

Supplementary Information

Supplementary methods 1

Simulation model

We here describe simulations carried out to investigate the robustness of the results of the mathematical model when (1) the probability that an agent is swayed by an argument is allowed to decline if the agent was not moved by that argument previously, and additionally (2) the population is not fixed but includes agents dying and being replaced by naïve agents who have yet to encounter any arguments.

The simulation model includes 1 000 agents with an equal number of liberals and conservatives. As in the main model, liberals and conservatives differ in the kinds of arguments by which they may be swayed. Conservatives can be swayed by arguments based on any moral foundation, while liberals only accept arguments based on the harm or fairness foundation. The model assumes that there are a total of 10 arguments for each position. The ‘for’ position is always supported by 10 harm-fairness-based arguments. To vary the strength of the harm-fairness connection advantage, we let the number of harm-fairness-based arguments ‘against’ vary between 0 and 9 (with the remaining arguments being based on binding foundations). The population is assumed initially to have only 2% of liberals and 2% of conservatives holding the ‘for’ position. At every time step, each agent discusses an issue with another randomly assigned agent. Influence may occur only if the two agents hold opposite positions, in which case each agent is exposed to a randomly drawn argument for the position they are not currently holding. Given that an agent accepts the argument, the probability that the agent is swayed by it is initially set to 0.5. This probability decreases by a depreciation factor r ($0 < r < 1$) every time the agent is exposed to the argument but not swayed by it.

Running simulations of this model reveals the resulting dynamics to exhibit key similarities with the original model: the position with a harm-fairness connection advantage spreads both among liberals and conservatives, and at a rate that increases with the size of the advantage. However, a new phenomenon may occur if the deterioration in arguments is sufficiently strong compared to the harm-fairness connection advantage; namely, public opinion may then get stuck in a mixed equilibrium, that is, stop moving before the advantaged position has completely taken over, see Supplementary Fig. 1.

We now introduce a birth and death process by which agents are sometimes replaced by naïve individuals. Specifically, at each time point, a fixed proportion of randomly drawn agents is replaced with new agents that are of the same type (liberal or conservative) and hold the same position (for or against) as the agent they replace. As illustrated in Supplementary Fig. 2, the resulting dynamics from simulating this model has the same key features of the model in the main text: the position with a harm-fairness connection advantage spreads both among liberals and conservatives and at a speed that increases with the size of the advantage. Moreover, note that the inclusion of births and deaths typically makes public opinion continue to move until the advantaged position has taken over the whole population. Even with the most extreme deterioration rate of zero, which is equivalent to agents immediately disregarding any future argument they are not convinced by the first time, we find that even a 5% death rate can be enough for the advantaged position to take over completely.

Supplementary Results 1

The effect of opinion and beliefs about opinion change on the connection between position and arguments

In this section, we will verify that argument support for a moral position is not based on personal opinion of respondents nor on perceived opinion change. Supplementary Fig. 4 shows estimates for opinion, political leaning and beliefs about opinion change from the mixed-effect models. Both having an opinion in favour of a position and believing that the position has become more popular increases the probability of choosing

universal arguments for the position. However, these effects together explain about 2% of the variation or less for all types of arguments.

We also control for our main result being enforced by the small but significant effects of individual opinions and beliefs about opinion change. We constructed an alternative measure of harm-fairness connection advantage in which, rather than using average harm and fairness support for each position, we averaged the predicted values from the mixed-effect models for the harm and fairness foundations, controlling for individual opinion, political leaning, and belief about opinion change. The main correlation between the opinion change rate and the alternative measure remained robust, $r(72) = .69$, $p < 0.001$, 95% CI [0.54, 0.79].

