)
b) Speaking to a friend or family member about your concerns about nuclear war?	43(44.8)	30(31.3)	18(18.8)	5(5.2)
c) Writing or speaking to a politician or government official about your concerns about nuclear war?	21(21.6)	26(26.8)	29(29.9)	21(21.6)
d) Attending meetings of a peace group?	24(25.0)	28(29.2)	23(24.0)	21(21.9)

5. How much difference would your involvement in the following activities make in dealing with the possibility of nuclear war?

	not at all	very little	some	a lot
e) Making plans for self or family protection in the event of nuclear war?	32(33.3)	32(33.3)	22(22.9)	10(10.4)
f) Making plans for leaving Vancouver in the event of nuclear war?	42(43.8)	33 (34.4)	16(16.7)	5(5.2)
g) Storing food or medicines for use after a nuclear war?	33(34.0)	22(22.7)	24(24.7)	18(18.6)
h) Reading materials or books on how to survive a nuclear war?	40(41.2)	26(26.8)	21(21.6)	10(10.3)
i) Attending meetings/activities about survival?	39(40.2)	27(27.8)	21(21.6)	10(10.3)

Appendix H

Elementary Control Group Posttest Frequencies

III. Here are some things others list as hopes. Circle the number that best describes how important each one is to you.

	Not important at all	Somewhat important	Important	Very Important
1. Good grades	0	3(3.1)	28(29.2)	65(67.7)
2. A good marriage	1(1.0)	1(1.0)	26(26.8)	69(71.1)
3. Good friends	0	6(6.2)	31(32.0)	60(61.9)
4. Good health	0	3(3.1)	21(21.6)	73(75.3)
5. A good job	0	0	25(25.8)	72(74.2)
6. An unpolluted environment	2(2.1)	20(20.6)	40(41.2)	35(36.1)
7. World peace	0	5(5.2)	23(23.7)	69(71.1)
8. Children	2(2.1)	9(9.3)	35(36.1)	51(52.6)
9. Happiness	0	2(2.1)	13(13.4)	82(84.5)

IV. Here are some things others list as worries. Circle the number that best describes how important each one is to you.

1. Violent crime	6(6.2)	20(20.6)	37(38.1)	34(35.1)
2. My own death	13(13.5)	20(20.8)	18(18.8)	45(46.9)
3. Bad grades	8(8.3)	9(9.4)	24(25.0)	55(57.3)
4. Lack of jobs	4(4.2)	8(8.3)	37(38.5)	47(49.0)
5. My parents' death	4(4.1)	4(4.1)	17(17.5)	72(74.2)
6. Nuclear war	4(4.2)	10(10.4)	16(16.7)	66(68.8)
7. Parents' divorce	12(13.0)	6(6.5)	17(18.5)	57(62.0)
8. Poverty	5(5.3)	12(12.8)	49(52.1)	28(29.8)
9. Nuclear power plant leaks	10(10.4)	23(24.0)	29(30.2)	34(35.4)

In the next section we ask what you are doing about some worries. There are no right or wrong answers. We are interested in your experiences and thoughts

V. Concerns about high unemployment rates
Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day
1. In the past month how often have you thought about high unemployment?	46(47.4)	37(38.1)	12(12.4)	2(2.1)
2. In the last month how often have you talked about high unemployment				
a. at home	58(61.1)	28(29.5)	7(7.4)	2(2.1)
b. at school	75(80.6)	17(18.3)	1(1.1)	0
c. with your friends	75(79.8)	15(16.0)	4(4.2)	0
3. In the last month how often have thoughts about high unemployment given you feelings of fear and worry?	58(59.8)	28(28.9)	9(9.3)	2(2.1)
4. In the last month have had any bad dreams about high unemployment?	95(97.9)	2(2.1)	0	0

5. How much have you learned about unemployment conditions from the following:

	Nothing	A bit	A fair amount	A lot
a. Teachers or school	34(35.8)	49(51.6)	12(12.6)	0
b. Newspapers and magazines	16(16.8)	38(40.0)	32(33.7)	9(9.5)
c. Books	47(49.5)	37(38.9)	10(10.5)	1(1.1)
d. Television	8(8.3)	29(30.2)	32(33.3)	27(28.1)
e. Family	28(30.1)	25(26.9)	27(29.0)	13(14.0)
f. Friends	63(65.6)	26(27.1)	6(6.3)	1(1.0)

	None	A little	A lot	Total control
6. How much influence do you feel that you personally can have in changing employment conditions	34(35.1)	49(50.5)	9(9.3)	5(5.2)

	None	A little	A lot	Total control
7. How much influence do you think your parents can have in changing employment conditions?	23(24.0)	55(57.3)	17(17.7)	1(1.0)
8. How much influence do you feel the Canadian government can have in changing employment conditions?	3(3.1)	10(10.3)	43(44.3)	41(42.3)

VI. Concerns about job and career plans
Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day
1. In the last month, how often have you thought about job and career plans?	10(10.3)	42(49.5)	27(27.8)	12(12.4)
2. In the last month, how often have you talked about job and career plans?				
a. at home	27(28.1)	49(51.0)	14(14.6)	6(6.3)
b. at school	63(66.3)	30(31.6)	2(2.1)	0
c. with friends	43(44.8)	46(47.9)	6(6.3)	1(1.0)
3. In the last month how often have job and career plans given you feelings of fear or worry?	57(58.3)	31(32.0)	8(8.2)	1(1.0)
4. In the last month have you had any dreams related to job and career plans?	83(85.6)	9(9.3)	2(2.1)	3(3.1)

