

Appendix

Disarming arguments: How to get the public to support nuclear abolition

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Methods

Procedure

The data were collected from the 20th of April to the 4th of May 2021 by a public opinion research company IPSOS using an online survey¹. The data were representative of the working-age American population across sex, age, and region. The median duration of the survey was 3.7 minutes.

At the beginning of the study, participants gave an informed consent with the participation and answered several demographic questions (about their gender, age, nationality, political orientation, political party identification, education, and household income). Afterwards, participants were asked about US leadership of nuclear disarmament efforts, their willingness to participate on a demonstration for nuclear disarmament and financially contribute to the cause, and their opinion about the feasibility of nuclear disarmament and the likelihood of nuclear weapons use. They also answered an attention check item. In the next part, participants evaluated each of the six arguments for nuclear disarmament presented in a random order. Finally, participants answered questions about whether the global nuclear disarmament would make them feel secure. Full wording of the materials can be found below.

Participants

In the first wave, 1000 participants completed the study. To ensure quality of the data, we used an attention check item to filter out participants who might have responded randomly, untruthfully, and/or have not paid sufficient attention to the survey. We asked participants the following question: “What was the main topic of this survey so far?”, which was correctly answered by 918 of them. After filtering out 82 participants who failed the attention check, IPSOS collected data from additional respondents. Thus, the final sample consisted of 1000 participants, all of whom passed the attention check.

Of the 1000 participants, 47.1% identified as male, 52.1% as female, and the rest selected the option “other” (0.4%) or declined to answer (0.4%) when asked about their gender. The median age was 40 years (*IQR* = 23), the minimum was 18 and the maximum was 65 years. More detailed distribution of age can be found in Table A1 and proportions of answers to the remaining demographic questions are in Table A2.

¹ <https://www.ipsos.com>

	<i>percentiles</i>								
	<i>10</i>	<i>20</i>	<i>30</i>	<i>40</i>	<i>50</i>	<i>60</i>	<i>70</i>	<i>80</i>	<i>90</i>
age	23	27	32	36	40	44	50	54	60

Table A1. The distribution of age.

Results

Table A3 contains proportion of answers to the questions about attitudes towards nuclear disarmament efforts, their feasibility, and likelihood of nuclear weapons use. The overall median intended contribution to nuclear disarmament efforts was \$0 (*IQR* = \$51.5), because slightly more than 50 % respondents were willing to contribute zero dollars. Among those willing to contribute something, the median contribution was \$60 (*IQR* = \$180). Lastly, Table A4 contains evaluation of the arguments for disarmament.

To make the results more easily presentable, we dichotomized variables from Table A3 and A4 measured on 6- and 8-point Likert scales. Then we conducted a series of binary logistic regressions with each of the variables in Table A3, using gender, age, party identification, education, and income. Party identification was related to all variables, except to the believe that disarmament is feasible, with Democrats being more supportive of the lead role of US in nuclear disarmament efforts, more willing to attend related demonstrations, more likely to believe that nuclear weapons will be used during their lifetime, and more likely to feel secure in case the global disarmament is achieved. When party identification variable is replaced with political orientation, the results of all analyses remain qualitatively same. Associations with other predictors varied between different dependent variables (see Tables A5a – A5e for detail). Finally, we performed a non-parametric repeated measures ANOVA with all arguments for nuclear disarmament (see Table A6).

gender	Male	Female	Other	Prefer not to answer								
	47.1	52.1	0.4	0.4								
region	Midwest	Northeast	South	West								
	24	20.6	34.6	20.8								
nationality	United States	other										
	100	0										
political orientation	Very conservative	Conservative	Slightly conservative	Moderate	Slightly liberal	Liberal	Very liberal					
	9.4	16.2	9.1	35.2	10.6	11.7	7.8					
party identification	Strong Democrat	Not strong Democrat	Independent, near Democrat	Independent	Independent, near Republican	Not strong Republican	Strong Republican	Other				
	19.9	11.7	10.6	23	7	10.8	12.9	4.1				
education	Less than high school degree	High school graduate	Some college but no degree	Associate degree in college (2-year)	Bachelor's degree in college (4-year)	Master's degree	Doctoral degree	Professional degree (JD, MD)				
	3.2	21.4	21.3	14.6	26.3	10.7	0.8	1.7				
household income	Less than \$10,000	\$10,000 - \$19,999	\$20,000 - \$29,999	\$30,000 - \$39,999	\$40,000 - \$49,999	\$50,000 - \$59,999	\$60,000 - \$69,999	\$70,000 - \$79,999	\$80,000 - \$89,999	\$90,000 - \$99,999	\$100,000 - \$149,999	More than \$150,000
	9.2	7.4	10.7	9.6	9	9.2	6.4	7.9	4.5	5.9	13	7.2

Table A2. Proportions of the answers (in %) to the demographic questions.

