The Effects of Language and Perceived Threat on Anti-Nuclear Attitudes

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I'd like to thank my outstanding girlfriend Sheena Lilly and my parents for their support, Dr. Lisa Whitfield for pushing me to do this and providing invaluable help in every phase of this project, and finally, Dr. Richard Paine for his bottomless willingness to help me with this project in any way he could.
Abstract

The names used to refer to nuclear weapons are theorized to affect attitudes toward them. Pet names like "Peacekeeper" are thought to cause the audience to support nuclear weapons more than functional names like "Silo-Launched Guided Missiles." The current study had 61 participants (31 female, 30 male). This study found that the effect of these names is dependent on the individual’s pre-existing attitude toward nuclear weapons. Pro-nuclear people supported functionally named weapons whereas anti-nuclear people hated them the most as measured by the Attitudes Toward Nuclear Disarmament scale. People who were neutral toward nuclear weapons supported nuclear weapons when America’s appeared strong (when functional names) were used and Russia’s appeared weak (when pet names were used). Men also supported strong functionally named weapons more than weak pet named weapons. Womyn were not affected by naming at all.
The Effects of Language and Perceived Threat on Anti-Nuclear Attitudes

If one were thinking of purchasing a new car and had to choose between two cars, the Ford “Pinto” and the Ford “Explodes After Minor Collisions,” most would prefer the “Pinto.” A similar effect is created by the military establishment when naming nuclear weapons. The weapons themselves are technically described by their function, i.e. “silo-launched guided missile.” However, when the military presents the weapons to the public and to Congress when seeking funding for the weapons, they refer to them using more marketable names like “Peacekeeper.” The first name (silo-launched guided missile) refers to what the weapon actually does. The second (Peacekeeper) hides it’s purpose with a euphemism. Research in this area explores the effects that naming differences can have.

The research into this area suggests several different psychological mechanisms by which naming influences citizens’ perceptions of nuclear weapons. In order to generate hypotheses concerning the present study, this analysis will begin by addressing each theory and explaining the resulting hypotheses for each.

**Salience**

First, naming may exert its effect by influencing the salience of nuclear threat. Fiske (1987) reviewed the available data exploring the factors that increase anti-nuclear activism and found salience to be strongly related to anti-nuclear activism. Fiske defines increased salience of the nuclear threat by explaining that an individual exhibits heightened salience when they “spend more time thinking about nuclear war...[and thus] were far less likely to report that they put out of mind the threat of nuclear war” (p. 211). After *The Day After*, a film depicting the horrors of a nuclear conflict, appeared on
television, a number of studies were conducted. Fiske summarized the research findings of several studies. She found that the film increased the salience of the threat from nuclear weapons by testing for salience before and after the film. However, this effect lasted only for a few weeks. The film did not successfully change anyone’s political views on the subject, although it did influence the politically inexperienced and the young the most. The film did cause some anti-nuclear activity. Fiske found that increased salience caused people to perform information seeking behavior about the issue such that they contacted anti-nuclear organizations and called a toll-free number provided by the program. Fiske found that, in this event, increased salience of the issue resulted in antinuclear behavior. However, Fiske found that salience exerted its effect by simply serving to magnify existing beliefs about nuclear weapons. The author found that, “salience exaggerates their response in whatever direction if would have tended anyway” (Fiske, 1987, p.211). Fiske charged the psychological community with the goal of finding ways to increase the salience of the nuclear issue in order to increase activism against nuclear weapons.

Oskamp, King, Burn, Konrad, Pollard, and White (1985) reached similar findings regarding The Day After. Oskamp et al. found significant attitude changes towards nuclear weapons when comparing the results of tests conducted before the movie, immediately after the program aired, and three weeks later. The attitude changes were more likely in college-age viewers than in adult professionals. Viewers were also significantly more likely to request information about anti-nuclear attitudes than were non-viewers. Those who requested the information indicated that they had higher degrees
of worry about nuclear issues, a finding which supports the idea that higher degrees of salience lead to an increased commitment to performing anti-nuclear behavior.

Gilbert (1988) also found that lack of salience was an important factor in inhibiting activism against nuclear weapons. He found that without salience there was low activism. Gilbert traces the lack of salience to the unreality of nuclear weapons. Because individuals can minimize the risk of nuclear catastrophe, they are able to deny that there is a problem. As a result of this denial, many do not see the need to actively oppose nuclear weapons. Gilbert also recommends further research be conducted to specifically determine which factors inhibit activism by decreasing the salience of nuclear weapons’ threat.

It is possible that salience affects activism by stimulating people to get more information about nuclear weapons. Hamilton, Lynch, Naginey, Peters, and Piske (1989) found further support for the association between salience and activism. This study found significant correlations between the salience of the nuclear threat and a scale designed to measure activism. The study also introduced a behavioral measure where students were given an opportunity to receive information about nuclear weapons by filling in their names and addresses. This information-seeking measure was also positively correlated both with activism and with salience. The students who felt that the threat was real indicated that they were both performing activist behavior and wanted to seek information about nuclear weapons. Feshback, Kandel, and Haist (1985) found that those who knew more about nuclear issues were more likely to profess anti-nuclear attitudes toward nuclear war. It could be hypothesized that because increases in salience were shown to increase anti-nuclear information seeking, this in turn leads to anti-nuclear
attitudes, though the link and directionality between information seeking and anti-nuclear attitudes is yet to be explored.

Zweigenhaft's (1985) work found that the more participants knew about nuclear issues the more pessimistic they were about their survival after a nuclear holocaust. Those who were more knowledgeable did not think that “there would be food, medical help, or police protection” (p. 292) after a nuclear attack. This shows that the more people know about nuclear weapons, the more they want to eliminate them. This research provides the last step in a logical chain that the previous research could not establish. Whereas the previous research did not show long-term changes in attitude, Zweigenhaft supports the hypothesis that temporary attitude changes stemming from temporary increases in salience might become permanent as a result of the information-seeking behavior that increases anti-nuclear attitudes. Zweigenhaft did not establish a causal relationship between participants being well-informed about nuclear weapons and their anti-nuclear attitudes. It is probable that at least in some cases learning about nuclear weapons makes some people form anti-nuclear attitudes. It is important to anti-nuclear activism to find ways to increase salience so that these activists will be better able to promote the cultural diffusion of anti-nuclear attitudes.

**Naming Effects**

Hupka (1990) found that the names one uses to refer to nuclear weapons might change their salience. His study examined different types of names for nuclear weapons. One type, “pet name,” refers to the kinds of names given to the weapons by the military in order to make them seem friendlier. These names include monikers like “Peacekeeper” and “Minuteman.” Another type of name, known as a “functional name,” refers to the
weapon’s capabilities like “Silo-Launched Guided Missile.” Hupka thought that because the pet names did not associate nuclear weapons with what they actually do, they would yield lower salience in the public and less anti-nuclear activism as a result. Hupka found that exposure to the pet names resulted in lower scores on a scale measuring anti-nuclear activism. However, this effect was only found for those who expressed that they were “Neutral or uncertain” toward nuclear weapons at the beginning of the study (Hupka, 1990, p. 337). Hupka found no significant differences related to naming of nuclear weapons in the group of individuals who were already in favor of nuclear weapons at the beginning of his study. Meanwhile, for the group that was already anti-nuclear, pet names increased their anti-nuclear attitudes. This was explained as an anti-nuclear backlash in response to a perceived attempt at manipulation by the government. For the population as a whole, Hupka found that the use of functional names resulted in more positive attitudes towards nuclear weapons than did the use of pet names. Hupka theorized that the functional names, while more threatening, may not increase the salience of nuclear destruction because they are outside of the everyday normal experiences of people. Since people cannot fully grasp the ways in which the weapons are more threatening without knowing what it means for a weapon to be silo-launched or a cruise missile, the increased salience does not occur.

