

Appendix A

Moderated-Mediation Models

The credibility-enhancing and argument strength-enhancing effects of conversion messages, particularly those that include information about a decision-making process that conforms to group norms, should be stronger among in-group members. In the context under examination, we employ environmentalism, climate change beliefs, and deference to science (Brossard and Nisbet, 2007) as measures of group identification.

Individuals who hold attitudes in line with the scientific consensus typically have high deference to scientific authority. Deference to scientific authority refers to a stable and long-term predisposition to believe that scientists know what is best for the public, that they perform research that benefits public, and that they should be an authority when it comes to decisions on scientific issues (Brossard and Nisbet, 2007). Those with high deference to scientific authority are more likely to trust scientists and their institutions (Anderson, Scheufele, Brossard, and Corley, 2011; Cacciatore, Browning, Scheufele, et al, 2016), and are also more likely to hold positive attitudes towards GM foods (Brossard and Nisbet, 2007). Considering this, it is possible that individuals with high deference to scientific authority are more likely to find the speaker credible and the argument about supporting GM foods convincing.

Opponents of GM foods have often included environmentalists who believe there are negative health and environmental consequences to adopting the technology. However, it has been found that individuals holding pro-environmental attitudes adopt behaviors and support policies that help mitigate environmental damage (Bord, Fisher, and O'Connor, 1998; O'Connor, Bord, Yarnal, and Wiefek, 2002). A message that discusses the environmental benefits of GM foods including the potential to reduce the effects of climate change on crop vulnerabilities (National Academies of Sciences, 2016) should persuade those with pro-environmental attitudes and with high concerns of climate change. It is reasonable that those with pro-environmental attitudes or those with high concern about climate change will more likely find the speaker more credible and the argument of

supporting GM that addresses climate change to be convincing. Because of these potential conditional effects, we considered the following moderators in the mediation models.

Environmentalism ($M = 4.95$, $SD = 1.23$) was measured on a 7-pt. scale, using 5 items (Cronbach's $\alpha = .87$). These items measured agreement with the following statements: “I consider myself an environmentalist,” “I make a strong effort to recycle everything I possibly can,” “I worry about the effects of environmental pollution on my health,” “Our children’s lives will be worse because of our current wasteful habits,” and “I support environmental advocacy groups,” (Veenstra et al., 2016).

Climate change belief ($M = 3.43$, $SD = .80$) was measured with a 4-pt. item, ranging from “Climate change is just not happening,” to “We just don’t know enough yet about whether it’s happening,” to “Climate change is mostly because of natural patterns in the Earth's environment,” to “Climate change is mostly the result of human activity such as burning fossil fuels,” (Pew Research Center, 2017).

Deference to science ($M = 4.41$, $SD = 1.18$) was measured on a 7-pt. scale using 4 items (Cronbach's $\alpha = .80$) adapted from Brossard and Nisbet (2007). These items measured agreement with the following statements: “Scientists know best what is good for the public,” “It is important for scientists to get research done even if they displease people by doing it,” “Scientists should do what they think is best, even if they have to persuade people that it is right,” and “Scientists should make the decisions about the type of scientific research on agricultural biotechnology.”

Results indicate that the moderated mediation models were not significant. Deference to science directly influenced both perceived credibility and argument strength but did not moderate the effect of any condition on the mediating variables. Climate belief did moderate the effect of the conversion without explanation condition on credibility, but the model was not significant. Climate belief had no other effects. Environmentalism moderated the effect of the conversion with

explanation condition on perceived credibility, but the model was not significant. Full results of the moderated mediations can be found in Tables A1-A6.

Table A1. Effect of conversion without explanation condition on attitudes about GM safety mediated through credibility and argument strength, moderated by deference to science, controlling for age, gender, race, education, children under the age of 18, household income, political party, and political ideology

	Credibility			Argument Strength			GMO Attitudes		
	B	(SE)		B	(SE)		B	(SE)	
(Constant)	1.888	(0.393)	***	2.195	(0.335)	***	-2.156	(0.175)	***
Age	0.005	(0.003)		0.003	(0.075)		-0.004	(0.001)	**
Gender	-0.073	(0.087)		-0.077	(0.075)		-0.094	(0.041)	*
Race	0.391	(0.124)	**	0.133	(0.096)	**	0.021	(0.053)	
Education	0.073	(0.030)	**	0.042	(0.023)	**	0.025	(0.013)	*
Children under 18	0.003	(0.050)		-0.053	(0.043)		-0.035	(0.024)	
Income	-0.047	(0.025)		-0.021	(0.021)		-0.016	(0.011)	
Party	0.049	(0.030)		0.038	(0.026)		0.012	(0.014)	
Ideology	-0.034	(0.053)		0.036	(0.050)		-0.035	(0.024)	
Conversion without explanation	-0.164	(0.421)		0.079	(0.358)		-0.061	(0.051)	
Conversion with explanation	0.090	(0.103)		0.226	(0.088)	*	-0.021	(0.048)	
Credibility							0.041	(0.022)	*
Argument strength							0.532	(0.027)	***
Deference to science	0.455	(0.037)	***	0.350	(0.039)	***			
Conversion without explanation x Deference to science	0.037	(0.090)		0.037	(0.077)				

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, Indirect effects based on 5,000 bootstrap samples with bias corrected confidence intervals. Conditional indirect effect of conversion without explanation through credibility, moderated by deference to science = .00 (.01) (95% CI [-0.0080, 0.0148]). Conditional indirect effect of conversion with explanation through argument strength, moderated by deference to science = .02(.04) (95% CI [-0.0686, 0.1051]). $N = 596$.