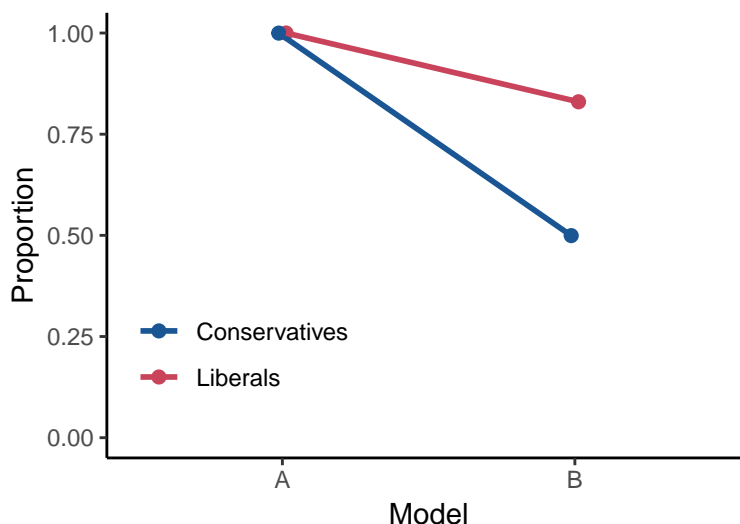
Supplementary Results 2

Harm-fairness connection advantage reliability

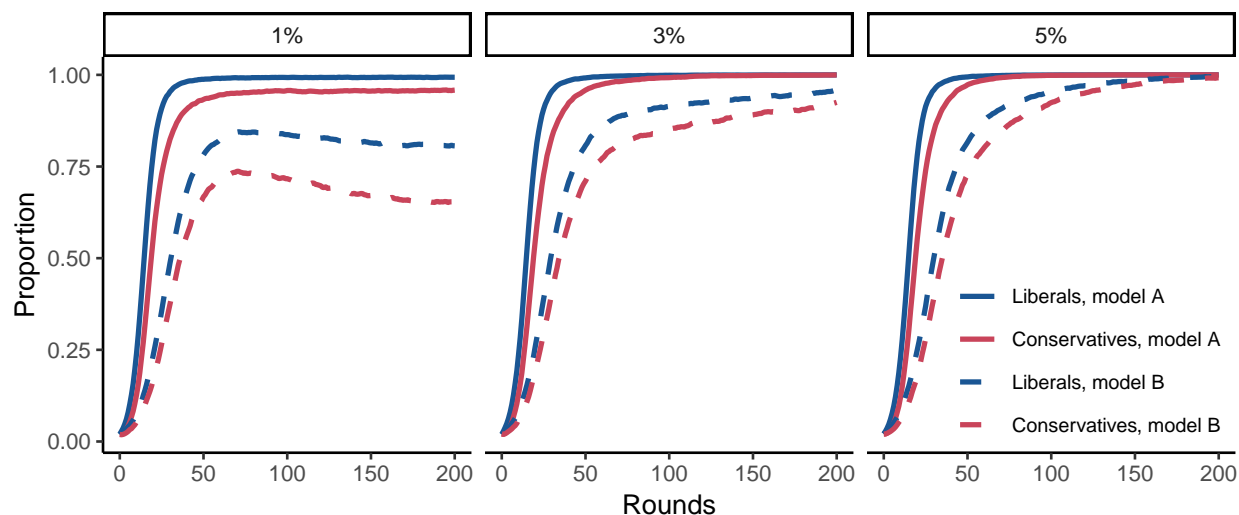
Here we verify that the chosen sample size is sufficient for reliable estimation of the harm-fairness connection advantage. Our end goal was to correlate the harm-fairness connection advantage to change rate estimates. Inaccuracy in the harm-fairness advantage estimates will bias the correlation. We approximated a possible bias with random draws of subsamples from the Mturk responses. The results are presented in Supplementary Fig. 5, which shows how the estimated correlation between the harm-fairness connection advantage and the rate of change reaches 0.7 already at $n = 40$.

We also found that the results are the same in the first and the second half of the data collection, $r(72) = 0.97$, $p < 0.001$, 95% CI [0.96, 0.98].

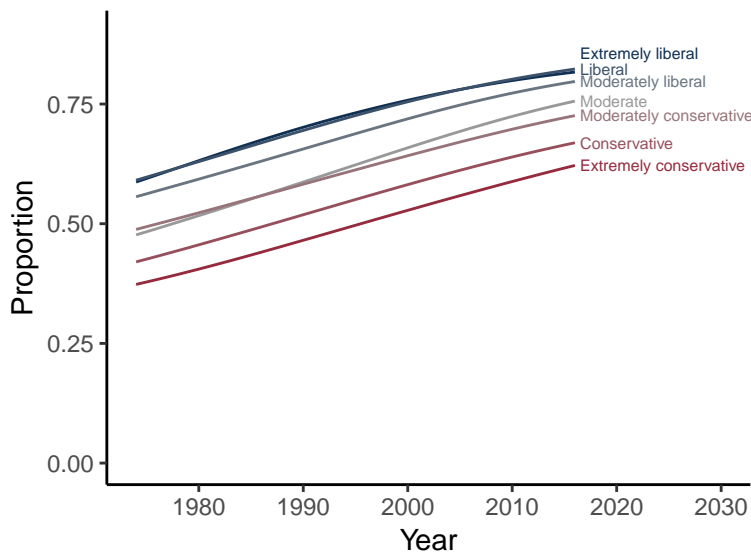
Supplementary figures



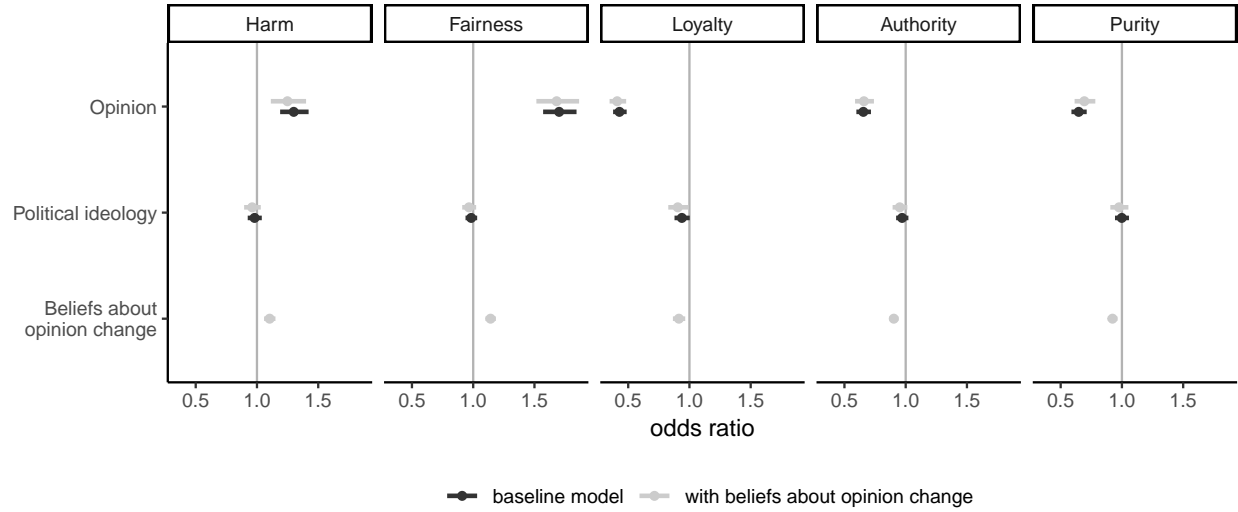
Supplementary Figure 1: Support of the advantaged position when the simulation model with argument deterioration has reached equilibrium. Public opinion equilibria generated by 100 simulations with an argument deterioration rate of $*r* = 0.5$. The harm-fairness connection advantage is either large (model A: 10 harm-fairness arguments "for" and 2 "against") or small (model B: 10 harm-fairness arguments "for" and 6 "against"). In the latter case, the plot shows that public opinion stops moving before the advantaged position has taken over completely.



