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ABSTRACT

The major purpose of this study was to investigate the possible enhancement of the effects of the movie "The Day After" via an educational lecture on the arms race that was given seven days after the movie presentation. Subjects were 370 college students in ten introductory psychology classes. A Nuclear Weapons Policies questionnaire was administered to students before and immediately after the telecast of the movie. Seven days after the movie telecast, four class sections attended a previously scheduled lecture on the psychological aspects of the nuclear arms race. The questionnaire was again administered to all students ten days after the movie was televised. Results showed that the lecture did not enhance the effects of the movie. The lecture was then modified by introducing more psychologically oriented information and tested on another group of 241 students. In addition to replicating most of the effects produced by the film and the film with lecture, the modification of the lecture format produced significant changes in estimates of the probability of nuclear war, and most importantly, in arms control opinions. (RM)

# Enhancing the Effects of "The Day After" with an Educational Intervention

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California Polytechnic State University
San Luis Obispo



Paper presented at the annual meeting of the Western Psychological Association, San Jose, California, April 20, 1985

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Although a number of studies have found that the movie "The Day After" influenced viewers' estimates of the catastrophic consequences of nuclear war and increased their worry about nuclear war, there is little evidence suggesting that viewers' opinion about nuclear arms control was significantly affected (Oskamp, 1984). These apparently inconsistent results can be clarified by considering arms control opinions as embedded in a network of psychologically consistent beliefs and values. Nelson & Slem (1984) found that people's opinions about arms control were related to

their beliefs about (1) the effects of nuclear war, (2) the probability of nuclear war, (3) the importance of nuclear superiority, (4) Soviet military goals, (5) Soviet arms control intentions and (6) their perceived level of anxiety about the possibility of nuclear war (figure 1). Nelson & Slem speculated that "The Day After" did not influence opinions towards arms control because it did not sufficiently affect the network of beliefs that support people's opinions about arms control.

Attempts to change public opinion are more likely to be successful if they address a number of these theoretically important correlates. The major purpose of this study was to investigate the possible enhancement of the effects of the movie via an educational lecture on the arms race that was given 7 days after the movie presentation.

## METHOD

### Subjects

The 370 subjects were students in ten introductory psychology classes at California Polytechnic State University, San Luis Obispo. Forty-eight percent were male and 52% were female. The median age was 20 and 90% of the subjects were in the 18 to 23 year old range.

Procedure

An 18 item "Nuclear Weapons Policies Questionnaire" (included as Appendix A) was constructed using items from a longer instrument that had been designed by the second author for a pilot study in 1983. Each item was a statement to which subjects marked their degree of agreement (strongly agree, agree, disagree, strongly disagree, no opinion). Figure 2 summarizes the items by composite category.

The questionnaire was administered to all students in attendance during classes before and after the telecast of the movie "The Day After", November 20, 1983. The first administration occurred between November 9 and 15, an average of eight days before the movie was shown. The second administration of the questionnaire occurred between November 29 and December 1, an average of about ten days after the movie was televised. On November 28, 108 of the students who were enrolled in four class sections of a large psychology course attended a previously scheduled lecture on the psychological aspects of the nuclear arms race that specifically dealt with deterrence, the likely consequences of a first strike, the "enemy image" in negotiations, competitive thinking, and factors affecting the probability of nuclear war. (See Figure 3).

Subjects were not informed of the specific purposes of the study until after the second administration of the

questionnaire. Subjects were told just prior to the second administration that:

> "This is the second phase of a study on arms race attitudes. When developing a new questionnaire, it is important to investigate the stability of the instrument by having participants respond to the same questionnaire on two occasions. It is likely that some of your answers will be the same, and some will be different, than the answers you gave several weeks ago. It is very important that you answer the questions honestly, and that you express your attitudes and opinions as they exist today. You will not be identified by your name and your confidentiality will be protected".