	Strongly disagree	Disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Agree	Strongly agree
Do you agree or disagree that the United States should now take the lead and start negotiating with other nuclear-armed countries to make immediate steps to achieve global nuclear disarmament (that is, a world without nuclear weapons)?	6.5	5.7	5.5	6.5	22.2	14.7	20.6	18.2
Would you be willing to attend a public demonstration advocating for a global nuclear disarmament (that is, a world without nuclear weapons)?	20.4	19.9	10.7		20.7	9.8	12.4	6.1
Do you agree or disagree that global nuclear disarmament would make you feel more secure?	5.7	5.7	4.1	6.1	17.7	12.7	22.9	25.1
	Extremely unlikely	Moderately unlikely	Slightly unlikely	Slightly likely	Moderately likely	Extremely likely		
How likely or unlikely do you find that one day the world will be without nuclear weapons?	34.5	21.4	20.1	13.2	6.1	4.7		
How likely or unlikely do you find that nuclear weapons will be used (intentionally or by accident) during your lifetime?	11.3	12.3	17.7	35.6	15.5	7.6		

Table A3. Proportions of the answers (in %) to questions regarding nuclear weapons disarmament and use.

All nuclear weapons in the world should be eliminated...	Strongly disagree	Disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Agree	Strongly agree
... because it is the only way to prevent a catastrophic act of nuclear terrorism.	6.4	5	6.8	8.0	17.4	13.9	18.5	23.1
... because irrational leaders of new states possessing nuclear weapons (such as North Korea or potentially Iran) cannot be deterred.	5.2	4.7	4.6	7.3	21.6	14.6	19.8	22.2
... because that is the only way to prevent nuclear war with catastrophic consequences.	5.8	6.0	5.7	8.9	17.3	12.8	19.7	23.8
... because nuclear weapons are principally immoral due to the catastrophic humanitarian consequences of their use.	6.2	6.9	5.5	9	15.1	12.7	21	23.6
... because of the constant threat of a nuclear accident with catastrophic consequences.	5.1	5.2	6.8	7.5	16.5	13.5	21.4	24
... because maintenance of nuclear arsenals is expensive and diverts public funds from health care, education, disaster relief, and other vital services.	6.2	7.2	7.5	12	18.3	13.7	18.8	16.3

Table A4. Evaluation of the arguments for disarmament.

Lead						
	B	S.E.	Wald	df	Sig.	Exp(B)
Age	0.009	0.006	2.14	1	0.144	1.009
Male	-0.333	0.157	4.528	1	0.033	0.716
Party identification	-0.203	0.039	26.557	1	0.000	0.816
Education	0.018	0.056	0.107	1	0.743	1.019
Income	0.066	0.025	6.819	1	0.009	1.068
Constant	1.272	0.339	14.079	1	0.000	3.568

Table A5a.

Willing						
	B	S.E.	Wald	df	Sig.	Exp(B)
Age	-0.015	0.005	8.579	1	0.003	0.985
Male	-0.035	0.135	0.066	1	0.797	0.966
Party identification	-0.216	0.034	40.747	1	0.000	0.805
Education	0.01	0.049	0.045	1	0.831	1.01
Income	0.005	0.022	0.049	1	0.824	1.005
Constant	1.35	0.3	20.24	1	0.000	3.857

Table A5b.

Disarm						
	B	S.E.	Wald	df	Sig.	Exp(B)
Age	-0.029	0.006	21.86	1	0.000	0.971
Male	0.084	0.157	0.283	1	0.595	1.087
Party identification	-0.135	0.04	11.401	1	0.001	0.873
Education	0.191	0.057	11.314	1	0.001	1.21
Income	-0.070	0.026	7.447	1	0.006	0.933
Constant	0.124	0.339	0.133	1	0.716	1.132

Table A5c.

Use						
	B	S.E.	Wald	df	Sig.	Exp(B)
Age	-0.002	0.005	0.176	1	0.674	0.998
Male	-0.18	0.134	1.807	1	0.179	0.835
Party identification	-0.043	0.033	1.713	1	0.191	0.958
Education	-0.017	0.048	0.128	1	0.720	0.983
Income	0.037	0.021	2.953	1	0.086	1.037
Constant	0.542	0.293	3.425	1	0.064	1.72

Table A5d.

Secure						
	B	S.E.	Wald	df	Sig.	Exp(B)
Age	-0.002	0.007	0.044	1	0.833	0.998
Male	-0.594	0.191	9.656	1	0.002	0.552
Party identification	-0.253	0.048	27.582	1	0.000	0.776
Education	0.103	0.069	2.211	1	0.137	1.108
Income	0.076	0.031	6.217	1	0.013	1.079
Constant	2.286	0.415	30.348	1	0.000	9.838

Table A5e.