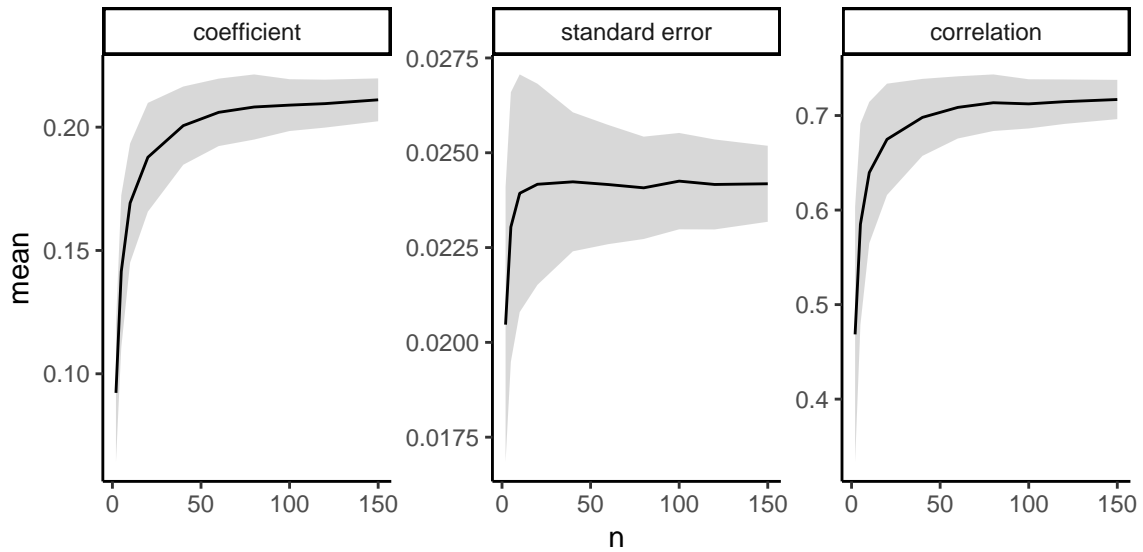
Supplementary Figure 2: How liberal and conservative opinions change when births and deaths are included in the simulation model with deteriorating arguments. Opinion movement generated by the simulation model, averaged over 100 simulations, when the argument deterioration is set to the extreme value of $r = 0$ (immediate deterioration). The harm-fairness connection advantage is either large (model A: 10 harm-fairness arguments “for” and 2 “against”) or small (model B: 10 harm-fairness arguments “for” and 6 “against”). As the death rate increases from 1% to 5%, we see that, even in the small advantage condition, the advantaged position eventually takes over the whole population.



Supplementary Figure 3: Proportion of liberal opinions within different ideological subcategories. The average trend between 37 GSS items with absolute harm-fairness advantage larger than 0.2. All groups have become more liberal in their average opinions over the last 40 years. Trajectories of moderate ideological subcategories lie in between the trajectories of the extremes. The sample size varies between years with median 37 extremely liberal, 178 liberal, 208 moderately liberal, 575 moderate, 258 moderately conservative, 212 conservative, and 42 extremely conservative respondents.



Supplementary Figure 4: Effect of respondents' moral opinion, political ideology and beliefs about public opinion change on applicability of arguments for different moral positions. Having an opinion in favour of a position increases the probability of choosing universal arguments, and reduces the probability of choosing binding arguments. Believing that the position has become more popular has a similar but much smaller effect. Political leaning has no effect. Note that all these effects combined explain less than 3% of the variance in which argument was selected for each position (see Fig. 1). The sample size is 24 465 argument evaluations in the baseline model (black) and 14 492 in the extended model (grey). The group sizes are 74 GSS issues, 148 moral positions, 409 individuals in the baseline model and 219 in the full model.



Supplementary Figure 5: Accuracy of the effect of harm-fairness connection advantage on rate of change as a function of sample size of argument measures. The figure shows average regression coefficient, its standard error, and resulting correlation based on 200 random draws of n responses. The shade area shows 95% CI. Small sample sizes lead to an underestimation of the main effect, but not its precision. Sample sizes above 40 are sufficient to get an accurate estimate of the main result of the paper. Note that the sample used has on average 176 responses per issue.