Communication research provides the theoretical basis for understanding this naming effect. Language, it is theorized, has a large effect on how people perceive their world. Schiappa (1989) explains that “Language creates ‘terministic screens’ which select some aspects of ‘reality’ and deflect others” (p. 254, emphasis original). The result is that the use of certain names for things creates a situation where some information is
brought forward and other information is kept hidden. Schiappa goes on to point out that phrases taken from “ordinary language” (1989, p. 255) shape reality more than do other ways of naming because they connect objects to language that is domesticated and already associated with normal ideas that the audience can accept. The result is that language used to describe nuclear weapons without naming what they do causes people to avoid coming to terms with their terrible effects because these effects are filtered out through a terministic screen that prevents people from accessing the true nature of nuclear devastation.

Another way that nuclear weapon names are theorized to help the public feel comfortable supporting nuclear weapons concerns their ability to help lessen the guilt the public might feel for creating weapons of mass death. Kauffman (1989) explains this hypothesis by writing that “when nuclear weapons threaten the destruction of humanity itself, namegivers must discover symbols that can both ameliorate guilt and preserve conditions in which nuclear weapons can be built and used” (p. 273). According to Kauffman, this works by finding names like “Peacekeeper” that make the weapons seem justifiable. The result of this naming is that people lessen the guilt that results from creating instruments of mass death by using weapon names that are pleasant. Peacekeeper constructs the weapon as necessary to ensure peace even though it is actually a weapon designed to increase America’s first-strike capability. A sneak attack on the Soviet Union which kills millions of people is hardly a peacekeeping behavior. The goal is to create public acceptance of the weapons and thus ensure that weapons programs get continued funding from Congress. As Kauffman cynically notes, if instead of “Peacekeeper” the weapon was named “Decapitator” and the headlines read, “First 10 Decapitator missiles
placed on alert” (1989, p. 282), Americans would get far too accurate a picture of what the weapons were intended to do and feel too guilty to support their continued deployment.

The present study attempts to replicate Hupka’s (1990) finding that individuals who express “neutral or uncertain” attitudes toward nuclear weapons will be more likely to express anti-nuclear attitudes after receiving information that uses functional names. These functional names should increase the salience of the threat of nuclear weapons which should cause an increase in measured anti-nuclear attitudes.

The theory that individuals who see nuclear weapons as more salient are more likely to engage in information seeking behavior will be tested by providing a page at the end of the survey containing websites with anti-nuclear information. As noted, previous research has indicated that higher salience is associated with information seeking behavior. Therefore, it is also hypothesized that individuals who indicated strong anti-nuclear attitudes on the scale will be more likely to remove the last sheet of paper with anti-nuclear information sources due to the heightened salience of the nuclear threat.

*Cognitive Bias X Naming Interactions*

Hupka (1990) also found that there was an interaction between the name of the weapon and the country possessing that weapon. The study found that American participants were more likely to indicate positive feelings toward nuclear weapons when Russia’s weapons were described with functional names and America’s weapons by pet names. It may be that his participants’ perceptions of Russia as an enemy had a significant effect on their perceptions of weapons.
Research (Silverstein, 1989) indicates that Americans had predominantly negative images of Russia during the Cold War when Hupka’s work was completed. Silverstein conducted a survey of the literature concerning U.S. attitudes toward nuclear weapons. S/he found that there were significant feelings of fear and hatred of the Soviet Union resulting in factual and cognitive distortions concerning the Soviet Union during the Cold War. This may have affected Hupka’s (1990) findings. Hupka could not separate cognitive bias from the effects of language because there was no way to manipulate negative feelings toward the Soviet Union. Silverstein found that there had been significant variation of the U.S.’s feelings towards the Soviet Union over time, depending on the level of tension between the two countries, and that therefore different periods could not be considered equivalent. Clearly, further research is needed to determine if the language of nuclear weapons can still affect attitudes toward the weapons since it is possible that recent historical developments have produced less negative attitudes among U.S. citizens toward Russia.

Because the end of the Cold War caused Americans to be significantly less likely to perceive Russia as a threat (Lifton, 2001), it is hypothesized that it will no longer make a difference whether it is Russian weapons or American weapons that are described. It is further hypothesized that scenarios where Russian weapons are listed by pet name and American weapons by functional names will yield the same attitudes towards nuclear weapons as those produced by the reversed labeling pattern. If this hypothesis is supported, it will demonstrate that the effects of language are not dependent on cognitive bias against Russia.

Nuclear Numbing
Another factor that may affect an individual’s perception of nuclear weapons is the degree to which she or he is numb to the effects of the use of those weapons. Lifton and Markusen (1990) explain that part of the process of becoming numb to weapons’ effects involves convincing oneself that one would survive a nuclear war. The authors write, “Among the illusions put forward by potential nuclear victimizers is the expectation that they themselves cannot be counted among the victims” (1990, p. 252).

The result of the numbed stance is the act of “justifying a good nation stockpiling nuclear weapons to deter bad aggressors…” (1990, p. 254). This attitude of nuclear numbing is created out of both the fear of nuclear weapons and the ways they are described.

Lifton (1982) proposes that many become numb to the threat of nuclear devastation due to the human mind’s inability to deal with the magnitude of the threat. The ever hanging threat of burning bodies as millions are incinerated is a horrible concept to deal with on a day to day basis. Living under a kind of permanent Sword of Damocles is impossible if one does not find a way to pretend the sword will not hurt if it falls. The result is that one feels the need to identify with “the sense of power and allegedly increased security offered in connection with more advanced and sophisticated… nuclear weapons” (Lifton, 1982, p.106). Thus, when one feels threatened by nuclear weapons, they push the threat out of their minds by embracing the perceived strength of the weapons.

One of the ways to increase perceived strength is through the language the military policy establishment uses to describe nuclear weapons. Lifton (1982) believes that domesticated names allow people to feel better about the weapons and embrace them without dealing with their terrible effects. He explains that in the language used to
describe them "we find nothing about billions of human beings incinerated or literally melted, nothing about millions of corpses. Rather, the weapons come to seem ordinary and manageable, or even mildly pleasant" (1982, p. 107). Schiappa (1989) also connects domesticated nuclear language to numbing. This author explains that this kind of language "decreases the fear of the specific instruments of nuclear death; the weapons and policies whose deadly nature are clouded by domestication..." (1989, p. 261).

In order to test the hypotheses that people who embrace nuclear weapons are numb to their effects and that domesticated language for nuclear weapons can cause numbing, two questions that measure nuclear numbing from Newcomb's (1986) nuclear weapons attitude scale will be used in the present study. It is hypothesized that if the theory of numbing is correct those who receive information wherein both countries' weapons are listed by functional names will score lower on numbing than those whose information employs pet names for both countries' weapons. Also, there should be a strong relationship between (as explained above) people who supported nuclear weapons at the start of the study and high levels of measured numbing because numbing is associated with support for nuclear weapons as explained above.

