Online Appendix for "Public opinion and the politics of the killer robots debate"

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Appendix Table 1: Summary Statistics (Experiment #1)

	Mean	SD	Min	Max
Support use of force	2.911	1.313	1.000	5.000
Condition: AWS More Effective	0.397	0.489	0.000	1.000
Condition: AWS Defensive	0.398	0.490	0.000	1.000
Military Service: 1 = Yes 0 = No	0.081	0.272	0.000	1.000
Age	3.162	1.244	1.000	7.000
Republican: 1 = Yes 0 = No	0.202	0.402	0.000	1.000
Male: 1 = Yes 0 = No	0.553	0.497	0.000	1.000
Foreign Policy Hawkishness	4.183	1.889	1.000	8.000
Positive Robot Views: 1 = Yes 0 = No	0.718	0.450	0.000	1.000
Robot Usage: 1 = Yes, 0	0.154	0.361	0.000	1.000

= No				
Supports US drone strikes: 1 = Yes 0 = No	0.545	0.498	0.000	1.000
Informed about US AWS in SQ: 2 = Yes, 1 = Partial, 0 = No	1.247	0.830	0.000	2.000
Knows AWS is not a drone: 1 = Yes 0 = No	0.722	0.448	0.000	1.000
Thinks US has AWS now: 1 = Yes 0 = No	0.455	0.498	0.000	1.000
Observations	1043			

Appendix Table 2: Partisan Breakdown (Experiment #1)

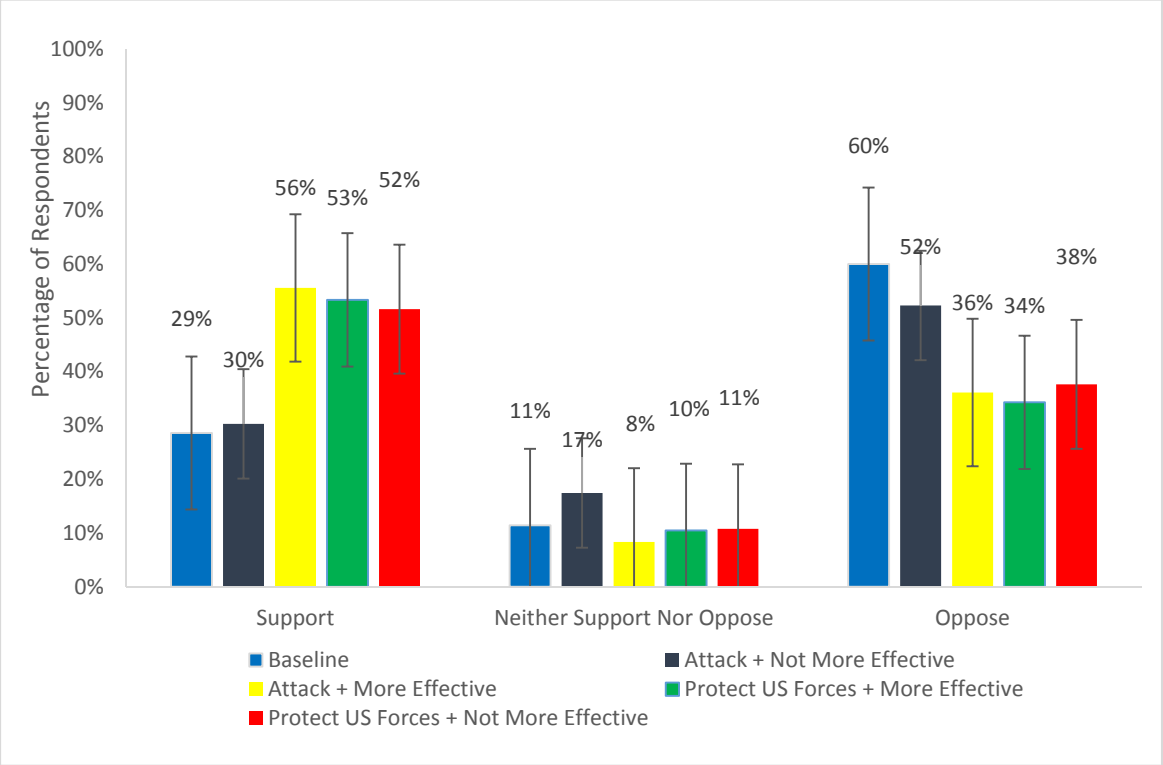
	Partisanship
Democrat	466
Republican	211
Independent	358
Total	1035
N	1035