Supplementary tables

Supplementary Table 1: The 74 GSS items used in the study. An asterisk (*) indicates that the default position is the liberal position in the sense that it was held by a higher proportion of liberals than conservatives in the GSS. A dagger (†) marks the 50 items that both coders agreed upon. Opinion change rates (in percentage points per ten years) are reported in the whole population and separately among liberals (L) and among conservatives (C), with a negative sign if the default position became less common over time. The last five columns report each moral foundation’s connection to the default position (D) and to the opposing position (O). The harm-fairness connection advantage is calculated as the average of the harm and fairness connections for the default position minus the same average for the opposing position.

Item	Opinion change	Harm Fairness advantage	Harm	Fairness	Loyalty	Authority	Purity
Do you think it should be possible for a pregnant woman to obtain a legal abortion if the woman wants it for any reason?*†	1.9 L: 5.3 C: -1.5	0.026	D: 0.24 O: 0.47	D: 0.44 O: 0.16	D: 0.02 O: 0.06	D: 0.04 O: 0.23	D: 0.02 O: 0.73
Do you think it should be possible for a pregnant woman to obtain a legal abortion if there is a strong chance of serious defect in the baby?*†	-2.4 L: 0.0 C: -5.7	-0.025	D: 0.35 O: 0.49	D: 0.36 O: 0.27	D: 0.01 O: 0.08	D: 0.09 O: 0.19	D: 0.03 O: 0.71
Do you think it should be possible for a pregnant woman to obtain a legal abortion if the woman’s own health is seriously endangered by the pregnancy?*†	-0.8 L: 0.4 C: -2.5	0.127	D: 0.46 O: 0.34	D: 0.37 O: 0.23	D: 0.00 O: 0.09	D: 0.08 O: 0.20	D: 0.07 O: 0.73
Do you think it should be possible for a pregnant woman to obtain a legal abortion if she is married and does not want any more children?*†	0.1 L: 3.1 C: -3.1	-0.064	D: 0.21 O: 0.50	D: 0.39 O: 0.22	D: 0.01 O: 0.09	D: 0.05 O: 0.25	D: 0.02 O: 0.71
Do you think it should be possible for a pregnant woman to obtain a legal abortion if the family has a very low income and cannot afford any more children?*†	-2.1 L: 1.3 C: -4.9	-0.025	D: 0.24 O: 0.40	D: 0.40 O: 0.28	D: 0.01 O: 0.06	D: 0.08 O: 0.23	D: 0.04 O: 0.75
Do you think it should be possible for a pregnant woman to obtain a legal abortion if she became pregnant as a result of rape?*†	-1.7 L: 0.3 C: -5.0	0.174	D: 0.46 O: 0.39	D: 0.45 O: 0.17	D: 0.02 O: 0.10	D: 0.09 O: 0.18	D: 0.09 O: 0.70
Do you think it should be possible for a pregnant woman to obtain a legal abortion if she is not married and does not want to marry the man?*†	-1.5 L: 1.7 C: -4.8	0.007	D: 0.25 O: 0.43	D: 0.41 O: 0.22	D: 0.02 O: 0.09	D: 0.06 O: 0.23	D: 0.03 O: 0.72
In general: do you favor the busing of African-American and white school children from one school district to another?*	8.6 L: 11.3 C: 8.2	0.017	D: 0.21 O: 0.18	D: 0.45 O: 0.45	D: 0.09 O: 0.09	D: 0.15 O: 0.25	D: 0.12 O: 0.10
Do you favor the death penalty for persons convicted of murder?†	-2.2 L: -3.3 C: -1.4	-0.217	D: 0.20 O: 0.43	D: 0.18 O: 0.38	D: 0.08 O: 0.03	D: 0.47 O: 0.09	D: 0.27 O: 0.42
There are always some people whose ideas are considered bad or dangerous by other people. For instance: somebody who is against all churches and religion – should such a person be allowed to teach in a college or university?*†	6.1 L: 4.7 C: 6.6	0.251	D: 0.08 O: 0.11	D: 0.67 O: 0.13	D: 0.01 O: 0.23	D: 0.05 O: 0.57	D: 0.01 O: 0.50
Consider a man who admits he is a Communist. Suppose he is teaching in a college. Should he be fired?	-6.6 L: -4.8 C: -6.5	-0.287	D: 0.07 O: 0.09	D: 0.10 O: 0.66	D: 0.57 O: 0.03	D: 0.37 O: 0.05	D: 0.23 O: 0.06
Consider a man who admits that he is a homosexual. Should such a person be allowed to teach in a college or university?*†	9.3 L: 6.9 C: 9.9	0.428	D: 0.23 O: 0.06	D: 0.79 O: 0.10	D: 0.02 O: 0.09	D: 0.06 O: 0.31	D: 0.08 O: 0.77

