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AUTHOR Nelson, Linden
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ABSTRACT

The relationship between opinions toward arms control and certain related beliefs was examined in two studies involving interventions designed to change those beliefs. In study 1, 131 college students who attended a "Psychology of the Nuclear Arms Race" lecture and 98 students who did not attend the lecture completed a 20-item questionnaire assessing arms control opinions and related beliefs. Study 2 used pre- and post-testing with the questionnaire to compare attitudes of 42 students who attended the lecture, 74 students who did not attend, and 18 students who took a "Psychology of the Nuclear Arms Race" 25-hour course. The results of the two studies revealed that students' opinions about arms control were related to their beliefs about: (1) the importance of nuclear weapon superiority; (2) Soviet arms control intentions; (3) the probability of nuclear war; and (4) the consequences of nuclear war. The students exposed to the interventions reported being more favorable toward arms control than did the control students. The findings suggest that students' opinions about arms control are affected by the number of beliefs held by them that are consistent with arms control, and that lectures and courses which address these beliefs from a psychological perspective have the potential to change students' opinions about arms control. Whether these conclusions can be generalized to other teachers, forums, and audiences deserves further study. (NRB)

EFFECTS OF CLASSROOM INSTRUCTION ABOUT PSYCHOLOGY AND THE ARMS RACE

Linden Nelson
Psychology and Human Development Department
California Polytechnic State University
San Luis Obispo 93407

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Symposium "Changing Attitudes Toward Nuclear War: Theoretical Concerns and Experimental Results"
--Milton Schwebel, Chair

INTRODUCTION

I have been involved in a series of studies investigating beliefs and attitudes that relate to people's opinions toward nuclear arms control. A twenty item questionnaire was developed to assess arms control opinion and related beliefs. See Table 1 for a list of the questionnaire items grouped into composite score categories. The method used to derive composite scores on the variables of interest is described elsewhere (Nelson & Slem, 1985).

Our studies with university students have demonstrated that opinions about arms control are consistently and significantly related to beliefs about (1) the importance of nuclear weapon superiority, (2) Soviet arms control intentions, (3) the probability of nuclear war, and (4) the consequences of nuclear war. Table 2 reports the correlations obtained in three studies between measures of these beliefs and arms control opinion.

We have also discovered that opinions about arms control are strongly related to the number of beliefs held by an individual that are consistent with arms control. For example, in one study the percent of subjects favorable to arms control increased from 17% to 94% as the number of beliefs consistent with arms control increased from none to four (Nelson & Slem, 1985). See Table 3 for a summary of these results. Based on these studies and certain theoretical considerations, we developed the hypothesis that opinions toward arms control are strongly influenced by the beliefs described above.

The correlations I have reported do not, of course, prove that changing the beliefs in question will result in changes in arms control opinion. Experimental research is required to test this hypothesis, and I have begun a program of research investigating whether interventions designed to change these beliefs will influence opinions toward arms control. For the studies I am about to report, the intervention was either a lecture on the psychology of the nuclear arms race or a course (25 hours long) with the same title. I was the instructor in each case.

ETHICAL CONSIDERATIONS

Using the classroom for an experimental intervention expected to change opinions about arms control raises some ethical issues. It is important to note that the primary purpose of these lectures was education rather than persuasion. Effec teaching generally does involve persuasion. Still, there are som portant differences beween a lecture and a persuasive speech. I want to illustrate some of these differences.

When I lecture on the arms race, I do not suggest to students that they should vote in a particular way or engage in some particular political action. I present various points of view. My primary emphasis is on psychological concepts and how they relate to understanding the arms race. I am more concerned with evaluating the evidence for my arguments than with how to present them most persuasively. Valid arguments are not necessarily the most persuasive.

Further, I encourage students to question my reasoning and to express other points of view. I point out that I am neither neutral nor free of bias on matters of political importance. For professors to ignore issues that involve political controversy would be to rob students of a relevant education. Students, I have found, are generally sympathetic to this approach. I try to respect these distinctions between lecturing and persuasive speaking, but I also describe the psychology of the arms race as I perceive it to be, without further apology for political and policy implications.