Appendix Table 3: Age Breakdown (Experiment #1)

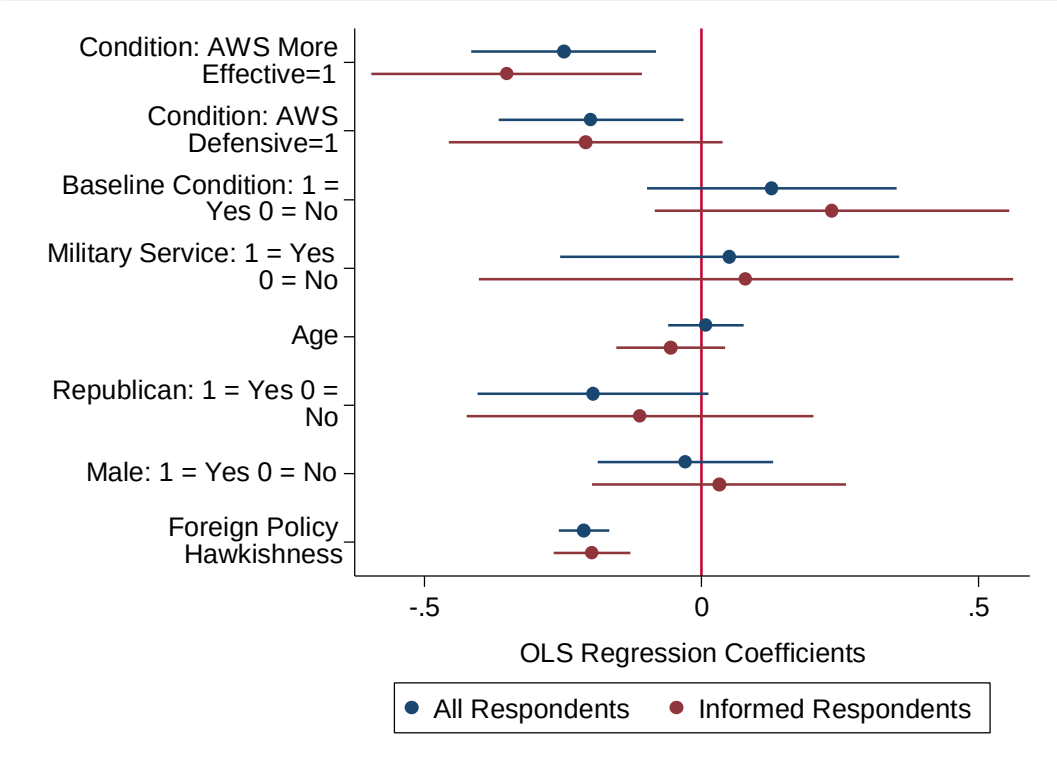
	Age
18-29	375
30-39	330
40-49	163
50-59	94
60-69	60
Older than 69	7

Total	1029
N	1029

Appendix Figure 1: Replication of Figure 1 Just On "Informed" Participants



Appendix Figure 2: OLS Models Used To Generate Figure 2 In Paper Text (Experiment #1)



Appendix Table 4: Robustness Tests (Experiment #1)

	(1) Controlling for Hawkishness	(2) Controlling for Hawkishness + Views of Robotics	(3) Controlling for Hawkishness + Views of Robotics + Drone Strike Support + Info on AWS	(4) Model #3 with Age Population Weights	(5) Model #3 with Partisanship Population Weights
	B/SE	B/SE	B/SE	B/SE	B/SE
Condition: AWS	-0.285***	-0.294***	-0.297***	-0.318**	-0.280***
More Effective	(0.0794)	(0.0795)	(0.0748)	(0.136)	(0.0784)
Condition: AWS	-0.236***	-0.227***	-0.153**	-0.221	-0.163**
Defensive	(0.0787)	(0.0791)	(0.0759)	(0.151)	(0.0797)
Military Service: 1 =	0.0462	0.0582	0.106	0.323	0.100
Yes 0 = No	(0.156)	(0.157)	(0.144)	(0.214)	(0.147)
Age	0.00577	0.00121	0.0333	0.127**	0.0336
	(0.0347)	(0.0347)	(0.0328)	(0.0495)	(0.0345)
Republican: 1 = Yes	-0.197*	-0.193*	-0.0741	-0.137	-0.0974
0 = No	(0.106)	(0.105)	(0.0986)	(0.172)	(0.0997)