RESULTS

The detailed analysis of the relationships between nuclear war belief components assessed by the pre-movie administration of the questionnaire has been described elsewhere as has the effects of "The Day After" alone on arms control opinions (Nelson & Slem, 1984). In summary, belief components were significantly related to arms control opinion, and the pre-movie and post-movie mean scores for subjects who saw the movie and for subjects who did not see the movie are reported in Table 1. The comparison of post-movie scores to pre-movie scores indicated that subjects who had seen the movie became significantly more anxious about the possibility of nuclear war, more extreme in their beliefs about the catastrophic effects of nuclear war, and more positive in their view of Soviet intentions for arms control. Students who did not see the movie

reported no significant changes. (On the pre-movie questionnaire, subjects who later saw the movie did not differ significantly on any of the measures from subjects who did not see the movie).

Of the 108 students who were exposed to the lecture, 51 had also seen the movie. Table 2 summarizes the pre-movie and post-movie composite scores for this group. As with those who had only seen the movie, these students also became more anxious about the possibility of nuclear war, more extreme about in their beliefs about the catastrophic effects of nuclear war, and more positive in their view of Soviet intentions for arms control. Also consistent with the students who had only seen the film, there were no significant changes on the composite scores for competitiveness and arms control opinion as a result of the movie with the lecture. The film with the lecture did produce a significant change for an item (question #4) which was not included as a part of any composite score since it combined competitiveness and arms control opinion. After the lecture, these students were more likely to support a nuclear freeze in the condition where a freeze meant that the Soviet Union would maintain a superiority in land based intercontinental ballistic missiles ($p<.001$).

DISCUSSION

The one significant change on the item which combined arms control opinion and superiority was most likely achieved by the lecture because the specific question was part of the content of the lecture. In discussing the role of competitive thinking, the lecturer described how subjects in an another study had responded to this item. He pointed out that the percent of subjects favoring a nulcear freeze had declined from about 80% to about 40% when they were told that a freeze would maintain a Soviet superiority in land based missiles.

Aside from that one item, no additional changes in component belief or arms control opinion occurred as a result of the lecture. There are at least two possible interpretations for the lack of apparent enhancement of the effects of the movie by an educational lecture--the persistence of attitudes in the face of contrary evidence and possible lecture inadequacies.

Slovic et al. (1981) and Nisbett and Ross (1980) suggested that once formed, people's beliefs change very slowly, and are extraordinarily persistent in the face of contrary evidence. For example, the component belief of superiority over the Russians is likely to be very resistant to change because it is supported by overgeneralizations such as: "like conventional warfare nuclear superiority will

improve deterrence", "superiority would allow us to prevail in a nuclear war" or "superiority provides bargaining chips for advantageous negotiations" (Frank, 1982; Morgenthau, 1976; and Nelson & Beardsley, 1985). Since our culture, as well as the Soviet's, places a great emphasis on the social motive of competitiveness (Nelson & Kagan, 1972; Nelson & Beardsley, 1985), this particular component belief system might be very resistant to change.

The other possible explanation for the lack of an effect via the lecture could be traced to the order of presentation of topics in the lecture (Figure 3). In order to adequately discuss the topic of deterrence from a psychological point of view, it was necessary to review the current status of military deployment of nuclear weapons, the ability of each country to withstand a first strike, each country's counterforce abilities, etc. This emphasis made the lecture appear to be similar to the ongoing political discussions of the nuclear arms race. It could well be that beginning a lecture in this manner obscured the psychological information and produced cues for engaging in defensive maneuvers similar to the process of psychological reactance (Brehm, 1972). That is, subjects disregarded the information as an attempt to persuade rather than inform. Class discussions in small groups after the lecture supported this interpretation. Modifying the lecture by introducing it with more psychologically oriented

information would possibly reduce the likelihood of this kind of defensive response.

On the basis of this latter possibility, the lecture was modified and tested on another group of students in study 2.

## STUDY 2

Figure 4 is an outline of the modified lecture. The probability of nuclear war became the introductory topic because it could be more thoroughly discussed from a psychological point of view requiring very little discussion of the mechanics of the nuclear arms race. In addition, since probability of nuclear war appeared at the end of the first lecture, only 5 minutes could be devoted to the subject. In this modification, the lecturer spent 15 minutes on this topic.

### METHOD

#### Subjects

The subjects were 241 students in a large general psychology class tested in May, 1984.