Supplementary Table 1: The 74 GSS items used in the study. *(continued)*

Item	Opinion change	Harm Fairness advantage	Harm	Fairness	Loyalty	Authority	Purity
Consider a person who advocates doing away with elections and letting the military run the country. Should such a person be allowed to teach in a college or university?*	6.0 L: 4.4 C: 6.7	0.176	D: 0.05 O: 0.09	D: 0.54 O: 0.15	D: 0.05 O: 0.45	D: 0.08 O: 0.50	D: 0.03 O: 0.19
Consider a person who believes that Blacks are genetically inferior. Should such a person be allowed to teach in a college or university?*	1.5 L: -0.6 C: 1.8	-0.101	D: 0.06 O: 0.40	D: 0.54 O: 0.40	D: 0.04 O: 0.10	D: 0.07 O: 0.27	D: 0.04 O: 0.40
It is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family.†	-6.3 L: -6.0 C: -5.7	-0.288	D: 0.10 O: 0.17	D: 0.11 O: 0.61	D: 0.17 O: 0.03	D: 0.53 O: 0.07	D: 0.32 O: 0.06
It is more important for a wife to help her husband's career than to have one herself.†	-17.9 L: -14.6 C: -19.5	-0.276	D: 0.12 O: 0.19	D: 0.08 O: 0.56	D: 0.29 O: 0.02	D: 0.49 O: 0.04	D: 0.23 O: 0.03
Because of past discrimination employers should make special efforts to hire and promote qualified women.*	5.7 L: 3.7 C: 7.4	0.108	D: 0.38 O: 0.07	D: 0.54 O: 0.63	D: 0.04 O: 0.07	D: 0.09 O: 0.16	D: 0.08 O: 0.06
Women should take care of running their homes and leave running the country up to men.†	-10.0 L: -7.6 C: -10.3	-0.366	D: 0.10 O: 0.19	D: 0.06 O: 0.70	D: 0.25 O: 0.03	D: 0.53 O: 0.06	D: 0.30 O: 0.08
Some people say that because of past discrimination women should be given preference in hiring and promotion. Others say that such preference in hiring and promotion of women is wrong because it discriminates against men. What about your opinion - are you for preferential hiring and promotion of women?*	4.3 L: 2.4 C: 4.1	0.020	D: 0.39 O: 0.08	D: 0.49 O: 0.76	D: 0.07 O: 0.06	D: 0.09 O: 0.14	D: 0.07 O: 0.06
Do you approve of a married woman earning money in business or industry if she has a husband capable of supporting her?*	6.2 L: 3.5 C: 6.3	0.249	D: 0.11 O: 0.11	D: 0.60 O: 0.11	D: 0.03 O: 0.24	D: 0.03 O: 0.46	D: 0.05 O: 0.30
Do you think the use of marijuana should be made legal?*	7.8 L: 8.3 C: 6.5	0.125	D: 0.12 O: 0.07	D: 0.26 O: 0.06	D: 0.01 O: 0.06	D: 0.06 O: 0.58	D: 0.05 O: 0.55
Would you favor a law which would require a person to obtain a police permit before he or she could buy a gun?*	0.8 L: 1.6 C: -0.2	-0.126	D: 0.13 O: 0.05	D: 0.14 O: 0.47	D: 0.09 O: 0.06	D: 0.44 O: 0.14	D: 0.14 O: 0.03
Some people think that African-Americans have been discriminated against for so long that the government has a special obligation to help improve their living standards. Others believe that the government should not be giving special treatment to African-Americans. Do you think that the government should help improve the living standards of African-Americans?*	-0.3 L: 2.2 C: -2.1	0.170	D: 0.50 O: 0.04	D: 0.50 O: 0.63	D: 0.13 O: 0.09	D: 0.11 O: 0.17	D: 0.15 O: 0.05
Some people think that the government in Washington should do everything possible to improve the standard of living of all poor Americans. Other people think it is not the government's responsibility and that each person should take care of himself. Do you think that the government should do everything possible to improve the standard of living of all poor Americans?*	-1.9 L: 1.5 C: -3.4	0.316	D: 0.63 O: 0.07	D: 0.42 O: 0.35	D: 0.16 O: 0.11	D: 0.14 O: 0.17	D: 0.23 O: 0.05