Hypotheses Summary

Overall, this experiment will examine six hypotheses. First, participants who indicated that they were "neutral or uncertain" at the beginning of the study will be significantly more likely to produce higher mean scores on the Attitudes Toward Nuclear Disarmament (ATND) scale (indicating support for disarmament) if they see U.S. functional/Russia functional names than if they see U.S. pet/Russia pet names. Second, this neutral group who saw U.S. functional/Russia functional names will be significantly
more likely to remove the last sheet of paper with anti-nuclear sites than those in this group who saw U.S. pet/Russia pet names. Third, that any individuals who score high on the ATND scale will remove the last sheet. Fourth, that the mean scores on the ATND scale will not be significantly different between the group who saw U.S. pet/Russia functional names and the group who saw U.S. functional/Russia pet names. Fifth, it is hypothesized that the mean scores on the numbing scale will be lower (indicating less numbing) for the groups who saw U.S. functional/Russian functional names than the group who saw U.S. pet/Russia pet names. Finally, there should be a statistically significant correlation between low scores on the ATND attitude scale and high scores on the numbing scale.

Method

Participants

There were 61 participants (31 female, 30 male) in the current study. They were all students from 100-level psychology classes at a small Midwestern private college who were given course credit for attending the study. They all signed informed consent forms indicating that there were no foreseeable risks to participation, that their results would be kept confidential, and that they could withdraw from the study at any time without suffering any negative consequences.

Materials

The participants were given a stapled packet containing all the test materials. The first page asked the participants to fill out demographic information including age, sex, year in college, political party, and political orientation as measured by a 5-point Likert scale from conservative to liberal. They were also asked to indicate their attitudes toward
nuclear weapons. Their choices were, “Strongly For,” “For,” “Neutral or Uncertain,” “Against,” or “Strongly Against.”

The next page contained the instructions for the experiment. These explained that they were going to look at descriptions of the United States’ and Russia’s nuclear weapons systems and that they should examine these descriptions very carefully. It also stated that the weapons systems were thought to be comparable.

The third page was where they were exposed to one of the four naming conditions (See Appendix 1). Here they were placed in one of four conditions. In all of the conditions there were two columns divided into subcategories which listed intercontinental range missiles, submarine based missiles, and short range missiles. The first column contained the names of the United States’ weapons in each category and the second column provided names for the Russian weapons. In the first condition, the U.S. pet/Russian pet condition, both countries’ weapons were listed by pet names. These included names like “Peacemaker” and “Trident I” for the American weapons and names like “Stiletto” and “Skiff” for the Russian weapons. In the second condition, the U.S. pet/Russia functional group, the American weapons had the pet names and the Russian weapons were listed by functional names. Functional names were the same for both countries and they described each weapon based on what it does. The functional names were “Silo-Launched Guided Missiles,” “Submarine Launched Ballistic Missiles,” and “Air Launched Cruise Missiles.” The third group, U.S. functional/Russian pet group, had the American weapons listed by function and the Russian weapons listed using pet names. The fourth group, the U.S. functional/Russian functional group, showed both countries’ weapons listed by their functional names. In the U.S. pet/Russian pet
condition, there were two different weapons names in each of the first two sub-categories and one for the last sub-category. When one country’s weapon was listed by function, because there was only one function for each weapon category, there was only one comparable weapon listed by pet name. This was an attempt to eliminate the possibility that the participants would see two pet named weapons for one country and one functionally named weapon for the other and conclude that one country had more weapons than the other. Names were taken from information found at The Center for Defense Information homepage (2003), a web page run by a non-partisan think tank which claims to have the most updated information concerning nuclear weapons.

Realizing the possibility that American names might sound better to American participants than Russian names, a small pilot study was conducted to determine which names the participants felt were the most positive. Thirty-three students from a Psychology Research Methods class provided ratings of each weapon name. A few automobile names (Tiburon, Thunderbird, and Taurus) were included as distracters to decrease the chance that participants would realize they were looking at nuclear weapon names. They rated them on a 1-5 scale ranging from positive = 1 to negative = 5. Based on these results, the sub-categories for the present study was constructed where, in each category of weapon type, a weapon from each country was selected by choosing those that minimized differences between the scores. In each sub-category, the names selected were rated similarly in the pilot-test. The desired result was that the names of the U.S.’s weapons were not perceived as significantly more positive or negative than were the other country’s when not viewed in the context of nuclear weaponry allowing for the study of the effect that country has on attitudes.
The Effects

The next three pages of the packet the participants received contained two scales. The first was the Attitudes Toward Nuclear Disarmament scale (ATND) (See Appendix 2) developed by Larson (1984). This scale is thought to measure how participants feel about nuclear weapons and the degree to which they support nuclear disarmament. The scale consists of 20 statements. Participants are asked to respond by indicating their attitude toward each statement on a 5-point Likert scale providing the response options “Strongly Disagree,” “Disagree,” “No Opinion,” “Agree,” and “Strongly Agree.” These statements included both pro and anti-nuclear assertions such as “A nuclear arsenal provides bargaining strength against our enemies” (pro-nuclear) and “I feel that the production of nuclear armament is one of the United States’ biggest mistakes” (anti-nuclear). Each response to the scale was coded 1 to 5 based on the agreement of the response with anti-nuclear attitudes. For a response of Strongly Agree on a pro-nuclear statement a score of 1 was assigned, while a Strongly Agree on an anti-nuclear statement was coded with a 5. The scores were totaled for each individual resulting in an ATND score ranging from 20-100. The higher the score, the less the participant supported nuclear weapons and the more they supported disarmament. Lower scores indicated that the participant supported nuclear weapons and wanted the United States to continue to possess them. Because this is the same scale Hupka (1990) used in his analysis of effects of nuclear weapon names on attitudes toward nuclear weapons, its use allowed for a more accurate comparison to previous work.

The test packet also included two additional items extracted from the Newcomb (1986) Nuclear Attitudes Questionnaire. These were used to measure the extent to which the participants were numbed to the effects of nuclear weapon use (nuclear numbing).
These items were identical in type to those on the ATND scale. Both statements indicated that nuclear weapons were not a serious threat to our well being or safety. A response of “Strongly Agree” on either question was awarded a 5 and “Strongly Disagree” was awarded a one. The point values for the two questions were totaled to produce a numbing score between 2 and 10, with a higher score indicating greater numbing.

The next page of the test packet contained a simple test of nuclear knowledge. The first question asked the participant to “Name the seven countries that have publicly stated they possess nuclear weapons.” According to The Center for Defense Information homepage (2003), the seven countries are: The United States, Russia, The United Kingdom, France, China, India, and Pakistan. There are other countries who have been accused of having nuclear weapons or have hinted that they might possess such weapons, but only seven known nuclear powers exist. Due to Israel’s official status of “Nuclear Ambiguity” (Arms Control Association Fact-sheet, 2001), a separate question asked the participants to, “Name the country that claims to exist in a state of ‘Nuclear Ambiguity?’” In addition to revealing the accuracy of each participant’s nuclear knowledge, this question yielded a measure of the number of “false positives” identified by each participant—enemy countries the participants thought possessed nuclear weapons that actually do not. The number of false positive enemy nuclear powers provided an indication of whether or not the participant felt threatened by enemy nuclear powers. Popular incorrect answers to this question included Cuba and Afghanistan. Indeed, many countries who are allies of the United States were also incorrectly believed to possess nuclear weapons, including Japan, Germany, Mexico, Canada, and Italy.
Another question asked about how long participants believed it would take a Russian nuclear weapon to reach America. Participants were provided with five response options ranging from “30 seconds or less” to “three days or less.” The correct answer was “30 minutes or less” (Mian, Rajaraman, and Hippel, 2002). The last question asked how many nuclear warheads currently exist. The correct answer was about 30,000 (Norris and Kristensen, 2002).