#### Procedure

Unlike the first study, this was a between subjects, quasi-experimental design. There were two control groups

consisting of 72 subjects tested before the lecture with an abbreviated 12 item version of the Nuclear Weapons Policies Questionnaire (Appendix B) and 29 subjects who were tested after the lecture but who did not attend the lecture. The control groups did not differ on any of the items and were combined (n=101) for the analyses to follow. The experimental group included 140 students who attended the lecture and were tested only after the lecture. Post lecture testing occurred an average of one week after the lecture.

## RESULTS

Table 3 summarizes one-tailed t-tests conducted between groups. There were significant differences between groups on the effects of nuclear war, the probability of nuclear war, anxiety about nuclear war, and arms control opinion. There were no significant differences for composite scores for competitiveness or for Soviet intentions.

## DISCUSSION

In addition to replicating most of the effects produced by the film and the film with lecture, the modification of the lecture format produced significant changes in estimates of the probability of nuclear war, and most importantly, in arms control opinions. Since both the film with lecture and

the modified lecture led to changes in beliefs about the consequences of nuclear war and war anxiety, the main difference is that the modified lecture also changed the component belief of probabilty of nuclear war. This additional component belief change was sufficient to lead to a change in arms control opinions. As Nelson and Slem (1985) have proposed, it may be that arms control opinion change is a function of cumulative changes in components of the network of beliefs that support people's opinion about arms control.

Another explanation for the possibly singular rather than cumulative effect of probabilty estimates can be traced to an observation made by De Rivera (1984) on psychological defense mechanisms used to aid in the denial of the threat of nuclear war. De Rivera found that one way some of his subjects insulated themselves from a "motive for action" to do something about the nuclear arms race was by not considering it a present concern because a nuclear war would not happen in one's own lifetime. Acknowledging that the thought of nuclear war is a frightening possibility which could destroy civilization meant little when the person also believed it would never happen. In the present study, the modified lecture provided a convincing psychological rationale which increased the estimate of the probability of nuclear war and therefore removed the insulation. The person was confronted with a present concern not an unspecified

future concern. This then provided a motive for action, reflected in this study as a change in opinion.

Subsequent research that is currently being analyzed also points to the critical effect of probability of a nuclear war in changing arms control opinions. If the central role of probability estimates is further substantiated, it suggests that a potent avenue of intervention could be a relatively narrow message which circumvents both reactance type cues and the ingrained motives and beliefs of a competitive culture.

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Table 1

Pre and Post Movie Component Score Comparisons
Movie as Intervention Only

| | | Subjects who Saw Movie | Subjects Who Did Not See Movie |
|---|---|---|---|
| Arms Control Attitude | Pre Mean | 2.92 | 2.91 |
| | Post Mean | 2.90 | 2.90 |
| | p | .54 | .90 |
| | n | 182 | 104 |
| Concern about Superiority | Pre Mean | 2.10 | 2.07 |
| | Post Mean | 2.09 | 2.04 |
| | p | .87 | .46 |
| | n | 185 | 102 |
| Soviet Arms Control Intentions | Pre Mean | 2.10 | 2.04 |
| | Post Mean | 2.24 | 2.11 |
| | p | .001 | .25 |
| | n | 155 | 83 |
| Soviet Military Goals | Pre Mean | 2.30 | 2.26 |
| | Post Mean | 2.31 | 2.23 |
| | p | .78 | .67 |
| | n | 164 | 93 |
| War Probability | Pre Mean | 2.58 | 2.53 |
| | Post Mean | 2.58 | 2.53 |
| | p | .89 | 1.00 |
| | n | 173 | 99 |
| War Effects | Pre Mean | 3.21 | 3.27 |
| | Post Mean | 3.36 | 3.33 |
| | p | .002 | .30 |
| | n | 178 | 101 |
| Anxiety | Pre Mean | 1.98 | 2.00 |
| | Post Mean | 2.15 | 2.00 |
| | p | .001 | 1.00 |
| | n | 184 | 100 |