Male: 1 = Yes 0 = No	-0.0262	-0.0142	-0.00480	0.0135	-0.00151
	(0.0805)	(0.0806)	(0.0756)	(0.112)	(0.0792)
Foreign Policy Hawkishness	-0.212***	-0.209***	-0.121***	-0.0433	-0.109***
	(0.0231)	(0.0231)	(0.0229)	(0.0363)	(0.0239)
Robot Usage: 1 = Yes, 0 = No		-0.188*	-0.170	-0.438***	-0.207*
		(0.112)	(0.104)	(0.149)	(0.109)
Supports US drone strikes: 1 = Yes 0 = No			-0.935***	-1.001***	-0.940***
			(0.0792)	(0.107)	(0.0821)
Knows AWS is not a drone: 1 = Yes 0 = No			0.218***	0.472***	0.236***
			(0.0819)	(0.142)	(0.0853)
Thinks US has AWS now: 1 = Yes 0 = No			-0.282***	-0.0972	-0.280***
			(0.0824)	(0.179)	(0.0874)
Constant	4.043***	4.066***	4.022***	3.227***	3.969***
	(0.160)	(0.159)	(0.175)	(0.350)	(0.186)
Observations	1029	1029	1025	1025	1025
R^2	0.130	0.133	0.254	0.251	0.246
ll	-1667.6	-1666.0	-1581.4	-1612.1	-1590.3

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note that in Model 4, the *AWS Defensive* variable slightly misses standard significance levels, though the coefficient is still in the right direction and close to statistical significance. This is likely due to the age bias in MTurk samples. When the results are re-weighted to mirror the population, it places an excessive amount of weight on a small number of responses by older respondents. Future research should replicate these experiments with a population sample to test the robustness of the overall findings.

Appendix Table 5: Results Just For Those That Oppose AWS Even Under Favorable Conditions (Experiment #1)

	(1) Opposes Developing AWS Even When Defensive + More Effective: 1 = Yes, 0 = No B/SE
Military Service: 1 = Yes 0 = No	0.257
	(0.612)
Age	-0.0485
	(0.149)
Republican: 1 = Yes 0 = No	-0.511
	(0.490)

Male: 1 = Yes 0 = No	-0.0497
	(0.370)
Foreign Policy	-0.0730
Hawkishness	(0.109)
Supports US drone	-1.299***
strikes: 1 = Yes 0 = No	(0.357)
Knows AWS is not a	1.183**
drone: 1 = Yes 0 = No	(0.526)
Thinks US has AWS	-0.643
now: 1 = Yes 0 = No	(0.392)
Constant	-0.403
	(0.966)
Observations	207
R^2	
ll	-104.0