Supplementary Table 1: The 74 GSS items used in the study. *(continued)*

Item	Opinion change	Harm Fairness advantage	Harm	Fairness	Loyalty	Authority	Purity
In general some people think that it is the responsibility of the government in Washington to see to it that people have help in paying for doctors and hospital bills. Others think that these matters are not the responsibility of the federal government and that people should take care of these things themselves. Do you think that it is the responsibility of the government?*	-0.3 L: 1.9 C: -4.6	0.297	D: 0.50 O: 0.09	D: 0.52 O: 0.34	D: 0.07 O: 0.09	D: 0.10 O: 0.14	D: 0.16 O: 0.06
Would you approve of a man punching a stranger who was beating up a woman and the man saw it?†	0.8 L: 0.7 C: 2.7	0.195	D: 0.64 O: 0.24	D: 0.24 O: 0.25	D: 0.09 O: 0.05	D: 0.22 O: 0.29	D: 0.32 O: 0.27
Would you approve of a man punching a stranger who had hit the man's child after the child accidentally damaged the stranger's car?*†	5.3 L: 5.0 C: 5.5	0.076	D: 0.49 O: 0.33	D: 0.21 O: 0.22	D: 0.11 O: 0.03	D: 0.14 O: 0.38	D: 0.19 O: 0.31
Would you approve of a man punching a stranger who was drunk and bumped into the man and his wife on the street?†	-0.6 L: -0.2 C: -0.7	-0.216	D: 0.14 O: 0.53	D: 0.19 O: 0.23	D: 0.13 O: 0.03	D: 0.26 O: 0.29	D: 0.24 O: 0.31
Would you approve of a man punching a stranger who was in a protest march showing opposition to the other man's views?†	-0.8 L: 0.1 C: -0.5	-0.370	D: 0.07 O: 0.37	D: 0.12 O: 0.56	D: 0.38 O: 0.04	D: 0.22 O: 0.36	D: 0.21 O: 0.28
Are there any situations that you can imagine in which you would approve of a man punching an adult male stranger?†	-2.3 L: -2.9 C: -3.1	-0.091	D: 0.34 O: 0.44	D: 0.20 O: 0.28	D: 0.09 O: 0.05	D: 0.18 O: 0.34	D: 0.19 O: 0.37
Would you approve of a man punching a stranger who had broken into the man's house?†	0.1 L: 0.1 C: 0.2	-0.110	D: 0.19 O: 0.43	D: 0.25 O: 0.23	D: 0.06 O: 0.03	D: 0.34 O: 0.29	D: 0.21 O: 0.34
What about sexual relations between two adults of the same sex—do you think it is always wrong?†	-9.0 L: -11.2 C: -6.1	-0.301	D: 0.06 O: 0.19	D: 0.05 O: 0.53	D: 0.05 O: 0.02	D: 0.26 O: 0.03	D: 0.81 O: 0.02
When a person has a disease that cannot be cured – do you think doctors should be allowed by law to end the patient's life by some painless means if the patient and his family request it?*†	1.7 L: 3.4 C: -0.5	0.199	D: 0.59 O: 0.31	D: 0.25 O: 0.14	D: 0.01 O: 0.06	D: 0.04 O: 0.29	D: 0.07 O: 0.68
There are always some people whose ideas are considered bad or dangerous by other people. For instance somebody who is against all churches and religion. If some people in your community suggested that a book he wrote against churches and religion should be taken out of your public library – would you favor removing this book?†	-3.8 L: -3.1 C: -3.5	-0.204	D: 0.13 O: 0.08	D: 0.10 O: 0.54	D: 0.26 O: 0.01	D: 0.49 O: 0.04	D: 0.57 O: 0.02
Consider a man who admits he is a Communist. Suppose he wrote a book which is in your public library. Somebody in your community suggests that the book should be removed from the library. Would you favor removing it?	-3.8 L: -3.0 C: -3.3	-0.247	D: 0.09 O: 0.08	D: 0.09 O: 0.60	D: 0.52 O: 0.02	D: 0.44 O: 0.06	D: 0.34 O: 0.05
Consider a man who admits that he is a homosexual. If some people in your community suggested that a book he wrote in favor of homosexuality should be taken out of your public library – would you favor removing this book?†	-6.6 L: -5.5 C: -6.2	-0.362	D: 0.08 O: 0.17	D: 0.07 O: 0.70	D: 0.07 O: 0.02	D: 0.34 O: 0.06	D: 0.81 O: 0.03