The final page of the experiment packet contained a list of websites where interested participants could find information about arms control and disarmament. They were told that if they wished to learn more, they could detach this final sheet and take it with them.

Procedure

The participants assembled in classrooms and the informed consent form and experiment packets were distributed. The informed consent form was explained and, once all participants had signed it, they were then asked to fill out the demographic information. Once this was completed, the instruction page was read aloud to them and they were told they could ask questions at any time during the study. Once everyone had finished and the packets and informed consent forms were collected, they were debriefed and thanked.

Results

Effects of Pre-existing Nuclear Attitude and Naming of Weapons on Attitude Score

Recall that it was hypothesized the effect of naming would only be apparent when pre-existing attitude was taken into account. As was predicted, there was no main effect caused by the different types of names used to refer to the nuclear weapons on the ATND
scale, $F(3, 49) = .59, ns, \eta^2 = .035$. This showed that there was no consistent pattern caused for all participants based on which kind of nuclear weapon they saw. There was, as expected, a marginally significant interaction effect between the pre-existing attitude and the way the nuclear weapons were described, $F(5, 49) = 2.03, p = .091$. This effect was found to account for 17.2% of the variance in attitudes toward nuclear weapons. This confirmed the hypothesis that the ways of naming nuclear weapons can affect attitudes but that this effect is mediated by pre-existing attitudes. The analysis of specific hypotheses for each kind of pre-existing attitude follow.

Prior to being exposed to the lists of weapon names, all participants were asked to respond to a single question intended to measure their pre-existing attitude toward nuclear weapons. Based on their responses to this question, participants were classified as belonging to one of three groups. Individuals who indicated that they were either "for" or "strongly for" nuclear weapons will be hereafter referred to as the "pro-nuclear" group. Participants who indicated that they were "neutral or uncertain" about nuclear weapons will hereinafter be referred to as the "neutral" group. Finally, participants who indicated that they were "against" or "strongly against" nuclear weapons will henceforth be referred to as the "anti-nuclear" group. It was hypothesized that the post-exposure attitudes (on the ATND) of individuals belonging to the neutral group (but not those belonging to the pro-nuclear or anti-nuclear groups) would be affected by the type of names (pet vs. functional) that they were exposed to. Post-hoc analysis of each of the three groups of participants showed that this hypothesis was supported. All post-hoc comparisons were conducted using independent sample t-tests using the Bonferroni
Table 1

Mean scores and Standard Deviations on the ATND scale as a function of the type of naming used to refer to the weapons and pre-existing attitude toward nuclear weapons

<table>
<thead>
<tr>
<th>Type of naming</th>
<th>Pre-Existing attitude toward nuclear weapons</th>
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<tr>
<td></td>
<td>Pro-Nuclear</td>
</tr>
<tr>
<td>U.S. pet/Russian pet</td>
<td>51.67 (9.54)</td>
</tr>
<tr>
<td>U.S. pet/Russian function</td>
<td>-</td>
</tr>
<tr>
<td>U.S. function/Russian pet</td>
<td>48.67 (5.03)</td>
</tr>
<tr>
<td>U.S. function/Russian function</td>
<td>42.00 (11.90)</td>
</tr>
</tbody>
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Correction, p < .05. Table 1 shows the mean scores for each group based on the way the nuclear weapons were named.

First, analysis of the ATND scores registered by the pro-nuclear group indicated that their post-exposure attitudes toward nuclear weapons were not significantly affected by the type of weapon names they were exposed to, $F(2, 8) = .98, ns$. This supported the hypothesis that participants with valenced (either pro-nuclear or anti-nuclear) pre-existing attitudes toward nuclear weapons would not be significantly affected by the names used to refer to those devices. It is worth noting, however, that the names used for the weapons did account for 20% of the variance in the scores registered by the pro-nuclear group on the ATND attitude scale. Also, in interpreting these results, it is important to point out that, perhaps as a result of the small size of this group ($n = 11$), none of the pro-nuclear participants happened to fall into the sub-sample randomly assigned to receive information featuring U.S. pet/Russian functional names. The mean scores for the pro-nuclear group can be found in Table 1.
For the neutral group as a whole, 26% of the variance on their ATND scores was accounted for by the type of names used to refer to the nuclear weapons. And in fact, it was hypothesized that the neutral group would be the one group of participants whose attitudes (as measured by the ATND test) would be most affected by being exposed to pet vs. functional names. The nature of these reactions was expected to vary depending on what combination of Russian vs. U.S./pet vs. functional names they were exposed to. Specifically, it was predicted that: (1) participants exposed to U.S. pet/Russian pet names would register the most favorable ATND attitudes toward nuclear weapons, (2) participants exposed to U.S. functional/Russian pet names would not differ significantly in their ATND-measured attitudes from those participants exposed to U.S. pet/Russian functional names (both groups were expected to register mid-range attitude scores), and (3) participants exposed to U.S. functional/Russian functional names would demonstrate the most strongly anti-nuclear attitudes. This hypothesis was supported only in a narrow sense. There was a marginally significant main effect such that pre-existing attitudes and the types of names used were in combination able to predict the post-exposure ATND scores, $F(3, 24) = 2.87, p = .058$. However, the shape of this relationship was not as predicted. It was hypothesized that the friendly-sounding weapon condition (U.S. pet/Russian pet) would produce the most favorable attitude toward nuclear weapons. It didn’t. It was predicted that the threatening-sounding condition (U.S. functional/Russian functional) would produce the least favorable attitude toward nuclear weapons. It didn’t. It was predicted that the other two “mixed-name” conditions (wherein one country’s weapons were referred to with pet names and the other’s with functional names) would be equivalent to each other. They weren’t.
Instead, there was no statistically significant difference between the friendly-sounding condition (U.S. pet/Russian pet), the threatening-sounding condition (U.S. functional/Russian functional) and one of the two mixed-name conditions (U.S. functional/Russian pet). The only statistically significant difference to emerge was a marginal separation between the two “mixed-name” groups (U.S. functional/Russian pet vs. U.S. pet/Russian functional), such that people exposed to the U.S. functional/Russian pet condition were significantly more likely to hold attitudes in favor of nuclear weapons \( (p = .104) \).