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

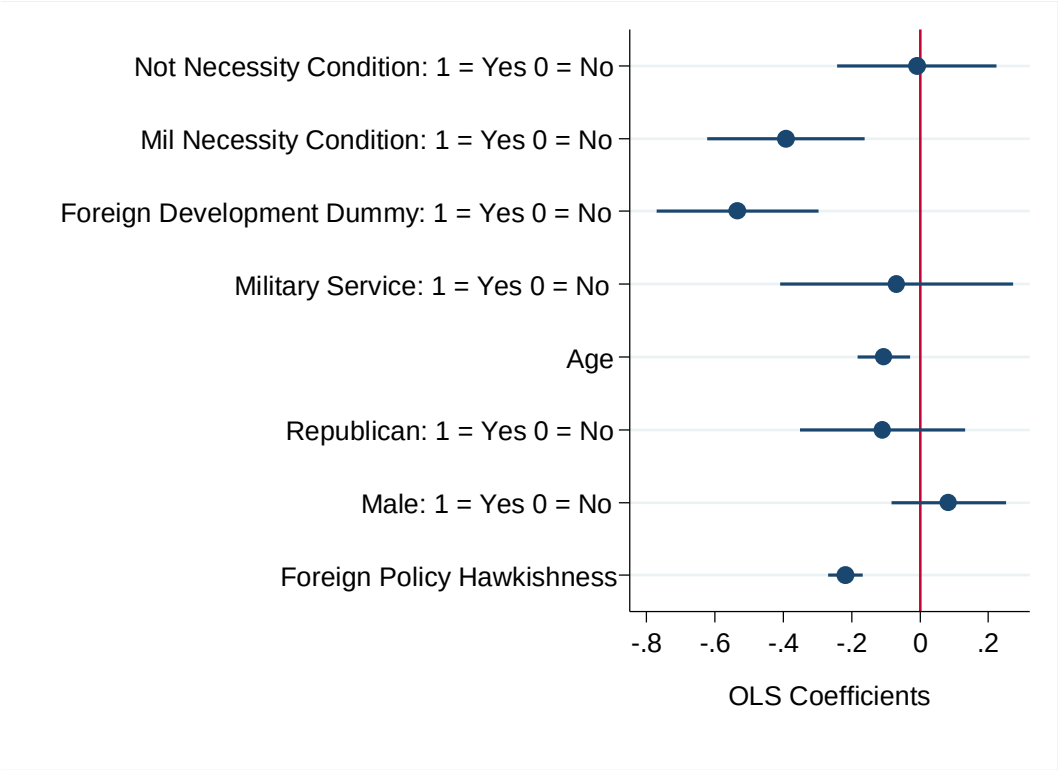
Appendix Table 6: Summary Statistics (Experiment #2)

	Mean	SD	Min	Max
Baseline Condition: 1 = Yes 0 = No	0.244	0.430	0.000	1.000
Mil Necessity Condition: 1 = Yes 0 = No	0.243	0.429	0.000	1.000
Foreign Development Dummy: 1 = Yes 0 = No	0.246	0.431	0.000	1.000
Military Service: 1 = Yes 0 = No	0.064	0.244	0.000	1.000
Age	3.044	1.166	1.000	6.000
Republican: 1 = Yes 0 = No	0.179	0.384	0.000	1.000
Male: 1 = Yes 0 = No	0.586	0.493	0.000	1.000
Foreign Policy Hawkishness	3.901	1.810	1.000	8.000
Positive Robot Views: 1 = Yes 0 = No	0.675	0.469	0.000	1.000
Robot Usage: 1 = Yes, 0 = No	0.109	0.312	0.000	1.000
Supports US drone strikes: 1 = Yes 0 = No	0.481	0.500	0.000	1.000
Observations	847			

Appendix Table 7: Partisan Breakdown (Experiment #2)

	(1) 0 = Dem, 1 = GOP, 2 = Indep
Democrat	387
Republican	152
Independent	299
Total	838

Appendix Figure 3: Regression Coefficient Plot (Experiment #2)



Appendix Table 8: Robustness Tests (Experiment #2)

	(1) Controlling for Hawkishness	(2) Controlling for Hawkishness + Views of Robotics	(3) Controlling for Hawkishness + Views of Robotics + Drone Strike Support	(4) Model #3 with Partisanship Correction Weights	(5) Model #3 with Age Correction Weights
	B/SE	B/SE	B/SE	B/SE	B/SE
Baseline Condition: 1 = Yes 0 = No	0.00885	0.0427	0.0317	0.115	0.0254
	(0.119)	(0.117)	(0.112)	(0.155)	(0.125)
Mil Necessity Condition: 1 = Yes 0 = No	-0.384***	-0.371***	-0.345***	-0.430***	-0.412***
	(0.115)	(0.113)	(0.110)	(0.142)	(0.119)
Foreign Development Dummy: 1 = Yes 0 = No	-0.525***	-0.529***	-0.476***	-0.634***	-0.507***
	(0.119)	(0.118)	(0.115)	(0.150)	(0.127)
Military Service: 1 = Yes 0 = No	-0.0690	-0.0667	-0.0991	-0.223	-0.142
	(0.173)	(0.169)	(0.161)	(0.201)	(0.167)
Age	-0.106***	-0.109***	-0.0444	-0.0463	-0.0427
	(0.0395)	(0.0395)	(0.0375)	(0.0428)	(0.0417)
Republican: 1 = Yes 0 = No	-0.110	-0.125	-0.0116	-0.0372	-0.0481
	(0.123)	(0.121)	(0.118)	(0.151)	(0.121)
Male: 1 = Yes 0 = No	0.0839	0.136	0.180**	0.174	0.192**
	(0.0858)	(0.0852)	(0.0806)	(0.109)	(0.0891)
Foreign Policy Hawkishness	-0.219***	-0.220***	-0.156***	-0.118***	-0.152***
	(0.0257)	(0.0254)	(0.0264)	(0.0344)	(0.0292)
Positive Robot Views: 1 = Yes 0 = No		-0.359***	-0.224***	-0.184	-0.243***
		(0.0859)	(0.0839)	(0.112)	(0.0938)
Robot Usage: 1 = Yes, 0 = No		-0.376***	-0.336***	-0.217	-0.339**
		(0.126)	(0.123)	(0.176)	(0.132)
Supports US drone strikes: 1 = Yes 0 = No			-0.734***	-0.816***	-0.695***
			(0.0926)	(0.118)	(0.0979)
Constant	4.623***	4.881***	4.641***	4.541***	4.655***
	(0.181)	(0.182)	(0.180)	(0.231)	(0.203)
Observations	823	822	822	822	822
R^2	0.154	0.182	0.245	0.267	0.239
ll	-1309.7	-1294.5	-1261.6	-1270.4	-1279.1