Supplementary Table 1: The 74 GSS items used in the study. *(continued)*

Item	Opinion change	Harm Fairness advantage	Harm	Fairness	Loyalty	Authority	Purity
Consider a person who advocates doing away with elections and letting the military run the country. Suppose he wrote a book advocating doing away with elections and letting the military run the country. Somebody in your community suggests that the book be removed from the public library. Would you favor removing it?	-4.5 L: -3.6 C: -4.1	-0.237	D: 0.09 O: 0.06	D: 0.09 O: 0.59	D: 0.42 O: 0.06	D: 0.50 O: 0.08	D: 0.24 O: 0.02
Consider a person who believes that Blacks are genetically inferior. If some people in your community suggested that a book he wrote which said Blacks are inferior should be taken out of your public library – would you favor removing this book?†	-0.3 L: 0.6 C: -0.2	0.046	D: 0.43 O: 0.08	D: 0.25 O: 0.51	D: 0.14 O: 0.06	D: 0.35 O: 0.10	D: 0.40 O: 0.05
Would you be in favor of having a close relative or family member marry an Asian American person?*	21.7 L: 18.3 C: 22.0	0.261	D: 0.19 O: 0.05	D: 0.47 O: 0.09	D: 0.03 O: 0.53	D: 0.04 O: 0.37	D: 0.09 O: 0.47
Would you be in favor of having a close relative or family member marry a black person?*	19.5 L: 18.2 C: 18.2	0.282	D: 0.25 O: 0.10	D: 0.51 O: 0.09	D: 0.04 O: 0.36	D: 0.06 O: 0.34	D: 0.07 O: 0.50
Would you be in favor of having a close relative or family member marry a Hispanic American person?*	20.7 L: 17.8 C: 21.1	0.263	D: 0.19 O: 0.08	D: 0.53 O: 0.11	D: 0.01 O: 0.47	D: 0.05 O: 0.34	D: 0.10 O: 0.43
Homosexual couples should have the right to marry one another.*	19.7 L: 22.6 C: 12.7	0.404	D: 0.24 O: 0.05	D: 0.68 O: 0.07	D: 0.03 O: 0.12	D: 0.05 O: 0.42	D: 0.05 O: 0.80
Would you be in favor of having a close relative or family member marry a white person?*	-0.4 L: 0.5 C: -1.2	0.168	D: 0.15 O: 0.10	D: 0.44 O: 0.15	D: 0.04 O: 0.40	D: 0.08 O: 0.31	D: 0.08 O: 0.35
Do you agree that methods of birth control should be available to teenagers between the ages of 14 and 16 if their parents do not approve?*	-0.1 L: 1.0 C: -1.5	0.240	D: 0.32 O: 0.13	D: 0.41 O: 0.12	D: 0.00 O: 0.09	D: 0.13 O: 0.46	D: 0.04 O: 0.63
Would you approve of a policeman striking a citizen who had said vulgar and obscene things to the policeman?†	-2.6 L: -1.5 C: -2.1	-0.316	D: 0.11 O: 0.36	D: 0.11 O: 0.49	D: 0.21 O: 0.06	D: 0.56 O: 0.23	D: 0.23 O: 0.27
Would you approve of a policeman striking a citizen who was attacking the policeman with his fists?†	-2.4 L: -2.6 C: -2.1	-0.174	D: 0.16 O: 0.36	D: 0.29 O: 0.44	D: 0.09 O: 0.04	D: 0.53 O: 0.21	D: 0.13 O: 0.20
Would you approve of a policeman striking a citizen who was attempting to escape from custody?†	-3.2 L: -3.5 C: -2.0	-0.390	D: 0.06 O: 0.51	D: 0.12 O: 0.46	D: 0.15 O: 0.04	D: 0.61 O: 0.18	D: 0.12 O: 0.25
Are there any situations you can imagine in which you would approve of a policeman striking an adult male citizen?†	-2.8 L: -2.7 C: -2.8	-0.340	D: 0.15 O: 0.49	D: 0.15 O: 0.49	D: 0.10 O: 0.09	D: 0.44 O: 0.19	D: 0.13 O: 0.24
Would you approve of a policeman striking a citizen who was being questioned as a suspect in a murder case?†	1.7 L: 1.7 C: 2.2	-0.439	D: 0.13 O: 0.49	D: 0.09 O: 0.61	D: 0.19 O: 0.04	D: 0.43 O: 0.28	D: 0.11 O: 0.28
Consider your feelings about pornography laws. Do you think it should be illegal?	1.1 L: 1.8 C: 0.7	-0.077	D: 0.15 O: 0.03	D: 0.03 O: 0.31	D: 0.06 O: 0.02	D: 0.23 O: 0.07	D: 0.84 O: 0.07
There's been a lot of discussion about the way morals and attitudes about sex are changing in this country. If a man and woman have sex relations before marriage – do you think it is wrong?†	-3.8 L: -3.2 C: -3.0	-0.071	D: 0.08 O: 0.05	D: 0.02 O: 0.20	D: 0.08 O: 0.02	D: 0.25 O: 0.06	D: 0.69 O: 0.02

Supplementary Table 1: The 74 GSS items used in the study. *(continued)*

Item	Opinion change	Harm Fairness advantage	Harm	Fairness	Loyalty	Authority	Purity
If you and your friends belonged to a social club that would not let African-Americans join – would you try to change the rules so that African-Americans could join?*	17.0 L: 14.8 C: 19.0	0.483	D: 0.36 O: 0.09	D: 0.81 O: 0.11	D: 0.05 O: 0.32	D: 0.09 O: 0.32	D: 0.29 O: 0.15
Would you yourself have any objection to sending your children to a school where a few of the children are African-Americans?†	-1.5 L: -1.1 C: -1.1	-0.178	D: 0.14 O: 0.17	D: 0.22 O: 0.54	D: 0.16 O: 0.10	D: 0.23 O: 0.07	D: 0.25 O: 0.14
Would you yourself have any objection to sending your children to a school where half of the children are African-Americans?†	-3.1 L: -2.6 C: -4.6	-0.228	D: 0.10 O: 0.15	D: 0.16 O: 0.57	D: 0.21 O: 0.04	D: 0.27 O: 0.06	D: 0.24 O: 0.15
Do you think there should be laws against marriages between African-Americans and whites?†	-10.6 L: -8.1 C: -10.7	-0.379	D: 0.04 O: 0.24	D: 0.09 O: 0.65	D: 0.38 O: 0.01	D: 0.30 O: 0.09	D: 0.52 O: 0.19
Would you yourself have any objection to sending your children to a school where more than half of the children are African-Americans?†	-3.4 L: -4.0 C: -5.4	-0.147	D: 0.13 O: 0.12	D: 0.22 O: 0.52	D: 0.20 O: 0.03	D: 0.23 O: 0.07	D: 0.21 O: 0.16
Suppose there is a community-wide vote on the general housing issue. There are two possible laws to vote on (owner decides and can't discriminate). Would you vote for owner decides?	-8.8 L: -7.5 C: -8.5	-0.374	D: 0.07 O: 0.31	D: 0.24 O: 0.75	D: 0.05 O: 0.03	D: 0.18 O: 0.16	D: 0.09 O: 0.16
African-Americans shouldn't push themselves where they're not wanted.†	-12.4 L: -10.3 C: -12.2	-0.227	D: 0.18 O: 0.20	D: 0.20 O: 0.63	D: 0.14 O: 0.03	D: 0.48 O: 0.11	D: 0.17 O: 0.10
White people have a right to keep African-Americans out of their neighborhoods if they want to and African-Americans should respect that right.†	-12.8 L: -10.3 C: -13.9	-0.481	D: 0.08 O: 0.35	D: 0.15 O: 0.84	D: 0.22 O: 0.06	D: 0.29 O: 0.15	D: 0.21 O: 0.25
Would you be for sex education in the public schools?*†	2.4 L: 2.5 C: 1.4	0.109	D: 0.22 O: 0.11	D: 0.20 O: 0.08	D: 0.03 O: 0.03	D: 0.13 O: 0.26	D: 0.08 O: 0.70
Do you agree that it is sometimes necessary to discipline a child with a good hard spanking?†	-3.6 L: -5.9 C: -1.7	-0.436	D: 0.05 O: 0.79	D: 0.10 O: 0.23	D: 0.04 O: 0.03	D: 0.50 O: 0.13	D: 0.20 O: 0.23
Consider somebody who is against all churches and religion. If such a person wanted to make a speech in your (city/town/community) against churches and religion – should he be allowed to speak?*†	3.6 L: 2.7 C: 3.7	0.188	D: 0.02 O: 0.13	D: 0.56 O: 0.08	D: 0.03 O: 0.27	D: 0.04 O: 0.47	D: 0.05 O: 0.57
Consider a man who admits he is a Communist. Suppose this admitted Communist wanted to make a speech in your community. Should he be allowed to speak?*	3.2 L: 2.6 C: 3.6	0.246	D: 0.03 O: 0.07	D: 0.62 O: 0.09	D: 0.01 O: 0.53	D: 0.06 O: 0.51	D: 0.03 O: 0.30
Consider a man who admits that he is a homosexual? Suppose this admitted homosexual wanted to make a speech in your community. Should he be allowed to speak?*†	6.3 L: 5.1 C: 6.3	0.356	D: 0.17 O: 0.10	D: 0.73 O: 0.08	D: 0.03 O: 0.12	D: 0.07 O: 0.40	D: 0.06 O: 0.67
Consider a person who advocates doing away with elections and letting the military run the country. If such a person wanted to make a speech in your community – should he be allowed to speak?*	4.5 L: 3.5 C: 4.7	0.191	D: 0.05 O: 0.10	D: 0.54 O: 0.11	D: 0.06 O: 0.40	D: 0.06 O: 0.59	D: 0.05 O: 0.22