Friedman				
χ^2		df		p
	66.1	5		< .001

Pairwise Comparisons (Durbin-Conover)			Statistic	p
terrorism	-	rogue states	3.72	< .001
terrorism	-	nuclear war	0.491	0.623
terrorism	-	hum. impact	0.351	0.726
terrorism	-	accidents	1.755	0.079
terrorism	-	costs	4.071	< .001
rogue states	-	nuclear war	3.229	0.001
rogue states	-	hum. impact	4.071	< .001
rogue states	-	accidents	1.965	0.049
rogue states	-	costs	7.792	< .001
nuclear war	-	hum. impact	0.842	0.4
nuclear war	-	accidents	1.263	0.206
nuclear war	-	costs	4.563	< .001
hum. impact	-	accidents	2.106	0.035
hum. impact	-	costs	3.72	< .001
accidents	-	costs	5.826	< .001

Table A6.

Materials

What is your gender?

Male (1)

Female (2)

Other (3)

Prefer not to answer (4)

What is your age? (in years) _____

What is your nationality?

United States (1)

other (2)

Where on the following scale of political orientation would you **in general** place yourself:

Very conservative (1)

Conservative (2)

Slightly conservative (3)

Moderate (4)

Slightly liberal (5)

Liberal (6)

Very liberal (7)

Generally speaking, do you usually think of yourself as a Republican, Democrat, Independent, or what?

Strong Democrat (1)

Not strong Democrat (2)

Independent, near Democrat (3)

Independent (4)

Independent, near Republican (5)

Not strong Republican (6)

Strong Republican (7)

Other (8)

What is the highest level of school you have completed or the highest degree you have received?

Less than high school degree (1)

High school graduate (high school diploma or equivalent including GED) (2)

Some college but no degree (3)

Associate degree in college (2-year) (4)

Bachelor's degree in college (4-year) (5)

Master's degree (6)

Doctoral degree (7)

Professional degree (JD, MD) (8)

In which of these groups did your total household income, from all sources before taxes, fall last year?

Less than \$10,000 (1)

\$10,000 - \$19,999 (2)

\$20,000 - \$29,999 (3)

\$30,000 - \$39,999 (4)

\$40,000 - \$49,999 (5)

\$50,000 - \$59,999 (6)

\$60,000 - \$69,999 (7)

\$70,000 - \$79,999 (8)

\$80,000 - \$89,999 (9)

\$90,000 - \$99,999 (10)

\$100,000 - \$149,999 (11)

More than \$150,000 (12)

Do you agree or disagree that **the United States should** now take the lead and **start negotiating with other nuclear-armed countries to make immediate steps to achieve global nuclear disarmament** (that is, a world without nuclear weapons)?

Strongly disagree (1)

Disagree (2)

Moderately disagree (3)

Slightly disagree (4)

Slightly agree (5)

Moderately agree (6)

Agree (7)

Strongly agree (8)

Why do you agree or disagree?

Would you be willing **to attend a public demonstration advocating for a global nuclear disarmament** (that is, a world without nuclear weapons)?

Strongly disagree (1)

Disagree (2)

Moderately disagree (3)

Slightly disagree (4)

Slightly agree (5)

Moderately agree (6)

Agree (7)

Strongly agree (8)

How much money per year **would you be willing to donate to a non-governmental organization that advocates for a global nuclear disarmament** (that is, a world without nuclear weapons)?

USD per year: _____

How likely or unlikely do you find **that one day the world will be without nuclear weapons?**

Extremely unlikely (1)

Moderately unlikely (2)

Slightly unlikely (3)

Slightly likely (4)

Moderately likely (5)

Extremely likely (6)

How likely or unlikely do you find **that nuclear weapons will be used (intentionally or by accident) during your lifetime?**

Extremely unlikely (1)

Moderately unlikely (2)

Slightly unlikely (3)

Slightly likely (4)

Moderately likely (5)

Extremely likely (6)

Please think carefully and pick the best answer for the following question. **What was the main topic of this survey so far?**

nuclear weapons (1)

climate change (2)

architecture (3)

alternative medicine (4)

sports (5)

English literature (6)

How much do you agree or disagree with the following reasons for elimination of all nuclear weapons in the world?

All nuclear weapons in the world should be eliminated...

... because it is the only way to prevent a catastrophic act of nuclear terrorism.

Strongly disagree (1)

Disagree (2)

Moderately disagree (3)

Slightly disagree (4)

Slightly agree (5)

Moderately agree (6)

Agree (7)

Strongly agree (8)

... because irrational leaders of new states possessing nuclear weapons (such as North Korea or potentially Iran) cannot be deterred.

... because that is the only way to prevent nuclear war with catastrophic consequences.

... because nuclear weapons are principally immoral due to the catastrophic humanitarian consequences of their use.

... because of the constant threat of a nuclear accident with catastrophic consequences.

... because maintenance of nuclear arsenals is expensive and diverts public funds from health care, education, disaster relief, and other vital services.

Do you agree or disagree that **global nuclear disarmament would make you feel more secure?**

Strongly disagree (1)

Disagree (2)

Moderately disagree (3)

Slightly disagree (4)

Slightly agree (5)

Moderately agree (6)

Agree (7)

Strongly agree (8)