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Experiment #1 Text (additional text available upon request and in Dataverse)

Conducted November, 2015 using Amazon's Mechanical Turk service. The experimental conditions are below, as well as

Baseline Condition: Drones are remotely piloted by a human controller, but autonomous weapon systems are robotic systems that, once activated, can independently make targeting and firing decisions without a human in the loop. Would you approve or disapprove of the United States developing autonomous weapon systems?

- Strongly approve (1)
- Somewhat approve (2)
- Neither approve nor disapprove (3)
- Somewhat disapprove (4)
- Strongly disapprove (5)

Protect + More Effective Condition: Drones are remotely piloted by a human controller, but autonomous weapon systems are robotic systems that, once activated, can independently make targeting and firing decisions without a human in the loop. Would you approve or disapprove of the United States developing autonomous weapon systems if:

· Autonomous weapon systems would be used to protect US military personnel on naval ships and military bases from attacks by foreign militaries and militant groups

· Autonomous weapon systems would be more effective than other options at protecting US military personnel on naval ships and military bases from attack by foreign militaries and militant groups

- Strongly approve (1)
- Somewhat approve (2)
- Neither approve nor disapprove (3)
- Somewhat disapprove (4)
- Strongly disapprove (5)

Attack + More Effective Condition: Drones are remotely piloted by a human controller, but autonomous weapon systems are robotic systems that, once activated, can independently make targeting and firing decisions without a human in the loop. Would you approve or disapprove of the United States developing autonomous weapon systems if:

· Autonomous weapon systems would be used to attack the naval ships and military bases of foreign militaries and militant groups

· Autonomous weapon systems would be more effective than other options at attacking the naval ships and military bases of foreign militaries and militant groups

- Strongly approve (1)
- Somewhat approve (2)
- Neither approve nor disapprove (3)
- Somewhat disapprove (4)
- Strongly disapprove (5)

Attack + Not More Effective: Drones are remotely piloted by a human controller, but autonomous weapon systems are robotic systems that, once activated, can independently make

targeting and firing decisions without a human in the loop. Would you approve or disapprove of the United States developing autonomous weapon systems if:

· Autonomous weapon systems would be used to attack the naval ships and military bases of foreign militaries and militant groups

· Autonomous weapon systems would not be more effective than other options at attacking the naval ships and military bases of foreign militaries and militant groups

- ❍ Strongly approve (1)
- ❍ Somewhat approve (2)
- ❍ Neither approve nor disapprove (3)
- ❍ Somewhat disapprove (4)
- ❍ Strongly disapprove (5)

Protect + Not More Effective: Drones are remotely piloted by a human controller, but autonomous weapon systems are robotic systems that, once activated, can independently make targeting and firing decisions without a human in the loop. Would you approve or disapprove of the United States developing autonomous weapon systems if:· Autonomous weapon systems would be used to protect US military personnel on naval ships and military bases from attacks by foreign militaries and militant groups· Autonomous weapon systems would not be more effective than other options at protecting US military personnel on naval ships and military bases from attacks by foreign militaries and militant groups