THE INTERVENTIONS

Allow me to describe very briefly the classroom interventions that I expected, based on the correlational studies, to change opinions about arms control. Keep in mind that some subjects heard a single lecture and others participated in a 25 hour course. While the lecture was a very abbreviated version of the course, the outline of topics was roughly the same for both.

I began the lecture with some comments about the matter of political bias. This was followed by a brief discussion of the causes for the apparent lack of public concern about the threat of nuclear war. I talked about habituation, defense mechanisms, self-efficacy perceptions, and social comparison processes.

Next, I discussed the probability of nuclear war. I gave specific examples of how false assumptions, perceptual errors, and deficient values could lead to war, and I emphasized the prevalence of irrationality in human thought and behavior. I described the potential influences of stress, anger, drug abuse, and psychopathology, and I mentioned how nuclear war could result from accident, unauthorized use of weapons, terrorist activity, escalation, or preemptive attack. My conclusion was that if the arms race continues, nuclear war is likely.

I then addressed the psychological causes of the nuclear arms race. A discussion on the psychology of deterrence was followed by a brief description of the probable costs for superpower aggression given current retaliatory capabilities. The idea that deterrence could be improved by building new weapons was challenged. A distinction was made between the need to deter aggression and the motive to be

superior. Evidence of the role of competitive thinking on U.S. policies was described. The beliefs that nuclear superiority improves deterrence, improves bargaining position, or allows victory in nuclear war were explained as overgeneralizations of concepts that had been applicable to conventional warfare in the past. The overgeneralization of competitive thinking to nuclear weapon issues was related to the pervasive reinforcement for competitive behavior in the U.S.

Enemy perceptions were then discussed as a second psychological cause for the arms race. The mirror image in U.S. and Soviet perceptions and the role of self-fulfilling prophecies were described. I explained how our propensity for cognitive consistency in combination with our enemy perceptions produce a failure to see mutual interests and a reluctance to negotiate. This point was illustrated with quotations from political leaders and with other evidence of the influence of enemy perceptions. I then suggested that our enemy perceptions are exaggerated, and I presented evidence of Soviet motivation for negotiating and complying with arms control agreements.

I concluded the lecture by expressing my opinion that ending the arms race requires that we recognize mutual interests, forsake ambitions for superiority, increase cooperative interactions, and negotiate in steps for a ban on the testing and deployment of new weapons.

RESULTS

In a study conducted by Charles Slem and myself (1985), we compared students who had heard the lecture described above in a large general psychology class (N = 131) with students from the same class who had not heard the lecture (N = 98). The design of the experiment did not provide for pretesting. The results showed that the students who had heard the lecture, compared to those who had not, believed more strongly that nuclear war is probable and that the effects of nuclear war would be catastrophic. Also, they were more worried about the possibility of nuclear war, and they were more favorable toward arms control. There were no significant differences in beliefs about the importance of nuclear weapon superiority or in beliefs about Soviet arms control intentions.

A second experiment carried out by myself and Lars Perner (1985) permitted pre and post testing for three groups of students. One general psychology class was exposed to the lecture described above, in this case lasting seventy minutes. A second general psychology class served as a control group. The third group included all students enrolled in the course "Psychology of the Nuclear Arms Race" (also outlined above). Pretesting occurred at the beginning of a ten week quarter, and post testing at the end of the quarter. For subjects in the lecture condition, the lecture was given one week prior to post testing.

The results of this study are shown in Table 4. I will comment first on the differences between the lecture and control conditions. Students who heard the lecture, unlike those in the control group, became significantly more favorable toward arms control. Although there were changes in the predicted directions for some of the other variables, the only other significant change was in war probability

scores. The lecture group became more convinced that nuclear war is likely if the arms race continues. So, the results of this second study are similar to the first in finding that the lecture had significant effects on beliefs about war probability and on opinions about arms control.