5. How much have you learned about job and career possibilities from each of the following?	Nothing	A bit	A fair amount	A lot
a. teachers or school	33(34.4)	51(53.1)	12(12.5)	0
b. Newspapers and magazines	28(29.5)	31(32.6)	31(32.6)	5(5.3)
c. Books	47(49.0)	36(37.5)	12(12.5)	1(1.0)
d. Television	18(18.8)	28(29.2)	30(31.3)	20(20.8)
e. Family	18(18.9)	36(37.9)	25(26.3)	16(16.8)
f. Friends	48(50.0)	34(35.4)	13(13.5)	1(1.0)

	None	A little	A lot	Total control
6. How much influence do you feel you personally have in making your job or career plans work out?	7(7.3)	17(17.7)	54(56.3)	18(18.8)
7. How much influence do you think your parents can have in making your job and career plans work out?	11(11.5)	42(43.8)	40(41.7)	3(3.1)
8. How much influence do teachers and schools have in making your career plans work out?	17(17.9)	30(3 .6)	41(43.2)	7(7.4)

VII. Concerns about the threat of nuclear war

Circle the number that best describes your experience

	Not at all	A few times	Once or twice/week	Almost every day
1. In the last month how often have you thought about the threat of nuclear war?	36(37.5)	49(51.0)	9(9.4)	2(2.1)
2. In the last month how often have you talked about the threat of nuclear war				
a. at home	59((62.1)	29(30.5)	7(7.4)	0
b. at school	76(80.0)	17(17.9)	2(2.1)	0
c. with friends	70(72.9)	20(20.8)	6(6.3)	0
3. In the last month how often have thoughts about the threat of nuclear war given you feelings of fear or worry?	55(57.9)	31(32.6)	8(8.4)	1(1.1)
4. In the last month have you had any had dreams about nuclear war?	86(91.5)	5(5.3)	3(3.2)	0

	Not at all	Very little	Some	A lot
5. Thinking about the threat of nuclear war has affected my plans for the future _____	50(52.1)	31(32.3)	11(11.5)	4(4.2)
6. Thinking about the threat of nuclear war makes me wonder if I really want to get married and have children some day	65(67.7)	21(21.9)	7(7.3)	3(3.1)
7. Thinking about the threat of nuclear war makes me want to live only for today and forget about the future ___	72(75.8)	14(14.7)	6(6.3)	3(3.2)

	Nothing	A bit	A fair amount	A lot
8. How much have you learned about the threat of nuclear war from each of the following:				
a. teachers	41(42.3)	46(47.4)	19(10.3)	0
b. newspapers and magazines	24(24.7)	37(38.1)	26(26.8)	10(10.3)
c. books	53(54.6)	31(32.0)	12(12.4)	1(1.0)
d. television	17(17.5)	24(24.7)	31(32.0)	25(25.8)
e. family	29(29.9)	34(35.1)	24(24.7)	10(10.3)
f. friends	62(63.9)	28(28.9)	5(5.2)	2(2.1)

	None	A little	A lot	Total control
9. How much influence do you feel that you personally can have in preventing nuclear war?	60(61.9)	33(34.0)	3(3.1)	1(1.0)
10. How much influence do you feel your parents can have in preventing nuclear war?	50(52.1)	41(42.7)	5(5.2)	0
11. How much influence do you feel Canada as a nation can have in preventing nuclear war?	10(10.4)	30(31.3)	48(50.0)	8(8.3)

	Yes	No
12. Have you taken any actions to prevent nuclear war?	6(6.3)	90(93.8)
13. Have your parents taken any actions to prevent nuclear war?	8(8.9)	82(91.1)

14. Below are some of the suggestions that have been made about what Canada can do to prevent nuclear war. Do you think the following will help prevent nuclear war?

	Yes	No	Undecided
a. supporting a nuclear freeze	49(50.5)	23(23.7)	25(25.8)
b. the West having more nuclear weapons than the Soviets	15(15.5)	71(73.2)	11(11.3)
c. testing the cruise missile	14(14.4)	71(73.2)	12(12.4)
d. refusing to test the cruise missile	51(53.1)	32(33.3)	13(13.5)
e. refusing to manufacture nuclear weapons	54(55.7)	31(32.0)	12(12.4)
f. do our share of manufacturing nuclear weapons	15(15.4)	63(65.6)	18(18.8)
g make Canada a nuclear weapon free zone	62(63.9)	20(20.6)	15(15.5)
h. withdraw from NATO	12(12.5)	67(69.8)	17(17.7)
i. support NATO	63(65.6)	14(14.6)	19(19.8)
j. other suggestions you have _____			

VIII. General

1. Are you aware of what the Government is doing to prevent war of any kind?

Yes	No	Undecided
35(36.5)	48(50.0)	13(13.5)

In your view, what else should the Government be doing in this regard?