Finally, it was predicted that there would be no significant effect of type of names for nuclear weapons among participants who were initially anti-nuclear. This was supported, as the data showed there were no statistically significant differences in mean score on the ATND within this group as a function of the different ways of naming nuclear weapons \( F(3, 17) = 1.01, ns. \) Yet, the names of the nuclear weapons did account for over 15% of the variance in attitudes here. The mean ATND attitude score registered by the participants assigned to the U.S. functional/Russia functional condition was essentially 7 points higher than the mean ATND scores registered by the participants assigned to any of the other three experimental conditions. Meanwhile, the mean ATND scores computed for the participants in the other three conditions (functional/functional, pet/pet and U.S. pet/Russia functional) were essentially identical to each other (these means differed from each other by less than 0.25 on a 100-point scale). This shows that the anti-nuclear weapons group disliked these weapons even more when they perceived them exclusively through the lens of functional names.
Effects of Pre-existing Nuclear Attitude and Naming of Weapons on Nuclear Numbing Scale

It was hypothesized that the degree to which participants felt numb to the possible use of nuclear weapons would be influenced by the way those weapons were named. Specifically: (1) the participants who saw U.S. pet/Russian pet should be the most numb, (2) the participants who saw U.S. functional/Russian functional should be the least numb, and (3) the participants who saw either U.S. pet/Russian functional or U.S. functional/Russian pet should demonstrate mid-range levels of numbness (with the participants assigned to these two conditions not expected to differ significantly from each other). This hypothesis was not supported. The way nuclear weapons were named did not have a statistically significant effect on the mean scores on the nuclear numbing scale $F(3, 49) = .90, ns, \eta^2 = .05$. Unlike ATND scores, there was no interaction between pre-existing attitude toward nuclear weapons and the names of the weapons relative to the numbing scores $F(5, 49) = .46, ns, \eta^2 = .05$.

It was also predicted that individuals who were pro-nuclear at the beginning of the study would report more numbing whereas those who were anti-nuclear would be less numb. This effect was found in the present study, $F(2, 49) = 5.34, p = .01, \eta^2 = .18$. Participants who were anti-nuclear weapons initially were significantly less numb to their effects ($M = 4.37, SD = .38$) than either participants who were pro-nuclear weapons ($M = 6.38, SD = .51$) or were neutral ($M = 5.50, SD = .32$), although the anti vs. neutral difference was only marginally significant ($p = .07$). There was no significant difference between pro-nuclear weapons and neutral participants on this measure. This supports the
hypothesis that individuals who are in favor of nuclear weapons are numb to their effects and individuals who are against them are not.

Effects of Nuclear Knowledge on Nuclear Numbing Scale

This study did not pose a hypothesis concerning the relationship between the scores on the nuclear knowledge test and nuclear numbing. But examination of the scores on the nuclear knowledge scale did yield significant results. The first three questions on this text ("Name the seven countries that have publicly stated they possess nuclear weapons," "Name the country that claims to exist in a state of 'nuclear ambiguity,'" and "According to military experts, about how long would it take Russia’s weapons to reach American cities once the button was pushed?") yielded a range of scores. For each participant, a “nuclear knowledge” score was computed by adding together the number of correct responses he or she made to these three questions. The fourth and final question ("About how many nuclear weapons currently exist?") was not factored into this nuclear knowledge score because only one participant came anywhere near the correct answer of “about 30,000” (Norris and Kristensen, 2002, p.-). The answers actually given to this question ranged from “three” to “millions” to the very cynical (or maudlin) “too many.”

Initially, the nuclear knowledge score did not demonstrate any significant relationship with the numbing scale, $F(7, 53) = .87, ns, \eta^2 = .103$. However, a closer examination of the nuclear knowledge scores revealed that 2/3 of the participants recorded scores of between 2 and 4. When the analysis was limited to those participants, a marginally significant effect was found $F(2, 37) = 1.92, p = .16$, accounting for 9% of the variance in numbing. The mean numbing score for the group that scored 2 on the nuclear knowledge test was 4.3 ($SD = .53$), for the group that scored 3 it was 5.21 ($SD =$
The Effects 26

.39), and for the group that scored 4 it was 5.73 ($SD = .51$). This showed that increased knowledge about nuclear weapons is related to increased levels of numbing to their effects.

Relationship between Nuclear Knowledge and Pre-Existing Attitude

This study proposed no predictions concerning any possible relationship between pre-existing attitude toward nuclear weapons and nuclear knowledge levels. Yet, pre-existing attitude toward nuclear weapons was found to have a statistically significant relationship with the mean scores on the nuclear knowledge test $F(2, 57) = 3.92, p = .025, \eta^2 = 12$. The mean scores on the nuclear knowledge scale registered by each group of participants (classified according to their pre-existing attitudes) were: (1) pro-nuclear group, $M = 4.64, SD = .50$, (2) neutral group, $M = 3.32, SD = .31$, and (3) anti-nuclear group, $M = 2.95, SD = .36$. This shows that higher levels of nuclear knowledge are positively related to being pro-nuclear.

Sex and Naming Condition Effects on Attitude Scale Scores

Despite the lack of any hypothesis concerning sex, there was a marginally significant interaction between sex and naming condition on mean scores on the ATND scale, $F(3, 53) = 2.29, p = .089, \eta^2 = .115$. Post-hoc analysis revealed that, for womyn, the names of the nuclear weapons did not have a significant relationship with their attitude toward nuclear weapons, $F(3, 27) = .52, ns, \eta^2 = .055$. The opposite was true for men, $F(3, 26) = 4.124, p = .016, \eta^2 = .32$. Men who saw U.S. functional/Russian functional names were significantly more in favor of nuclear weapons than were men who saw U.S. pet/Russian functional names, $M = 60.57, SD = 3.55$ and $M = 44.00, SD = 3.32$ respectively. This shows that whereas womyn were immune to condition in terms of
their feelings toward nuclear weapons, men were significantly affected by the names used to refer to the weapons.

Effect of Gender and Number of Perceived Nuclear Enemies on ATND Score

The part of the study where the participants were asked to list the countries with nuclear weapons yielded data showing how many enemy countries they falsely identified as having claimed nuclear weapons. An interaction between sex and the number of enemy countries participants falsely perceived to have publicly stated that they possess nuclear weapons was found to have a marginally significant effect on mean scores on the ATND, $F(2, 54) = 2.82, p = .068, \eta^2 = .1$. Post-hoc analysis found significant differences between womyn and men related to their beliefs about how many enemies of the U.S. possess nuclear weapons. Specifically, as the participants believed that nuclear weapons lay in the hands of an increasing number of U.S. enemies, womyn had increasingly anti-nuclear attitudes while men became increasingly pro-nuclear. The difference between men and womyn who listed one false nuclear enemy was statistically significant, $F(1, 28) = 8.72, p = .006, \eta^2 = .24$. The mean scores for womyn and men in this group were $M = 62.36, SD = 2.92$ and $M = 50.56, SD = 2.73$ respectively. Also, the difference between womyn and men who listed two false nuclear enemies was found to be statistically significant, $F(1, 5) = 12.06, p = .018, \eta^2 = .71$. The mean scores for the womyn and men in this group were $M = 66.25, SD = 3.12$ and $M = 49.33, SD = 3.68$ respectively. There was no statistically significant difference between the womyn and men who did not falsely identify any nuclear enemies. Also, only men listed three false nuclear enemies. This indicates that as participants perceive more enemies possessing nuclear weapons, men want to keep nuclear weapons more and womyn want to get rid of them more.
Discussion

This study set out to examine the connections between the names given to nuclear weapons and the attitudes that people hold toward nuclear weapons. This research was predicated on the assumption that the pet names created by the military would lend support to their policy of a nuclear arms buildup. The current study produced results that tend to reject that assumption. However, the portrait of individuals who support a nuclear arms buildup that emerges from this study is of much interest.