Further statistical analyses were done to determine whether the changes in arms control opinions in the lecture group were correlated with changes in particular beliefs assessed by the questionnaire. The results suggested that the changes in arms control opinions were not strongly related to changes in any particular beliefs. Instead, changes in arms control opinions were significantly related to the number of beliefs that changed in a direction consistent with arms control (as defined by results in Table 2). For the 22 subjects who changed in two or more beliefs (including decreased concern about superiority, more positive view of Soviet arms control intentions, greater belief in the probability of war, or more negative view of war effects), 77 percent became more favorable to arms control. For the 18 subjects who changed in only one or none of these ways, 39 percent became more favorable to arms control.

The subjects who completed the 25 hour course were significantly more favorable toward arms control than the other groups at the beginning of the quarter. It is not surprising that students motivated to enroll in an elective course on this topic would be highly favorable to arms control. In spite of their extreme scores on the pretest, these students became significantly more favorable toward arms control, less concerned about superiority, and more positive in their views about Soviet arms control intentions. They also changed, though not significantly, in predicted directions on the other variables.

CONCLUSIONS AND IMPLICATIONS

Students' opinions about arms control are related to their beliefs about (1) the importance of nuclear weapon superiority, (2) Soviet arms control intentions, (3) the probability of nuclear war, and (4) the consequences of nuclear war. The evidence suggests that students' opinions about arms control are affected by the number of beliefs held by them that are consistent with arms control. Lectures and courses designed to address these beliefs from a psychological perspective have the demonstrated potential to change opinions about arms control. Whether these conclusions can be generalized to other teachers, other forums, and other audiences is a matter worthy of further study.

To the extent that these conclusions can be generalized to non-student populations, there are some implications to consider. Those who wish to promote favorable opinions toward arms control should design interventions that address the beliefs discussed above, and when possible, they should address several relevant beliefs in the same intervention.

The implications for those who teach psychology are fairly clear. Nearly all college students enroll in general psychology, and thousands of others take social psychology and other courses where arms race behavior is a relevant topic. We have an opportunity, collectively, to affect arms race attitudes for a large and potentially influential segment of U.S. citizens. It would be irresponsible to turn our lectures into persuasive political speeches, but it would be just as

irresponsible to forsake this opportunity to promote a peaceful resolution to our world's greatest problem.

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TABLE 1

QUESTIONNAIRE ITEMS INCLUDED IN COMPOSITE SCORE CATEGORIES

ARMS CONTROL OPINION

3. The U.S. should negotiate with the U.S.S.R. for a verifiable freeze of all testing, production and deployment of nuclear weapons.

8. We should not sign any nuclear arms control treaty that would prevent us from research, development and testing of new weapon systems.

16. It would be desirable to have a treaty to ban all testing of nuclear bombs.

18. It would be unwise for the U.S. to agree to a verifiable 50% reduction in nuclear weapons by both the U.S. and U.S.S.R.

CONCERN ABOUT SUPERIORITY

5. Although it is important to maintain an adequate deterrence against Soviet attack, it is not important whether we have more or less nuclear weapons than the Soviets.

9. By developing a superiority in nuclear war fighting ability the U.S. would be able to exercise more control over Soviet behavior in the world.

13. Nuclear superiority is not a meaningful concept given the present abilities of both the U.S. and U.S.S.R. to retaliate after absorbing a nuclear attack.

17. Our ability to effectively deter the Soviets from attacking us with nuclear weapons requires that we have nuclear forces that are superior to theirs.

19. Developing a superiority in nuclear weapons would improve our ability to negotiate a meaningful arms control agreement with the Soviets.

SOVIET ARMS CONTROL INTENTIONS

7. If the Soviets sign a new arms control treaty, they will comply to its requirements.

15. The Soviet leaders will negotiate seriously for meaningful arms control because they want to end the nuclear arms race.

TABLE 1 CONTINUED

SOVIET MILITARY GOALS

2. Soviet foreign policy is guided by the assumption that Soviet military action will be necessary in order to spread communism throughout the world.

11. Only the threat of nuclear retaliation prevents the Soviet Union from using military force to control Western Europe and the Mideast.

WAR PROBABILITY

1. There will probably be a major nuclear war in the next thirty years if the arms race continues.

14. Even if the arms race continues, it is very unlikely (less than 5% change) that there will be an all out nuclear war within the next twenty years.