_____

2. Are you aware that Canada is at the disarmament negotiating table in Stockholm, Vienna, Geneva and New York?

Yes	No
23(24.5)	71(75.5)

3. In your view, what is the most important reason why Canada has been at peace for forty years? (circle one)

(a)	Geography	0
(b)	Membership in NATO	16(17.2)
(c)	Peaceful Nature of Canadians	44(47.3)
(d)	No External Threat	24(25.8)
(e)	Other (please specify)	9(9.7)

4. What do you think is the most important way we can reduce the threat of nuclear war? (circle one)

(a)	Arms Control Negotiations	17(18.3)
(b)	Unilateral Disarmament	4(4.3)
(c)	People-to-People Exchanges	16(17.2)
(d)	Bilateral Disarmament	50(53.8)
(e)	Other	6(6.5)

5. Are you concerned about other forms of warfare?

Yes	No
46(48.9)	48(51.1)

If so, which? (circle one only)

(a) Conventional Warfare 16(35.6)

(b) Chemical Warfare 22(48.9)

(c) Other (please specify) 7(15.6) _____.

6. What do you feel is the likelihood of nuclear war occurring in your lifetime?

Very Low	Low	Moderate	High	Very High
12(12.3)	23(24.5)	49(52.1)	7(7.4)	3(3.2)

7. Who do you think is responsible for whatever risk of nuclear war exists today?

USA	USSR	Both USA & USSR	Canada	Other (specify)
6(6.6)	17(18.7)	64(70.3)	0	4(4.4)

8. Would you expect children in the United States to hold the same views of these issues as you do?

Yes	No
60(63.8)	34(36.2)

9. Would you expect children in the Soviet Union to hold the same views on these issues as you do?

Yes	No
55(58.5)	39(41.5)

10. Do you think you would survive a nuclear war?

Yes	No
19(20.4)	74(79.6)

11. Would you want to survive a nuclear war?

Yes	No
42(45.7)	50(54.3)

12. In your view, is there a greater risk of you being affected by a nuclear war or a non-nuclear war?

Nuclear	Non-Nuclear
55(61.8)	34(38.2)

IX. General

1. In the last year have you seen anyone at school for advice or counselling about any of the following:

	Yes	No
a. choosing courses	11(11.6)	84(88.4)
b. problems with a class	20(21.1)	75(78.9)
c. problems with a teacher	15(15.8)	80(84.2)
d. problems at home	15(15.8)	80(84.2)
e. personal problems	23(24.2)	72(75.8)
f. job or career plans	11(11.6)	84(88.4)
g. worries about unemployment	6(6.3)	89(93.7)
h. worries about nuclear war	9(9.5)	86(90.5)

2. In the past year have you seen a counsellor or therapist outside of school about any of the following:

a. choosing courses	6(6.3)	89(93.7)
b. problems with a class	7(7.4)	88(92.6)
c. problems with a teacher	10(10.5)	85(89.5)
d. problems at home	11(11.6)	84(88.4)
e. personal problems	12(12.6)	83(87.4)
f. job or career plans	6(6.3)	89(93.7)
g. worries about unemployment	10(10.5)	85(89.5)
h. worries about nuclear war	8(8.4)	87(91.6)

3. Is there anything you'd like to add? Please use the space below to tell us about your thoughts and feelings.

PLEASE READ EACH QUESTION AND CIRCLE ONE ANSWER.

4. How much difference would your involvement in the following activities make in preventing nuclear war?

	not at all	very little	some	a lot
a) Thinking about actions that might be taken to prevent nuclear war?	41(43.2)	33(34.7)	18(18.9)	3(3.2)
b) Speaking to a friend or family member about your concerns about nuclear war?	49(52.1)	35(37.2)	9(9.6)	1(1.1)
c) Writing or speaking to a politician or government official about your concerns about nuclear war?	26(27.4)	39(41.1)	25(26.3)	5(5.3)
d) Attending meetings of a peace group?	35(36.8)	33(34.7)	24(25.3)	3(3.2)

5. How much difference would your involvement in the following activities make in dealing with the possibility of nuclear war?

	not at all	very little	some	a lot
e) Making plans for self or family protection in the event of nuclear war?	34(35.8)	26(27.4)	23(24.2)	12(12.6)
f) Making plans for leaving Vancouver in the event of nuclear war?	45(47.4)	28(29.5)	19(20.0)	3(3.2)
g) Storing food or medicines for use after a nuclear war?	32(34.0)	22(23.4)	27(28.7)	13(13.8)
h) Reading materials or books on how to survive a nuclear war?	34(35.4)	29(30.2)	18(18.8)	15(15.6)
i) Attending meetings/activities about survival?	37(38.9)	24(25.3)	18(18.9)	16(16.8)

APPENDIX I

PRETEST FREQUENCIES FOR TREATMENT GROUP (UNIVERSITY SAMPLE)

In questions 1 - 20, please circle the number in the column whose heading best reflects your opinion. (There are no right or wrong answers to these questions).