Supplementary Table 1: The 74 GSS items used in the study. *(continued)*

Item	Opinion change	Harm Fairness advantage	Harm	Fairness	Loyalty	Authority	Purity
Consider a person who believes that Blacks are genetically inferior. If such a person wanted to make a speech in your community claiming that Blacks are inferior – should he be allowed to speak?*†	-0.3 L: -1.7 C: -0.0	-0.148	D: 0.01 O: 0.47	D: 0.46 O: 0.30	D: 0.02 O: 0.06	D: 0.06 O: 0.34	D: 0.02 O: 0.47
Do you think a person has the right to end his or her own life if this person has an incurable disease?*†	5.3 L: 6.5 C: 3.8	0.230	D: 0.42 O: 0.27	D: 0.38 O: 0.08	D: 0.01 O: 0.09	D: 0.03 O: 0.30	D: 0.03 O: 0.67
Do you think a person has the right to end his or her own life if this person has gone bankrupt?*†	1.5 L: 2.0 C: 1.2	0.011	D: 0.20 O: 0.33	D: 0.30 O: 0.15	D: 0.03 O: 0.12	D: 0.03 O: 0.28	D: 0.02 O: 0.60
Do you think a person has the right to end his or her own life if this person has dishonored his or her family?*†	1.3 L: 1.7 C: 1.0	-0.032	D: 0.12 O: 0.34	D: 0.27 O: 0.12	D: 0.10 O: 0.18	D: 0.07 O: 0.29	D: 0.06 O: 0.61
Do you think a person has the right to end his or her own life if this person is tired of living and ready to die?*†	1.8 L: 3.0 C: 1.3	0.123	D: 0.28 O: 0.32	D: 0.35 O: 0.07	D: 0.02 O: 0.13	D: 0.02 O: 0.39	D: 0.04 O: 0.63
Consider people who are in their early teens – say 14 to 16 years old. In that case: do you think sex relations before marriage are wrong?†	-2.0 L: -4.3 C: -0.4	-0.030	D: 0.22 O: 0.07	D: 0.04 O: 0.24	D: 0.06 O: 0.01	D: 0.33 O: 0.06	D: 0.60 O: 0.05
Everything considered: would you say that – in general – you approve of wiretapping?	4.1 L: 4.3 C: 3.1	-0.259	D: 0.09 O: 0.10	D: 0.12 O: 0.63	D: 0.36 O: 0.09	D: 0.37 O: 0.17	D: 0.10 O: 0.16
Irish and Italians and Jewish and many other minorities overcame prejudice and worked their way up. Blacks should do the same without special favors.	-2.2 L: -6.3 C: 0.2	-0.154	D: 0.07 O: 0.42	D: 0.52 O: 0.48	D: 0.11 O: 0.12	D: 0.25 O: 0.10	D: 0.07 O: 0.09
What is your opinion about a married person having sexual relations with someone other than the marriage partner—is it wrong?†	1.5 L: 2.0 C: 1.0	0.129	D: 0.40 O: 0.07	D: 0.18 O: 0.25	D: 0.38 O: 0.04	D: 0.22 O: 0.06	D: 0.55 O: 0.07