WAR EFFECTS

6. The probability that a nuclear war would lead to the extinction of human beings is extremely low (less than one percent).

10. A nuclear war between the U.S. and the U.S.S.R. would probably result in death for at least half of the U.S. population.

FREEZE IF INFERIOR

4. There should be a nuclear freeze even if it meant that the Soviet Union would maintain a land based intercontinental ballistic missile force that is superior to ours.

IMPROVE DETERRENCE

12. We could improve our abiblity to prevent Soviet aggression against the U.S. and our allies by building more or better nuclear weapons.

WAR WORRY

20. Please circle the response which best indicates how worried you are about the possibility of a nuclear war.

Very worried Quite worried A little worried Not at all worried

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Note: Response alternatives for items 1-19 were: strongly agree, agree, disagree, strongly disagree, no opinion.

TABLE 2

CORRELATIONS BETWEEN BELIEFS AND ARMS CONTROL OPINION IN THREE STUDIES

BELIEFS	CORRELATIONS WITH ARMS CONTROL OPINION		
	July 1983 (N=216)	November 1983 (N=366)	April 1984 (N=153)
Concern About Superiority	- .52	- .42	- .49
Soviet Arms Control Intentions	.46	.33	.55
War Probability	.49	.31	.23
War Effects	.24	.31	.25
[Multiple R]	.68	.58	.62

For all coefficients reported, $p < .001$.

TABLE 3

CUMULATIVE EFFECTS OF BELIEFS AND ATTITUDES ON ARMS CONTROL OPINION

SUBGROUPS		PERCENT OF SUBJECTS IN ARMS CONTROL OPINION CATEGORIES					
Total of Beliefs and Attitudes Consistent with Arms Control	Number of Subjects Per Group	Favorable %	(N)	Unfavorable %	(N)	Uncertain %	(N)
None	23	17%	(4)	48%	(11)	35%	(8)
One	86	31%	(27)	20%	(17)	49%	(42)
Two	112	55%	(61)	18%	(20)	28%	(31)
Three	99	75%	(74)	7%	(7)	18%	(18)
Four	34	94%	(32)	0%	(0)	6%	(2)
Five	12	92%	(11)	0%	(0)	8%	(1)

Crosstabs analysis ChiSquare value = 86.76, $P < .001$.
Based on composite scores on concern about superiority, Soviet arms control intentions, war probability, war effects, and war anxiety.
Total N = 366.

TABLE 4

PRE AND POST TREATMENT MEAN SCORES AND COMPARISONS

	TREATMENT	(N)	PRE MEAN	POST MEAN	t	P
Arms Control Opinion	Course	(18)	3.38	3.67	-2.77	.013
	Lecture	(42)	2.87	3.11	-2.98	.005
	Control	(74)	2.92	2.87	.97	.337
Concern About Superiority	Course	(18)	1.76	1.59	2.12	.049
	Lecture	(42)	2.17	2.09	1.12	.271
	Control	(74)	2.20	2.21	-.12	.909
Soviet Arms Control Intentions	Course	(15)	2.73	3.23	-2.96	.010
	Lecture	(40)	2.14	2.31	-1.77	.085
	Control	(68)	2.00	2.13	-1.77	.081
Soviet Military Goals	Course	(18)	2.56	2.25	1.26	.226
	Lecture	(39)	2.58	2.68	-1.03	.308
	Control	(72)	2.78	2.78	.09	.928
War Probability	Course	(18)	2.89	3.19	-1.94	.069
	Lecture	(42)	2.43	2.79	-4.17	.000
	Control	(67)	2.50	2.40	1.56	.124
War Effects	Course	(18)	3.69	3.72	-.25	.805
	Lecture	(42)	3.27	3.44	-1.32	.193
	Control	(73)	3.26	3.12	1.90	.062
War Worry	Course	(17)	3.18	3.12	.21	.835
	Lecture	(39)	2.38	2.54	-1.23	.225
	Control	(71)	2.37	2.28	1.10	.276

All comparisons are t-tests for repeated measures, two tailed probability.