For questions 1-4, in the next fifty years, how likely do you think it is that:	very unlikely	unlikely	un-decided	likely	very likely
(1) a nuclear blast will occur somewhere on earth killing a great number of people (thousands or millions)?	3(3.8)	18(22.8)	11(13.9)	33(41.8)	14(17.7)
(2) a nuclear war will occur between two or more nations?	3(3.8)	24(30.4)	12(15.2)	29(36.7)	11(13.9)
(3) the United States will be involved in a nuclear war with Russia?	10(12.7)	25(31.6)	14(17.7)	22(27.8)	8(10.1)
(4) terrorists will plant a nuclear device in a populated area for purposes of extortion or political belief?	3(3.8)	6(7.6)	18(22.8)	37(46.8)	15(19.0)
(5) How likely do you think it is that you, personally, will die from a nuclear blast or its fallout?	7(8.9)	14(17.7)	22(27.8)	21(26.6)	15(19.0)
(6) How likely is it that Vancouver could survive a major nuclear war?	40(50.6)	24(30.4)	11(13.9)	3(3.8)	1(1.3)
(7) How likely is it that you could survive a major nuclear war?	43(54.4)	12(15.2)	16(20.3)	3(3.8)	5(6.3)

	strongly agree	agree	undecided	disagree	strongly disagree
(8) The United States could engage in a nuclear war with Russia and limit it to whatever size it chose.	2(2.5)	5(6.3)	4(5.1)	37(46.8)	31(39.2)
(9) If arms control efforts involving the Soviet Union and the United States had been more successful at earlier times, the security of both nations would now be greater.	10(12.7)	38(48.1)	13(16.5)	17(21.5)	1(1.3)

	strongly agree	agree	undecided	disagree	strongly disagree
(10) There are causes worth fighting a nuclear war for.	3(3.8)	8(10.1)	3(3.8)	16(20.3)	49(62.0)
(11) Nuclear war can be prevented.	27(34.2)	37(46.8)	12(15.2)	2(2.5)	1(1.3)
(12) You, yourself, could do something that might aid in the prevention of nuclear war.	7(8.9)	28(35.4)	26(32.9)	13(16.5)	5(6.3)
(13) If necessary, you would be willing to join the armed forces and help fight a nuclear war to defend your beliefs or those of your country.	5(6.3)	10(12.7)	20(25.3)	16(20.3)	28(35.4)
(14) The average citizen can have an influence over government decisions about nuclear issues.	5(6.3)	30(38.0)	14(17.7)	24(30.4)	6(7.6)

For questions 15-19, indicate the extent to which your engagement in the following activities would be effective in preventing nuclear war.

	not at all	very little	some	a lot
(15) Thinking about actions that might be taken to prevent nuclear war?	32(40.5)	28(35.4)	17(21.5)	2(2.5)
(16) Speaking to a friend or family member about your concerns about nuclear war?	24(30.4)	35(44.3)	20(25.3)	0
(17) Writing or speaking to a politician or government official about your concerns about nuclear war?	16(20.3)	23(29.1)	35(44.3)	5(6.3)
(18) Participating in public demonstrations or peace marches against nuclear war?	9(11.4)	16(20.3)	44(55.7)	10(12.7)
(19) Attending meetings of a peace or disarmament group?	12(15.2)	20(25.3)	40(50.6)	7(8.9)

For questions 20-24, indicate the extent to which your engagement in the following activities would be effective in dealing with the possibility of nuclear war.

	not at all	very little	some	a lot
(20) Making plans for self or family protection in the event of nuclear war?	24(30.4)	29(36.7)	18(22.8)	8(10.1)
(21) Making plans for leaving Vancouver in the event of nuclear war?	27(34.2)	32(40.5)	12(15.2)	8(10.1)
(22) Stockpiling food or medicines for use after a nuclear war?	24(30.4)	24(30.4)	24(30.4)	7(8.9)
(23) Reading materials or books on how to survive a nuclear war	22(27.8)	22(27.8)	23(29.1)	12(15.2)
(24) Attending meetings advocating survivalist activities?	25(31.6)	23(29.1)	24(30.4)	7(8.9)

	not at all	a few times	once or twice per week	almost every day
(25) In the last month how often have thoughts about the threat of nuclear war given you feelings of fear or anxiety?	37(46.8)	36(45.6)	6(7.6)	0

	not at all	very little	some	a lot
(26) To what extent has thinking about threat of nuclear war affected your plans for the future?	55(69.6)	14(17.7)	9(11.4)	1(1.3)

To what extent have you done any of the following:

	not at all	very little	some	a lot
(27) Thought about actions that might be taken to prevent nuclear war?	16(20.3)	28(35.4)	32(40.5)	3(3.8)
(28) Spoken to a friend or family member about your concerns about nuclear war?	14(17.7)	25(31.6)	32(40.5)	8(10.1)
(29) Written or spoken to a politician or government official about your concerns about nuclear war?	72(91.1)	4(5.1)	2(2.5)	1(1.3)
(30) Participated in public demonstrations or peace marches against nuclear war?	54(68.4)	13(16.5)	9(11.4)	3(3.8)
(31) Attended meetings of a peace or disarmament group?	63(80.8)	13(16.7)	1(1.3)	1(1.3)
(32) Made plans for self or family protection in the event of nuclear war?	72(91.1)	7(8.9)	0	0
(33) Made plans for leaving Vancouver in the event of war?	74(93.7)	4(5.1)	1(1.3)	0
(34) Stockpiled food or medicines for use after a nuclear war?	79(100.0)	0	0	0
(35) Read materials or books on how to survive a nuclear war?	61(77.2)	14(17.7)	4(5.1)	0
(36) Attended meetings advocating survivalist activities?	78(100.0)	0	0	0