* t-tests for repeated measures, two-tailed probability

Table 2

Pre and Post Movie Component Score Comparisons
Movie and Lecture as Intervention

| | | Subjects who Saw Movie and Lecture |
|---|---|---|
| Arms Control Attitude | Pre Mean | 2.89 |
| | Post Mean | 2.71 |
| | p | .77 |
| | n | 51 |
| Concern about Superiority | Pre Mean | 2.20 |
| | Post Mean | 2.16 |
| | p | .70 |
| | n | 51 |
| Soviet Arms Control Intentions | Pre Mean | 2.12 |
| | Post Mean | 2.35 |
| | p | .01 |
| | n | 39 |
| Soviet Military Goals | Pre Mean | 2.38 |
| | Post Mean | 2.39 |
| | p | .92 |
| | n | 48 |
| War Probability | Pre Mean | 2.60 |
| | Post Mean | 2.51 |
| | p | .54 |
| | n | 47 |
| War Effects | Pre Mean | 3.13 |
| | Post Mean | 3.40 |
| | p | .001 |
| | n | 51 |
| Anxiety | Pre Mean | 1.93 |
| | Post Mean | 2.18 |
| | p | .02 |
| | n | 51 |

* t-tests for repeated measures, two-tailed probability

Table 3

Effects of Modified Lecture
On Beliefs and Arms Control Opinion

| | Lecture (n) | Lecture Mean | No Lecture Mean | No Lecture (n) | t | df | prob* |
|---|---|---|---|---|---|---|---|
| Arms Control Attitude | (126) | 6.13 | 5.79 | (86) | 1.88 | 210 | .032 |
| Superiority | (117) | 6.16 | 6.31 | (83) | -.51 | 198 | .31 |
| Soviet Intentions | (113) | 2.07 | 2.13 | (80) | -.62 | 191 | .27 |
| War Probability | (131) | 2.70 | 2.36 | (95) | 3.42 | 224 | .001 |
| War Effects | (128) | 6.66 | 6.31 | (94) | 1.99 | 220 | .027 |
| Worry about War | (131) | 2.60 | 2.26 | (98) | 3.14 | 227 | .001 |