**Naming Condition and Pre-Existing Nuclear Attitudes**

The original hypothesis that the kind of names used for nuclear weapons would, by themselves, not be enough to significantly affect attitude toward nuclear weapons was supported. Also, the hypothesis that the pre-existing attitudes toward nuclear weapons would affect how the participants reacted to the different ways of naming nuclear weapons was supported. For two of the groups, the pro-nuclear and anti-nuclear, the hypothesis that there would be no significant effects of nuclear weapons naming on nuclear attitude was supported. However, the neutral group’s results, while significant, as predicted, were not in the direction hypothesized. Each groups’ results will be discussed in turn.

**Pro-Nuclear Group**

First, the data from the participants who, at the start of the study, were pro-nuclear will be examined. This study failed to confirm the hypothesis that this group would already have very rigid attitudes toward nuclear weapons and therefore could not be affected by the names as Hupka’s (1990) analysis suggested. In the present study, Hupka’s theory was supported except for the U.S functional/Russia functional condition.
When the pro-nuclear weapons group saw both sets of weapons listed in their most descriptive terms, i.e., intercontinental ballistic missile, they became more supportive of nuclear arms than they did in any other condition. The U.S. functional/Russia pet group had somewhat more favorable attitudes toward nuclear weapons than the U.S. pet/Russian pet group, but the attitude difference was twice as great when pro-nuclear people were shown the U.S. functional/Russia functional condition. There are several possible explanations for this.

One possible explanation is that pro-nuclear participants are more likely to apply Cold War-style thinking to contemporary problems. When these people perceived Russian weapons through the lens of functional names the threat to the U.S. may have been perceived as higher than when these weapons were associated with weaker pet names. This group may have rationalized that we definitely needed nuclear weapons because of Russia's possession of powerful weapons. Unfortunately there were no pro-nuclear participants in the U.S. pet/Russia functional condition. Their results could have demonstrated support for this hypothesis. Had this group of pro-nuclear weapons people been more in favor of nuclear weapons than the U.S. functional/Russia pet group, this would have demonstrated that the important factor in the quest for having our own weapons is our fear of powerful Russian weapons. However, if the U.S. pet/Russian functional group's attitudes had been less pro-nuclear than the U.S. functional/Russian functional group, it would be clear that this group, both fears Russian weapons and firmly believes in the necessity of powerful American weapons to protect us (we cannot afford to rely on weak "Peacemakers"). The numbing scale data supports this second hypothesis.
Previous attitude toward nuclear weapons was found to be a significant predictor of score on the numbing scale. Participants who indicated that they were in favor of nuclear weapons did not believe that nuclear weapons posed much of a threat to our welfare. They were evidently numbed before the experiment even began, thus the scenario they received did not have an effect on numbing. If they are numb to the threat of the weapons, then having nice names for them would not make them feel better. They already feel pretty good about the weapons. What they want are powerful weapons to secure our position in the world. Lifton (1990) explains that, "By stressing 'strength' and 'security,' leaders enhance everyone's numbing..." (p.249). This group was the most numb to the threat of nuclear weapons and thus responded the most positively to strong nuclear weapons. So, the U.S. functional/Russia functional condition's most numbed participants would probably support nuclear weapons the most.

**Neutral Group**

Data from the neutral group failed to support the hypothesis that, within this group, since Cold War attitudes have receded, it should not matter whether Russia's weapons were listed with pet names and America's with functional or vice versa. However, the data collected not only failed to support this hypothesis, they directly contradicted Hupka's (1990) results.

Whereas Hupka (1990) found that the neutral group liked nuclear weapons the most when they were listed with U.S. pet names and Russian functional, the present study found the opposite. Hupka theorized that this group of initially neutral participants supported keeping nuclear weapons the most in this scenario because it created a sense of "our 'good' weapons versus their 'bad' weapons" (1990, p. 225). The present study
reverses this belief. For the neutral group, those in the U.S. pet/Russian functional condition had much more negative attitudes toward nuclear weapons than the group whose information employed U.S. functional/Russian pet names. The initially neutral group no longer wants to support “good” weapons, and now wants to support “bad” functional ones. Instead of a good/bad dichotomy, it appears that contemporary attitudes are based around a strong/weak distinction. After 9/11, America rallied behind an ideal of strength instead of an ideal of moral goodness. During the Cold War we could not credibly perceive the Soviet Union as weak (instead they were painted as evil) whereas now the prevailing ideal is that we need to be strong and our enemies must be weak. If America’s weapons have weak names like “Peacekeeper” they will do us little good if we are to subdue our enemies. An “Intercontinental Ballistic Missile” is an indispensable part of our defense system, but a “Trident” is not.

A key factor, however, is still whose weapons have which names. This is especially true of the initially neutral participants because there was no significant difference on the attitude scale between those who had information listing both countries’ weapons by pet names and those who saw both listed by functional names. It was hypothesized that the pet names would produce positive attitudes toward nuclear weapons and functional names would produce negative attitudes. In fact, the pet names produced slightly more negative attitudes toward nuclear weapons among neutral participants. It appears that even though the Cold War is over, the effect that the weapons’ names have on nuclear attitudes are only significant when those weapons are contrasted with either a stronger or weaker named weapon of another country.

*Anti-Nuclear Weapons Group*
For the remaining group, those who were either "against" or "strongly against" nuclear weapons (the anti-nuclear group), the data once again contradicted what Hupka (1990) found and ran counter to the hypothesized relationship. The data showed that the only scenario that had any effect on the anti-nuclear group was the one where both countries' weapons were listed by their functional names. Only under this condition did the anti-nuclear group show an increased desire over the other conditions to eliminate nuclear weapons.

Recall, Hupka (1990) found that, when shown U.S. pet/Russian functional names, anti-nuclear participants became even less supportive of nuclear weapons. He speculated that this was a backlash against government deception by the U.S. In the current study, the anti-nuclear group only really changed their opinions if both countries' weapons were described functionally. Hupka's group may have been wary of government attempts to promote propaganda depicting our weapons as good and the Soviet Union's as bad. His group may have increased their anti-nuclear attitudes as a result of connecting the nuclear issue to a rejection of government manipulation. The current study's group may no longer distrust the U.S. government as much as Hupka's anti-nuclear group did. This could also be part of a post-9/11 belief that now is a time to unite behind the government. The United States was not at war during Hupka's study and perhaps that cohort felt more comfortable criticizing the government.

It may be that those who are against nuclear weapons now base their position on the degree to which they perceive them as dangerous and deadly. Viewing both countries' weapons with functional names would demonstrate for them how terrible these weapons are, thus intensifying their desire to eliminate them. This is supported by the numbing
data, which indicated that people who are already against nuclear weapons are aware of the danger of nuclear war. When this group sees both countries possessing these dangerous weapons, they react by wanting to eliminate the dangerous weapons because they are aware of the danger they present.

Looking at the data as a whole then, one sees that people who are most against nuclear weapons after being exposed to the naming manipulation are consistently those who were already against nuclear weapons. Those who were most in favor of nuclear weapons at the end of the study were already in favor of those weapons at the beginning of the study. What these data suggest is that the names we use for nuclear weapons do not affect those who already have an opinion about America’s continued possession of nuclear weapons. The exception to this is the group who saw functional names for both countries’ weapons. This condition had a polarizing effect on the participants who already had an opinion, intensifying whatever belief they already possessed. Naming can have a significant effect on individuals who do not already have an attitude toward weapons, but that effect is only apparent when the neutral group perceives that America has strong nuclear weapons and Russia’s are weak. Under these conditions the neutral group becomes more in favor of nuclear weapons because weapons named this way reinforce the idea that America is strong and other countries are weak. When the neutral groups sees that America’s weapons are weak and Russia’s are strong (the U.S. pet/Russian functional group) they are more likely to advocate disarmament because if the U.S. cannot have the best nuclear weapons, no one should have any.