To what extent is it the responsibility of the following groups or people to act to prevent nuclear war?

	very high responsibility	high responsibility	moderate responsibility	low responsibility	very little responsibility
(37) Citizens (like yourself)	27(34.2)	22(27.8)	24(30.4)	5(6.3)	1(1.3)
(38) Elected representatives	52(65.8)	19(24.1)	7(8.9)	0	1(1.3)
(39) The Prime Minister	68(86.1)	9(11.4)	1(1.3)	0	1(1.3)
(40) Canadian military leaders	57(72.2)	15(19.0)	5(6.3)	0	2(2.5)

APPENDIX J

UNIVERSITY CONTROL GROUP PRETEST FREQUENCIES

In questions 1 - 20, please circle the number in the column whose heading best reflects your opinion. (There are no right or wrong answers to these questions).

For questions 1-4, in the next fifty years, how likely do you think it is that:	very unlikely	unlikely	un-decided	likely	very likely
(1) a nuclear blast will occur somewhere on earth killing a great number of people (thousands or millions)?	3(7.7)	10(25.6)	6(15.4)	12(30.8)	8(20.5)
(2) a nuclear war will occur between two or more nations?	4(10.5)	11(28.9)	5(13.2)	3(7.9)	3(7.9)
(3) the United States will be involved in a nuclear war with Russia?	4(10.3)	12(30.8)	10(25.6)	12(30.8)	1(2.6)
(4) terrorists will plant a nuclear device in a populated area for purposes of extortion or political belief?	1(2.6)	5(12.8)	10(25.6)	18(46.2)	5(12.8)
(5) How likely do you think it is that you, personally, will die from a nuclear blast or its fallout?	0	9(23.1)	9(23.1)	9(23.1)	12(30.8)
(6) How likely is it that Vancouver could survive a major nuclear war?	15(38.5)	11(28.2)	9(23.1)	1(2.6)	3(7.7)
(7) How likely is it that you could survive a major nuclear war?	16(41.0)	16(41.0)	3(7.7)	1(2.6)	3(7.7)

	strongly agree	agree	undecided	disagree	strongly disagree
(8) The United States could engage in a nuclear war with Russia and limit it to whatever size it chose.	0	4(10.5)	3(7.9)	15(39.5)	16(42.1)
(9) If arms control efforts involving the Soviet Union and the United States had been more successful at earlier times, the security of both nations would now be greater.	6(15.4)	17(43.6)	6(15.4)	7(17.9)	3(7.7)

	strongly agree	agree	undecided	disagree	strongly disagree
(10) There are causes worth fighting a nuclear war for.	0	1(2.6)	0	9(23.1)	29(74.4)
(11) Nuclear war can be prevented.	13(33.3)	19(48.7)	3(7.7)	4(10.3)	0
(12) You, yourself, could do something that might aid in the prevention of nuclear war.	1(2.6)	14(35.9)	12(30.8)	9(23.1)	3(7.7)
(13) If necessary, you would be willing to join the armed forces and help fight a nuclear war to defend your beliefs or those of your country.	2(5.1)	1(2.6)	10(25.6)	11(28.2)	15(38.5)
(14) The average citizen can have an influence over government decisions about nuclear issues.	2(5.1)	14(35.9)	5(12.8)	13(33.3)	5(12.8)

For questions 15-19, indicate the extent to which your engagement in the following activities would be effective in preventing nuclear war.

	not at all	very little	some	a lot
(15) Thinking about actions that might be taken to prevent nuclear war?	18(46.2)	13(33.3)	8(20.5)	0
(16) Speaking to a friend or family member about your concerns about nuclear war?	11(28.2)	14(35.9)	11(28.2)	3(7.7)
(17) Writing or speaking to a politician or government official about your concerns about nuclear war?	9(23.1)	13(33.3)	17(43.6)	0
(18) Participating in public demonstrations or peace marches against nuclear war?	8(20.5)	7(17.9)	22(56.4)	2(5.1)
(19) Attending meetings of a peace or disarmament group?	9(23.1)	11(28.2)	18(46.2)	1(2.6)

For questions 20-24, indicate the extent to which your engagement in the following activities would be effective in dealing with the possibility of nuclear war.

	not at all	very little	some	a lot
(20) Making plans for self or family protection in the event of nuclear war?	12(31.6)	16(42.1)	8(21.1)	2(5.3)
(21) Making plans for leaving Vancouver in the event of nuclear war?	13(34.2)	16(42.1)	8(21.1)	1(2.6)
(22) Stockpiling food or medicines for use after a nuclear war?	9(23.7)	15(39.5)	13(34.2)	1(2.6)
(23) Reading materials or books on how to survive a nuclear war	8(21.1)	14(36.8)	14(36.8)	2(5.3)
(24) Attending meetings advocating survivalist activities?	9(23.7)	14(36.8)	14(36.8)	1(2.6)

	not at all	a few times	once or twice per week	almost every day
(25) In the last month how often have thoughts about the threat of nuclear war given you feelings of fear or anxiety?	22(57.9)	14(36.8)	2(5.3)	0

	not at all	very little	some	a lot
(26) To what extent has thinking about threat of nuclear war affected your plans for the future?	24(63.2)	11(28.9)	3(7.9)	0