*one tailed

FIGURE 1

ARMS CONTROL OPINION NETWORK OF COMPONENT BELIEFS

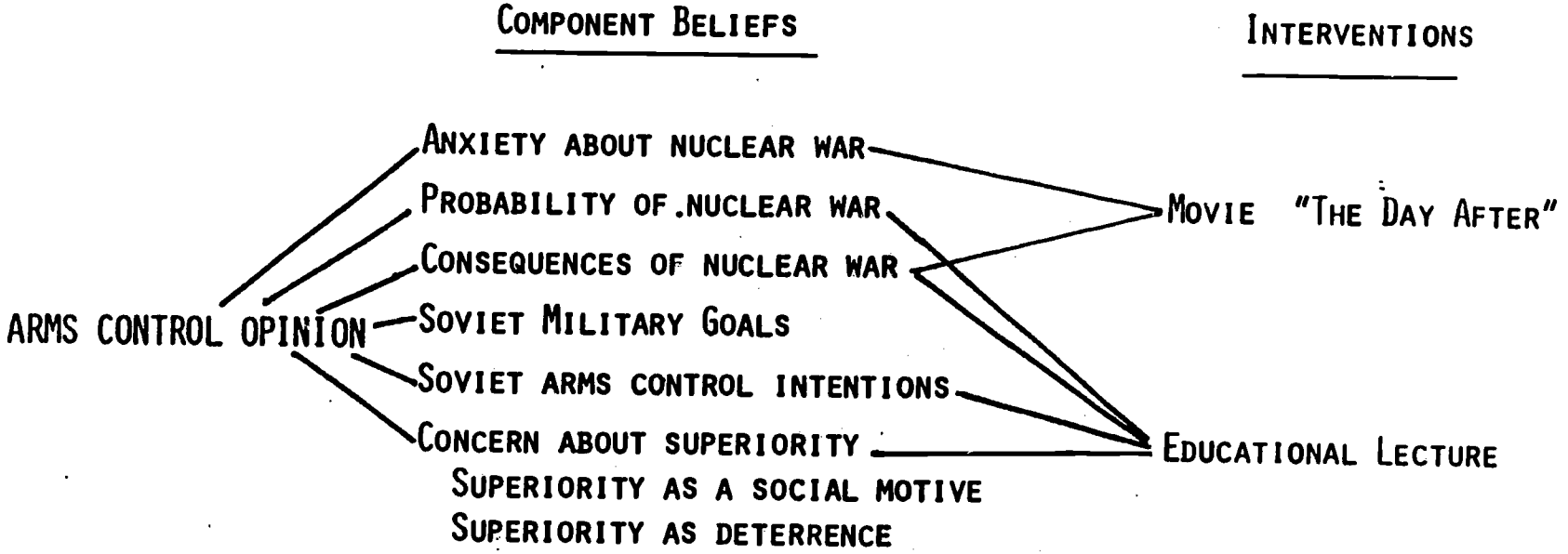

Figure 2

## 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.
12. The U.S. Senate should not ratify the SALT II agreement that was signed by President Carter and Chairman Brezhnev.
16. It would be desirable to have a treaty to ban all testing of nuclear bombs.

**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.

**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.

**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% chance) 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 that 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.

**WAR ANXIETY**

18. Please circle the response which best indicates how anxious you are about the possibility of a nuclear war.
    Very anxious Quite anxious A little anxious Not at all anxious

CALIFORNIA POLYTECHNIC STATE UNIVERSITY

Notes for lecture - Psychology of the Nuclear Arms Race By Linden Nelson, Ph.D.

I. A major cause of arms race - the assumption that building more or better weapons will improve deterrence.

A. Deterrence - preventing aggression by threatening to punish the potential aggressor.

B. Deterrence depends on the potential aggressor's:
1. Assessment of possible costs and benefits for aggression.
2. Expectations about whether the possible costs and benefits will occur.

C. Deterrence works (theoretically) if:
1. The expected costs are greater than the expected benefits.
2. The potential aggressor is rational.

D. Complications:
1. Limits to rationality - effects of fear and anger, organizational pressures, psychopathology.
2. The subjective nature of the cost-benefit analysis.

E. Currently, what are the expected costs for superpower aggression?
1. For an all out nuclear attack - nuclear winter and probable retaliation.
2. For a counterforce attack - probable nuclear winter and probable retaliation.
3. For a limited attack on a superpower or its allies - probable retaliation in kind, possible escalation.

F. Could deterrence be improved by building more or better weapons?
1. For both U.S. and U.S.S.R., the expected costs for aggression seem much greater than the expected benefits.
2. Controversy in U.S. about Soviet expectations concerning our willingness to use nuclear weapons.
3. Will building more weapons communicate our resolve to use them?
4. Will building an improved counterforce ability increase the credibility of our nuclear threat?

II. Another cause of arms race - competitive motivation:

A. Concern about equality or superiority.

B. Evidence of U.S. motivation to be superior.

C. Claimed advantages for nuclear superiority:
1. Improves deterrence.
2. Ability to win a nuclear war.
3. Improves bargaining position.

D. Overgeneralization in competitive thinking.

III. Another cause of arms race - U.S. and U.S.S.R. perceptions of each other.

A. The enemy image (a mirror image).

B. Effects:
1. Failure to see mutual interests. Psycho-logic: "Whatever is good for them is bad for us." "Whatever is bad for them is good for us."
2. Self-fulfilling prophecy: Enemy Image → Hostility → Insecurity → Enemy Behavior
3. Reluctance to negotiate. Psycho-logic: "Since they are against us, they will not agree to anything that is good for us."

C. Validity of the images.

IV. Ending the arms race.

A. Forsake superiority as the goal of our weapons policies.

B. Foster mutual interest perceptions.

C. Increase cooperative interactions between U.S. and U.S.S.R.

D. Negotiate for arms reductions and a step by step ban on:
   1. Testing nuclear bombs.
   2. Testing delivery systems.
   3. Deployment of new weapons.
   4. Production of new weapons.

V. Probability of Nuclear War.

A. Possibilities:
   1. Computer and equipment failure.
   2. Human Error.
   3. Unauthorized use.
   4. Terrorist attack.
   5. Escalation.
   6. Preemptive strike.