_Nuclear Numbing_
The hypothesis that pet names would produce a higher degree of numbing to the dangers of nuclear weapons than functional names was not supported. There was no significant link to numbing associated with the naming condition. However, numbing was linked to other pre-existing variables.

There was a significant connection between pre-test attitude toward nuclear weapons and numbing. Those who supported nuclear weapons were also the most numb to their effects. Neutral participants were also numb, but slightly less so. This provides support for the theory that numbing is the psychological defense mechanism that allows people to support nuclear weapons buildup. Theoretically, if one feels as though nuclear weapons are not a threat, it becomes easier to support them.

Another aspect of the theory of numbing was supported by the present study. The pro-nuclear weapons group scored the highest on the test of nuclear knowledge. They knew more about which countries had nuclear weapons and how long those weapons would take to strike U.S. cities. The only participant who knew how many nuclear weapons there were was part of the pro-nuclear weapons group and had a score on the attitude scale indicating high support for nuclear weapons. While this single participant does not alone support this theory, his responses were consistent with the other nuclear knowledge data. The data indicated that individuals who have learned a great deal about nuclear weapons are also the most likely to be numb to their effects and to support their continued buildup. These data also showed that the more people knew about nuclear weapons, the more numbing they exhibited on the numbing scale.

Lifton and Markusen (1990) believed that numbing was a response to the increased fear of nuclear conflict. If the pro-nuclear weapons group knows a great deal
about the number of countries in the world who possess nuclear weapons, perhaps they respond with numbing in order to feel comfortable with that threat, thus embracing nuclear weapons as a means to reducing that anxiety about the world. It makes sense that this group was already in favor of nuclear weapons and embraced U.S. weapons with strong names when faced with Russian weapons with strong names. For the pro-nuclear group, when faced with external enemies possessing threatening weapons, they want to possess equally powerful weapons to feel safe.

**Sex**

This study also found that sex had a significant effect on the way the participants reacted to the naming of nuclear weapons. The most significant finding was that, in the group that saw both countries’ weapons listed by functional name, womyn were much more likely to dislike nuclear weapons than men. This effect was due, however, to men’s different responses to the weapons’ names. Womyn were not significantly affected by the names for nuclear weapons. For the men, however, there were significant differences between conditions indicating that men were significantly affected by the names used to refer to nuclear weapons.

The difference between the attitudes toward nuclear weapons of the men who were in the U.S. functional/Russian functional names group and the men who were in the U.S. pet/Russian functional names group was significant. Within the men’s attitudes toward nuclear weapons, the men in the U.S. functional/Russian functional condition were the most in favor of nuclear weapons and the men U.S. pet/Russian functional names group were the least in favor of nuclear weapons. This may be explained by the numbing data showing that men are more numb to the effects of nuclear weapons’ use
than are womyn and more likely to be in favor of nuclear weapons than are womyn. Taken together, this seems to indicate that men want strong nuclear weapons to protect us from our enemies. When our weapons appear weak, especially when shown next to the strong functionally-named Russian weapons, men may be following the previously explained mentality that weak weapons are useless and therefore America should take steps to disarm its nuclear arsenal. Perhaps this group of men who want to disarm American weapons want to use the money in order to build up military strength. Future research on the effects of the names of nuclear weapons could attempt to focus on this effect by researching only men and adding a militarism scale to determine if a belief in a strong military as the solution to international problems is shaping their beliefs toward nuclear weapons and the kinds of names to which they react.

The hypothesis that men perceive that the world is threatening the United States is supported by the data that show a relationship between sex and the number of enemy countries participants falsely identified as claiming to possess nuclear weapons. Many participants listed countries that, though political enemies of the United States, like Afghanistan, Iran, Iraq, North Korea, Libya, and Cuba, had not publicly stated that they possessed nuclear weapons. What this measure may be demonstrating is the degree of nuclear threat these participants perceive that the U.S. faces from the rest of the world. The more countries that they think possess nuclear weapons, it is theorized, the more they perceive the world to be threatening.

The results were that the more enemy countries womyn perceive as possessing nuclear weapons the more they want to disarm. The more enemy countries men listed, the more they want to keep nuclear weapons. This supports the hypothesis that men are more
likely to see the world as threatening and want to find something strong to protect the U.S.

**Anti-Nuclear Behavior**

None of the independent variables examined in this study successfully predicted the anti-nuclear behavior of removing the information sheet provided at the end of the packet. Thus, the present study failed to support the prediction that groups who saw the threat of nuclear weapons as highly salient would engage in information-seeking behavior. More specifically, neither the "neutral group" exposed to the U.S. functional-Russian functional condition nor those who were already anti-nuclear before the study were particularly likely to tear off and take away the last page of the test booklet. Perhaps this study did not manipulate or measure the variables that might cause such behavior. It is also possible that taking the information sheet is not an accurate measure of anti-nuclear behavior. Participants who plan on participating in anti-nuclear activism may not think that a list of websites is going to help them. Fiske (1987) found that both a high degree of salience and political efficacy had to be present before individuals engaged in anti-nuclear activism. The present study may have had an effect on salience but not political efficacy. Future research attempting to manipulate nuclear activism should examine the effects of both together. Using the same participant pool as the present study, Jursa (2004) found that there is a belief among college students that the current political system alienates young voters from politics. Simply performing this same study in a population with a higher degree of political activism may increase the effects of salience on anti-nuclear activism.

**Future Directions**
Future researchers in this area should note that replication of the current study is hampered by the possibility that the ecological validity of this study may be limited due to a typing error in the creation of the information packets. The LGM-118 Peacekeeper was listed as "Peacemaker" instead of "Peacekeeper." This was a fairly important error because there are important rhetorical differences between making peace and keeping it. Keeping peace assures the audience that the status quo will be maintained whereas making peace requires some degree of change. Perhaps Americans do not like the idea of using nuclear weapons to cause major shifts in the international community’s policies. However, there was probably not a significant validity loss for two reasons. First, none of the participants made any comments questioning the accuracy of the names. Also, the similarity is so close that Kauffman (1989) states that defense planners would accidentally say Peacemaker when they were referring to the Peacekeeper due to the associations with the Colt-45 Peacemaker. This means that, politically the names have been interchanged with no known major changes in perceptions of nuclear weapons. Yet, this study illustrates the importance of even small changes in language and future researchers should make note of this error.

Although this study set out to discover a link between the salience of the threat of nuclear weapons and anti-nuclear beliefs, examination of the results has created a much fuller view of anti and pro-nuclear beliefs. People do react to the language used to describe nuclear weapons but that reaction is largely mediated by what they thought about nuclear weapons before they saw the language. Increasing the salience of nuclear weapons consequences is not an automatic route to anti-nuclear activism. Instead, salience increases both anti and pro-nuclear beliefs. Furthermore, it is not the key factor
for those who sit on the fence. This key group of people that anti-nuclear activists would like to convert to their side cares much less about salience and much more about whether or not our weapons are weak or not as compared to other countries. This study suggests that the best way to convince these people is to show them how inadequate nuclear weapons are to facing 21st century threats. Language that describes America’s nuclear weapons as weak and America’s enemies’ weapons as strong may help produce that effect.