To what extent have you done any of the following:

	not at all	very little	some	a lot
(27) Thought about actions that might be taken to prevent nuclear war?	9(23.1)	16(41.0)	4(35.9)	0
(28) Spoken to a friend or family member about your concerns about nuclear war?	7(17.9)	9(23.1)	19(48.7)	4(10.3)
(29) Written or spoken to a politician or government official about your concerns about nuclear war?	37(94.9)	2(5.1)	0	0
(30) Participated in public demonstrations or peace marches against nuclear war?	31(79.5)	3(7.7)	5(12.8)	0
(31) Attended meetings of a peace or disarmament group?	35(89.7)	2(5.1)	2(5.1)	0
(32) Made plans for self or family protection in the event of nuclear war?	34(87.2)	4(10.3)	1(2.6)	0
(33) Made plans for leaving Vancouver in the event of war?	34(87.2)	4(10.3)	1(2.6)	0
(34) Stockpiled food or medicines for use after a nuclear war?	36(92.3)	3(7.7)	0	0
(35) Read materials or books on how to survive a nuclear war?	30(76.9)	7(17.9)	2(5.1)	0
(36) Attended meetings advocating survivalist activities?	38(97.4)	1(2.6)	0	0

To what extent is it the responsibility of the following groups or people to act to prevent nuclear war?

	very high responsibility	high responsibility	moderate responsibility	low responsibility	very little responsibility
(37) Citizens (like yourself)	7(17.9)	14(35.9)	16(41.0)	1(2.6)	1(2.6)
(38) Elected representatives	22(56.4)	16(41.0)	0	1(2.6)	0
(39) The Prime Minister	35(89.7)	4(10.3)	0	0	0
(40) Canadian military leaders	28(71.8)	10(25.6)	0	0	1(2.6)

APPENDIX K

POSTTEST FREQUENCIES FOR TREATMENT GROUP (UNIVERSITY SAMPLE)

In questions 1 - 20, please circle the number in the column whose heading best reflects your opinion. (There are no right or wrong answers to these questions).

For questions 1-4, in the next fifty years, how likely do you think it is that:	very unlikely	unlikely	un-decided	likely	very likely
(1) a nuclear blast will occur somewhere on earth killing a great number of people (thousands or millions)?	2(6.3)	6(18.8)	4(12.5)	18(56.3)	2(6.3)
(2) a nuclear war will occur between two or more nations?	1(3.1)	5(15.6)	6(18.8)	17(53.1)	3(9.4)
(3) the United States will be involved in a nuclear war with Russia?	2(6.3)	6(18.8)	4(12.5)	17(53.1)	3(9.4)
(4) terrorists will plant a nuclear device in a populated area for purposes of extortion or political belief?	1(3.1)	4(12.5)	8(25.0)	14(43.8)	5(15.6)
(5) How likely do you think it is that you, personally, will die from a nuclear blast or its fallout?	9(28.1)	7(21.9)	5(15.6)	8(25.0)	3(9.4)
(6) How likely is it that Vancouver could survive a major nuclear war?	23(71.9)	5(15.6)	0	1(3.1)	3(9.4)
(7) How likely is it that you could survive a major nuclear war?	23(71.9)	5(15.6)	1(3.1)	0	3(9.4)

	strongly agree	agree	undecided	disagree	strongly disagree
(8) The United States could engage in a nuclear war with Russia and limit it to whatever size it chose.	2(6.3)	2(6.3)	1(3.1)	6(18.8)	21(65.6)
(9) If arms control efforts involving the Soviet Union and the United States had been more successful at earlier times, the security of both nations would now be greater.	10(31.3)	14(43.8)	4(12.5)	2(6.3)	2(6.3)

	strongly agree	agree	undecided	disagree	strongly disagree
(10) There are causes worth fighting a nuclear war for.	3(9.4)	2(6.3)	1(3.1)	1(3.1)	25(78.1)
(11) Nuclear war can be prevented.	16(50.0)	14(43.8)	2(6.3)	0	0
(12) You, yourself, could do something that might aid in the prevention of nuclear war.	8(25.0)	13(40.6)	7(21.9)	3(9.4)	1(3.1)
(13) If necessary, you would be willing to join the armed forces and help fight a nuclear war to defend your beliefs or those of your country.	0	2(6.3)	5(15.6)	6(18.8)	19(59.4)
(14) The average citizen can have an influence over government decisions about nuclear issues.	9(28.1)	14(43.8)	5(15.6)	4(12.5)	0

For questions 15-19, indicate the extent to which your engagement in the following activities would be effective in preventing nuclear war.

	not at all	very little	some	a lot
(15) Thinking about actions that might be taken to prevent nuclear war?	8(25.0)	11(34.4)	11(34.4)	2(6.3)
(16) Speaking to a friend or family member about your concerns about nuclear war?	4(12.5)	10(31.3)	14(43.8)	4(12.5)
(17) Writing or speaking to a politician or government official about your concerns about nuclear war?	4(12.5)	8(25.0)	13(40.6)	7(21.9)
(18) Participating in public demonstrations or peace marches against nuclear war?	3(9.4)	5(15.6)	16(50.0)	8(25.0)
(19) Attending meetings of a peace or disarmament group?	2(6.3)	6(18.8)	18(56.3)	6(18.8)