B. Irrational thinking and behavior:
   1. False expectations about costs and benefits.
   2. Effects of stress, anger, fear.
   3. Behavior disorders:
      a. organic mental disorders
      b. substance abuse
      c. paranoia
      d. personality disorders

Suggested Readings:

Sagan, Carl. Nuclear war and climatic catastrophe. Foreign Affairs, Winter 1983/84. Vol. 62. No. 2. Or see a shorter version of this in Parade Magazine, Oct. 29, 1983.

Ford, D.; Kendall, H.; and Nadis, S. Beyond the Freeze: The Road to Nuclear Sanity. Boston: Beacon Press, 1982.

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CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, California

Notes for lecture--Psychology of the Nuclear Arms Race By Linden Nelson, Ph.D.

I. Probability of Nuclear War.

A. Possibilities:
1. Computer and equipment failure.
2. Human Error.
3. Unauthorized use.
4. Terrorist attack.
5. Escalation.
6. Preemptive strike.

B. Irrational thinking and behavior:
1. False assumptions and perceptions.
2. Deficient value systems.
3. Effects of stress, anger, fear.
4. Behavior disorders:
a. Organic mental disorders (such as Primary Degenerative Dementia).
b. Substance abuse.
c. Paranoia.
d. Personality disorders.

II. A major cause of arms race - the assumption that building more or better weapons will improve deterrence.

A. Deterrence - preventing aggression by threatening to punish the potential aggressor.

B. Deterrence depends on the potential aggressor's:
1. Assessment of possible costs and benefits for aggression.
2. Expectations about whether the possible costs and benefits will occur.

C. Deterrence works (theoretically) if:
1. The expected costs are greater than the expected benefits.
2. The potential aggressor is rational.

D. Complications:
1. Limits to rationality (discussed above in I.B.).
2. The subjective nature of the cost-benefit analysis.

E. Currently, what are the expected costs for superpower aggression?
1. Nuclear winter.
2. Retaliation.
3. For both U.S. and U.S.S.R. the expected costs for aggression seem much greater than the expected benefits.

(OVER)

F. Could deterrence be improved by building more or better weapons?
   1. Controversy in U.S. about Soviet expectations concerning our willingness to use nuclear weapons.
   2. Will building more weapons communicate our resolve to use them?
   3. Will building a counterforce capability or a defensive system increase the credibility of our nuclear threat?
   4. Probable Soviet reactions - arms buildup, launch on warning, preemptive attack.

III. Another cause of arms race - competitive motivation:

A. Concern about superiority.

B. Evidence of U.S. motivation to be superior.

C. Claimed advantages for nuclear superiority:
   1. Improves deterrence.
   2. Ability to win a nuclear war.
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Ground Zero. Nuclear War: What's In It For You? New York: Pocket Books, 1982.

INSTRUCTIONS: After each statement, please circle the response that best describes your degree of agreement or disagreement with the statement.

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

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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

   Strongly agree  Agree  Disagree  Strongly disagree  No 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.

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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.

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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.

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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.

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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.

    Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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

Strongly agree Agree Disagree Strongly disagree No opinion

12. The U.S. Senate should not ratify the SALT II agreement that was signed by President Carter and Chairman Brezhnev.

Strongly agree Agree Disagree Strongly disagree No opinion

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.

Strongly agree Agree Disagree Strongly disagree No opinion

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

Strongly agree Agree Disagree Strongly disagree No opinion

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

Strongly agree Agree Disagree Strongly disagree No opinion

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

Strongly agree Agree Disagree Strongly disagree No opinion

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.

Strongly agree Agree Disagree Strongly disagree No opinion

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

Very anxious Quite anxious A little anxious Not at all anxious

INSTRUCTIONS: After each statement, please circle the response that best describes your degree of agreement or disagreement with the statement.

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

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

2. The U.S. should negotiate with the U.S.S.R. for a verifiable ban on the deployment of any new nuclear weapons.

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

3. 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.

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

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

   Strongly agree  Agree  Disagree  Strongly disagree  No opinion

10. 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

11. Please circle the response which best indicates how much you have thought about the topic of nuclear war during the past year.

    Very much  Much  Little  Very little

12. Did you attend the Psy 202 lecture on "Psychology of the Nuclear Arms Race" on May 16?

    Yes  No