- ❍ Strongly approve (1)
- ❍ Somewhat approve (2)
- ❍ Neither approve nor disapprove (3)
- ❍ Somewhat disapprove (4)
- ❍ Strongly disapprove (5)

Hawkishness: Some people believe the United States should solve international problems by using diplomacy and other forms of international pressure and use military force only if absolutely necessary. Suppose we put such people at one end of this scale. Others believe diplomacy and pressure often fail and the US must be ready to use military force. Suppose we put them at the other

end. And of course, others fall in between the two end points. What about you: where would you place yourself on this scale?

- 1- The U.S. should solve problems with diplomacy and international pressure (1)
- 2- (3)
- 3- (4)
- 4- (5)
- 5- (6)
- 6- (7)
- 7- The US must be ready to use military force (8)

Robotic Usage: Have you ever used, or are you currently using, robots at home or at work (e.g. a robotic vacuum cleaner at home or an industrial robot at work)?

- Yes, at home (1)
- Yes, at work (2)
- Yes, at home and at work (3)
- No (4)
- Don't know (5)

Robotic Views: Generally speaking, how would you describe your view of robots?

- Very positive (1)
- Somewhat positive (2)
- Neither positive nor negative (3)
- Somewhat negative (4)
- Very negative (5)

AWS Now: Autonomous weapon systems are systems that, once activated, can independently make targeting and firing decisions without a human in the loop. Does the United States military currently deploy autonomous weapon systems?

- Yes (1)
- No (2)

AWS v. Drones: Autonomous weapon systems are systems that, once activated, can independently make targeting and firing decisions without a human in the loop. Are these the same or different, in terms of making target and firing decisions, from the drones used by the United States military and others today?

- Same (2)
- Different (3)

Drone Strikes: Do you approve or disapprove of the United States conducting missile strikes from pilotless aircraft called drones to target extremists in countries such as Afghanistan, Pakistan, Yemen and Somalia?

- Strongly approve (1)
- Somewhat approve (2)
- Neither approve nor disapprove (3)
- Somewhat disapprove (4)
- Strongly disapprove (5)

Experiment #2 Text (additional text available upon request and in Dataverse)

Conducted August 3-4, 2015 using Amazon's Mechanical Turk service. The four experimental conditions are below (each respondent saw one condition).

Baseline Condition: Drones are remotely piloted by a human controller, but autonomous weapon systems are robotic systems that, once activated, can independently make targeting and firing decisions without a human in the loop. Would you approve or disapprove of the United States developing autonomous weapon systems?

- Strongly approve (1)
- Somewhat approve (2)
- Neither approve nor disapprove (3)
- Somewhat disapprove (4)
- Strongly disapprove (5)

Military Necessity Condition: Drones are remotely piloted by a human controller, but autonomous weapon systems are robotic systems that, once activated, can independently make targeting and firing decisions without a human in the loop. Would you approve or disapprove of the United States developing autonomous weapon systems if developing them was necessary to ensure the American military remains as strong as it is today?

- Strongly approve (1)
- Somewhat approve (2)
- Neither approve nor disapprove (3)
- Somewhat disapprove (4)
- Strongly disapprove (5)

Foreign Development Condition: Drones are remotely piloted by a human controller, but autonomous weapon systems are robotic systems that, once activated, can independently make targeting and firing decisions without a human in the loop. Would you approve or disapprove of the United States developing autonomous weapon systems if other countries and/or violent non-state actors were developing them?

- Strongly approve (1)
- Somewhat approve (2)
- Neither approve nor disapprove (3)
- Somewhat disapprove (4)
- Strongly disapprove (5)

No Military Necessity Condition: Drones are remotely piloted by a human controller, but autonomous weapon systems are robotic systems that, once activated, can independently make targeting and firing decisions without a human in the loop. Would you approve or disapprove of the

United States developing autonomous weapon systems if developing them was not necessary to ensure the American military remains as strong as it is today?

- ❍ Strongly approve (1)
- ❍ Somewhat approve (2)
- ❍ Neither approve nor disapprove (3)
- ❍ Somewhat disapprove (4)
- ❍ Strongly disapprove (5)