For questions 20-24, indicate the extent to which your engagement in the following activities would be effective in dealing with the possibility of nuclear war.

	not at all	very little	some	a lot
(20) Making plans for self or family protection in the event of nuclear war?	23(74.2)	7(22.6)	1(3.2)	0
(21) Making plans for leaving Vancouver in the event of nuclear war?	23(74.2)	6(19.4)	2(6.5)	0
(22) Stockpiling food or medicines for use after a nuclear war?	22(71.0)	6(19.4)	3(9.7)	0
(23) Reading materials or books on how to survive a nuclear war	21(70.0)	4(13.3)	5(16.7)	0
(24) Attending meetings advocating survivalist activities?	21(67.7)	5(16.1)	5(16.1)	0

	not at all	a few times	once or twice per week	almost every day
(25) In the last month how often have thoughts about the threat of nuclear war given you feelings of fear or anxiety?	6(20.0)	8(26.7)	15(50.0)	1(3.3)

	not at all	very little	some	a lot
(26) To what extent has thinking about threat of nuclear war affected your plans for the future?	18(58.1)	8(25.8)	5(16.1)	0

To what extent have you done any of the following:

	not at all	very little	some	a lot
(27) Thought about actions that might be taken to prevent nuclear war?	3(9.4)	4(12.5)	16(50.0)	9(28.1)
(28) Spoken to a friend or family member about your concerns about nuclear war?	2(6.3)	7(21.9)	14(43.8)	9(28.1)
(29) Written or spoken to a politician or government official about your concerns about nuclear war?	27(84.4)	4(12.5)	1(3.1)	0
(30) Participated in public demonstrations or peace marches against nuclear war?	20(62.5)	6(18.8)	6(18.8)	0
(31) Attended meetings of a peace or disarmament group?	25(78.1)	4(12.5)	3(9.4)	0
(32) Made plans for self or family protection in the event of nuclear war?	30(93.8)	2(6.3)	0	0
(33) Made plans for leaving Vancouver in the event of war?	30(93.8)	2(6.3)	0	0
(34) Stockpiled food or medicines for use after a nuclear war?	32(100.0)	0	0	0
(35) Read materials or books on how to survive a nuclear war?	26(81.3)	5(15.6)	1(3.1)	0
(36) Attended meetings advocating survivalist activities?	32(100.0)	0	0	0

To what extent is it the responsibility of the following groups or people to act to prevent nuclear war?

	very high responsi-bility	high responsi-bility	moderate responsi-bility	low responsi-bility	very little responsi-bility
(37) Citizens (like yourself)	16(50.0)	9(28.1)	6(18.8)	0	1(3.1)
(38) Elected representatives	26(81.3)	4(12.5)	1(3.1)	1(3.1)	0
(39) The Prime Minister	31(96.9)	1(3.1)	0	0	0
(40) Canadian military leaders	26(81.3)	2(6.3)	4(12.5)	0	0

APPENDIX L

UNIVERSITY CONTROL GROUP POSTTEST FREQUENCIES

In questions 1 - 20, please circle the number in the column whose heading best reflects your opinion. (There are no right or wrong answers to these questions).

For questions 1-4, in the next fifty years, how likely do you think it is that:	very unlikely	unlikely	un-decided	likely	very likely
(1) a nuclear blast will occur somewhere on earth killing a great number of people (thousands or millions)?	0	7(35.0)	3(15.0)	8(40.0)	2(10.0)
(2) a nuclear war will occur between two or more nations?	0	6(30.0)	5(25.0)	7(35.0)	2(10.0)
(3) the United States will be involved in a nuclear war with Russia?	2(10.0)	9(45.0)	6(30.0)	3(15.0)	0
(4) terrorists will plant a nuclear device in a populated area for purposes of extortion or political belief?	1(5.0)	0	3(15.0)	13(65.0)	3(15.0)
(5) How likely do you think it is that you, personally, will die from a nuclear blast or its fallout?	0	4(20.0)	5(25.0)	6(30.0)	5(25.0)
(6) How likely is it that Vancouver could survive a major nuclear war?	10(50.0)	7(35.0)	3(15.0)	0	0
(7) How likely is it that you could survive a major nuclear war?	11(55.0)	7(35.0)	1(5.0)	1(5.0)	0

	strongly agree	agree	undecided	disagree	strongly disagree
(8) The United States could engage in a nuclear war with Russia and limit it to whatever size it chose.	0	2(10.0)	0	7(35.0)	11(55.0)
(9) If arms control efforts involving the Soviet Union and the United States had been more successful at earlier times, the security of both nations would now be greater.	0	8(40.0)	8(40.0)	2(10.0)	2(10.0)

	strongly agree	agree	undecided	disagree	strongly disagree
(10) There are causes worth fighting a nuclear war for.	1(5.0)	1(5.0)	0	2(10.0)	16(80.0)
(11) Nuclear war can be prevented.	3(15.0)	13(65.0)	1(5.0)	3(15.0)	0
(12) You, yourself, could do something that might aid in the prevention of nuclear war.	0	7(35.0)	7(35.0)	5(25.0)	1(5.0)
(13) If necessary, you would be willing to join the armed forces and help fight a nuclear war to defend your beliefs or those of your country.	1(5.0)	1(5.0)	3(15.0)	6(30.0)	9(45.0)
(14) The average citizen can have an influence over government decisions about nuclear issues.	0	10(50.0)	4(20.0)	3(15.0)	3(15.0)