Unfortunately this study was unable to contribute to knowledge about how to translate anti-nuclear attitudes into anti-nuclear behavior. No variable was found to correlate with the decision to take the information sheet, the only behavioral measure used here. Future research might try other behavioral measures that participants feel would actually contribute to anti-nuclear activism.

Previous research that focused on the ways that the language associated with nuclear weapons affects people inaccurately homogenized the effects across the population. Hupka’s (1990) study and the current study expand that research by demonstrating that the language that Lifton (1990, 1982), Schiappa (1989), and Kauffman (1989) criticized as causing people to support nuclear weapons without thinking about them (i.e. the use of pet names) does not affect attitudes in the manner they predicted. Pet names had an effect, but that effect did not consistently cause people to support nuclear weapons. Indeed, for some groups, the functional names of the weapons increased support for nuclear weapons instead of decreasing it. Perhaps the great Military-Industrial Complex is not as good as manipulating the public as these authors feared. This study demonstrates that the American public is not as easily
manipulated as anti-nuclear theorists thought they were. While attitudes can be manipulated with language, individual perceptions strongly mediate both the direction and the intensity of that effect.
References


Appendix 1

Scenario 1

Below is a brief description of the United States’ and Russian Federation’s nuclear weapons systems. Please read it carefully to compare each country’s capability and then complete the enclosed questionnaire.

In the intercontinental range capabilities, the United States and the Russian Federation have the following comparative systems:

<table>
<thead>
<tr>
<th>United States</th>
<th>Russian Federation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minute Man III</td>
<td>Stiletto</td>
</tr>
<tr>
<td>Peacemaker</td>
<td>Sickle</td>
</tr>
</tbody>
</table>

In the submarine based missiles, the United States and the Russian Federation have the following comparative systems:

<table>
<thead>
<tr>
<th>United States</th>
<th>Russian Federation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trident I</td>
<td>Sturgeon</td>
</tr>
<tr>
<td>Trident II</td>
<td>Skiff</td>
</tr>
</tbody>
</table>

In the short range missiles the United States and the Russian Federation have the following comparative systems:

<table>
<thead>
<tr>
<th>United States</th>
<th>Russian Federation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomahawk</td>
<td>Bear H6</td>
</tr>
</tbody>
</table>
Scenario 2

Below is a brief description of the United States’ and Russian Federation’s nuclear weapons systems. Please read it carefully to compare each country’s capability and then complete the enclosed questionnaire.

In the intercontinental range capabilities, the United States and the Russian Federation have the following comparative systems:

<table>
<thead>
<tr>
<th>United States</th>
<th>Russian Federation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peacemaker</td>
<td>Silo-Launched Guided Missiles</td>
</tr>
</tbody>
</table>

In the submarine based missiles, the United States and the Russian Federation have the following comparative systems:

<table>
<thead>
<tr>
<th>United States</th>
<th>Russian Federation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trident I</td>
<td>Submarine Launched Ballistic Missiles</td>
</tr>
</tbody>
</table>

In the short range missiles the United States and the Russian Federation have the following comparative systems:

<table>
<thead>
<tr>
<th>United States</th>
<th>Russian Federation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomahawk</td>
<td>Air Launched Cruise Missile</td>
</tr>
</tbody>
</table>
Scenario 3

Below is a brief description of the United States’ and Russian Federation’s nuclear weapons systems. Please read it carefully to compare each country’s capability and then complete the enclosed questionnaire.

In the intercontinental range capabilities, the United States and the Russian Federation have the following comparative systems:

<table>
<thead>
<tr>
<th>United States</th>
<th>Russian Federation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silo-Launched Guided Missiles</td>
<td>Silo-Launched Guided Missiles</td>
</tr>
</tbody>
</table>

In the submarine based missiles, the United States and the Russian Federation have the following comparative systems:

<table>
<thead>
<tr>
<th>United States</th>
<th>Russian Federation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submarine Launched Ballistic Missiles</td>
<td>Submarine Launched Ballistic Missiles</td>
</tr>
</tbody>
</table>

In the short range missiles the United States and the Russian Federation have the following comparative systems:

<table>
<thead>
<tr>
<th>United States</th>
<th>Russian Federation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Launched Cruise Missile</td>
<td>Air Launched Cruise Missile</td>
</tr>
</tbody>
</table>
Scenario 4

Below is a brief description of the United States’ and Russian Federation’s nuclear weapons systems. Please read it carefully to compare each country’s capability and then complete the enclosed questionnaire.

In the intercontinental range capabilities, the United States and the Russian Federation have the following comparative systems:

**United States**  
Silo-Launched Guided Missiles  

**Russian Federation**  
Stiletto

In the submarine based missiles, the United States and the Russian Federation have the following comparative systems:

**United States**  
Submarine Launched Ballistic Missiles  

**Russian Federation**  
Skiff

In the short range missiles the United States and the Russian Federation have the following comparative systems:

**United States**  
Air Launched Cruise Missile  

**Russian Federation**  
Bear H6
Appendix 2

Please indicate how you feel about the following statements by circling the response that most accurately represents how you feel about the statement above it.

1. Nuclear disarmament is the only way to prevent a nuclear disaster in the future.
   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

2. Since we have an obligation to provide safety to our allied countries, we should maintain a quality nuclear program.
   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

3. A nuclear arsenal provides bargaining strength against our enemies
   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

4. Nuclear weapons are being produced that will never be used
   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

5. My vote could make a difference concerning nuclear disarmament
   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

6. The risks of nuclear war are justifiable.
   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

7. If there were a major threat of war between the U. S. and the Russian Federation, I would publicly demonstrate to support nuclear disarmament.
   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

8. In the event of a nuclear war, the U.S. should have weaponry to prevent most U. S. cities from being bombed.
   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

9. I feel that the production of nuclear armament is the one of the United States' biggest mistakes.
   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree
10. The U.S. should abandon unclear arms buildup altogether.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

11. Nuclear weapons proliferation (build up) is an effective means of deterrence (discouragement).

Strongly Disagree Disagree No Opinion Agree Strongly Agree

12. It is possible to disarm and still maintain national security.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

13. No one wins a nuclear war.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

14. The risk of having a nuclear weapon go off accidentally outweighs the benefits of having nuclear weapons.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

15. The only way to avoid the destruction of mankind is to eliminate nuclear weapons.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

16. Total abandonment of nuclear weapons is a must for worldwide peace.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

17. The proliferation (buildup) of nuclear weapons is justifiable in terms of creating jobs.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

18. The world will be destroyed by a nuclear war.

Strongly Disagree Disagree No Opinion Agree Strongly Agree

19. The U.S. should begin disarmament now, even if the Russian Federation will not agree to disarm.

Strongly Disagree Disagree No Opinion Agree Strongly Agree
20. It is important for the U.S. to “keep up” with other countries in the nuclear arms race.

Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

21. I imagine I would survive a nuclear war

Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

22. Many people tend to overreact about the threat of nuclear war

Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree
Footnote

1. None of these participants happened to be in the condition employing U.S.-pet/Russian-functional.