For questions 15-19, indicate the extent to which your engagement in the following activities would be effective in preventing nuclear war.

	not at all	very little	some	a lot
(15) Thinking about actions that might be taken to prevent nuclear war?	8(40.0)	9(45.0)	3(15.0)	0
(16) Speaking to a friend or family member about your concerns about nuclear war?	6(30.0)	10(50.0)	4(20.0)	0
(17) Writing or speaking to a politician or government official about your concerns about nuclear war?	6(30.0)	5(25.0)	9(45.0)	0
(18) Participating in public demonstrations or peace marches against nuclear war?	4(20.0)	8(40.0)	6(30.0)	2(10.0)
(19) Attending meetings of a peace or disarmament group?	3(15.0)	8(40.0)	8(40.0)	1(5.0)

For questions 20-24, indicate the extent to which your engagement in the following activities would be effective in dealing with the possibility of nuclear war.

	not at all	very little	some	a lot
(20) Making plans for self or family protection in the event of nuclear war?	8(40.0)	6(30.0)	6(30.0)	0
(21) Making plans for leaving Vancouver in the event of nuclear war?	7(35.0)	6(30.0)	7(35.0)	0
(22) Stockpiling food or medicines for use after a nuclear war?	7(35.0)	7(35.0)	4(20.0)	2(10.0)
(23) Reading materials or books on how to survive a nuclear war	7(35.0)	7(35.0)	3(15.0)	3(15.0)
(24) Attending meetings advocating survivalist activities?	7(35.)	7(35.0)	4(20.0)	2(10.0)

	not at all	a few times	once or twice per week	almost every day
(25) In the last month how often have thoughts about the threat of nuclear war given you feelings of fear or anxiety?	10(50.0)	10(50.0)	0	0

	not at all	very little	some	a lot
(26) To what extent has thinking about threat of nuclear war affected your plans for the future?	14(70.0)	4(20.0)	2(10.0)	0

To what extent have you done any of the following:

	not at all	very little	some	a lot
(27) Thought about actions that might be taken to prevent nuclear war?	7(35.0)	6(30.0)	6(30.0)	1(5.0)
(28) Spoken to a friend or family member about your concerns about nuclear war?	4(20.0)	7(35.0)	7(35.0)	2(10.0)
(29) Written or spoken to a politician or government official about your concerns about nuclear war?	18(90.0)	1(5.0)	1(5.0)	0
(30) Participated in public demonstrations or peace marches against nuclear war?	15(75.0)	2(10.0)	3(15.0)	0
(31) Attended meetings of a peace or disarmament group?	14(70.0)	5(25.0)	1(5.0)	0
(32) Made plans for self or family protection in the event of nuclear war?	16(80.0)	2(10.0)	2(10.0)	0
(33) Made plans for leaving Vancouver in the event of war?	17(85.0)	3(15.0)	0	0
(34) Stockpiled food or medicines for use after a nuclear war?	20(100.0)	0	0	0
(35) Read materials or books on how to survive a nuclear war?	17(85.0)	1(5.0)	2(10.0)	0
(36) Attended meetings advocating survivalist activities?	20(100.0)	0	0	0

To what extent is it the responsibility of the following groups or people to act to prevent nuclear war?

	very high responsi-bility	high responsi-bility	moderate responsi-bility	low responsi-bility	very little responsi-bility
(37) Citizens (like yourself)	4(20.0)	5(25.0)	7(35.0)	4(20.0)	0
(38) Elected representatives	10(50.0)	8(40.0)	2(10.0)	0	0
(39) The Prime Minister	17(85.0)	3(15.0)	0	0	0
(40) Canadian military leaders	19(95.0)	0	0		

Appendix M

Multivariate Tests of Significance for Grade 7's Scales

Effect	F	p<
	df=6,131	
Group	2.46	.027
Time	3.84	.001
Group x Time	6.56	.001

Appendix N

Multivariate Tests of Significance for University Scales

Effect	F	p =
	df= 8,19	
Group	1.99	.105
Time	3.85	.008
Group x Time	1.54	.210

Appendix O

MANOVA #3 for Grade 7's Scales

Effect	F	p<
	df=6,181	
Group	3.42	.003
Time	2.43	.028
Group x Time	1.43	.206

Univariate Tests of Significance for Grade 7's Scales

Effect, Variable	MS	F	p=
		df = 6,131	
Group			
PREVAT	84.84	7.09	.009
SURVAT	1.10	.04	.839
KNOWL	4.19	1.29	.257
ROT	14.81	1.44	.232
STAIC1	55.59	1.20	.276
STAIC2	15.50	.15	.702
Time			
PREVAT	4.29	.71	.402
SURVAT	14.64	1.26	.263
KNOWL	29.51	19.52	.000
ROT	2.51	.91	.343
STAIC1	5.90	.31	.580
STAIC2	1.79	.15	.703
Group x Time			
PREVAT	84.74	13.94	.000
SURVAT	.73	.06	.803
KNOWL	22.37	14.80	.000
ROT	.42	.15	.698
STAIC1	92.48	4.83	.030
STAIC2	45.12	3.69	.057

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