Table A2. Effect of conversion with explanation condition on attitudes about GM safety mediated through credibility and argument strength, moderated by deference to science, controlling for age, gender, race, education, children under the age of 18, household income, political party, and political ideology

	Credibility			Argument Strength			GMO Attitudes		
	B	(SE)		B	(SE)		B	(SE)	
(Constant)	1.639	(0.405)	***	2.214	(0.346)	***	-2.156	(0.175)	***
Age	0.005	(0.003)		0.003	(0.003)		-0.004	(0.001)	**
Gender	-0.077	(0.087)		-0.077	(0.075)		-0.094	(0.041)	*
Race	0.303	(0.027)	**	0.133	(0.096)		0.021	(0.053)	
Education	0.074	(0.027)	**	0.042	(0.023)		0.025	(0.013)	*
Children under 18	0.020	(0.050)		-0.051	(0.043)		-0.035	(0.024)	
Income	-0.048	(0.024)	*	-0.022	(0.021)		-0.016	(0.011)	
Party	0.053	(0.030)		0.036	(0.026)		0.012	(0.014)	
Ideology	-0.019	(0.053)		0.038	(0.045)		-0.035	(0.024)	
Conversion without explanation	0.001	(0.120)		0.248	(0.093)	**	-0.061	(0.051)	
Conversion with explanation	0.725	(0.372)		0.084	(0.318)		-0.021	(0.048)	
Credibility							0.041	(0.022)	*
Argument strength							0.532	(0.027)	***
Deference to science	0.515	(0.050)	***	0.347	(0.042)	***			
Conversion with explanation x Deference to science	-0.140	(0.079)		0.031	(0.067)				

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, Indirect effects based on 5,000 bootstrap samples with bias corrected confidence intervals. Conditional indirect effect of conversion without explanation through credibility, moderated by deference to science = $-.01 (.01)$ (95% CI $[-0.0202, 0.0009]$). Conditional indirect effect of conversion with explanation through argument strength, moderated by deference to science = $.02(.04)$ (95% CI $[-0.0617, 0.0931]$). $N = 596$.

Table A3. Effect of conversion without explanation condition on attitudes about GM safety mediated through credibility and argument strength, moderated by climate change belief, controlling for age, gender, race, education, children under the age of 18, household income, political party, and political ideology

	Credibility			Argument Strength			GMO Attitudes		
	B	(SE)		B	(SE)		B	(SE)	
(Constant)	3.773	(0.474)	***	3.934	(0.401)	***	-2.135	(0.176)	***
Age	0.000	(0.003)		-0.001	(0.003)		-0.004	(0.001)	**
Gender	-0.132	(0.098)		-0.106	(0.083)		-0.094	(0.041)	*
Race	0.370	(0.125)	**	0.200	(0.106)		0.017	(0.053)	
Education	0.107	(0.030)	***	0.068	(0.025)	**	0.025	(0.013)	*
Children under 18	0.015	(0.057)		-0.082	(0.049)		-0.033	(0.023)	
Income	-0.046	(0.027)		-0.014	(0.023)		-0.016	(0.011)	
Party	0.046	(0.034)		0.028	(0.029)		0.011	(0.014)	
Ideology	-0.144	(0.059)	*	-0.050	(0.049)		-0.037	(0.024)	
Conversion without explanation	1.516	(0.482)	**	0.534	(0.408)		-0.070	(0.052)	
Conversion with explanation	0.154	(0.116)		0.279	(0.098)	**	-0.030	(0.049)	
Credibility							0.044	(0.022)	*
Argument strength							0.528	(0.027)	***
Climate belief	0.164	(0.082)	*	0.018	(0.069)				
Conversion without explanation x Climate belief	-0.430	(0.482)	**	-0.075	(0.112)				

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, Indirect effects based on 5,000 bootstrap samples with bias corrected confidence intervals. Index of moderated mediation of conversion without explanation through credibility, moderated by climate belief = $-.02 (.01)$ (95% CI $[-0.0485, 0.0016]$). Index of moderated mediation of conversion with explanation through argument strength, moderated by climate belief = $-.04(.06)$ (95% CI $[-0.1446, 0.0701]$). $N = 587$.

Table A4. Effect of conversion with explanation condition on attitudes about GM safety mediated through credibility and argument strength, moderated by climate change belief, controlling for age, gender, race, education, children under the age of 18, household income, political party, and political ideology

	Credibility			Argument Strength			GMO Attitudes		
	B	(SE)		B	(SE)		B	(SE)	
(Constant)	4.678	(0.502)	***	4.105	(0.422)	***	-2.135	(0.176)	***
Age	0.000	(0.003)		-0.001	(0.003)		-0.004	(0.001)	**
Gender	-0.137	(0.098)		-0.116	(0.003)		-0.094	(0.041)	*
Race	0.385	(0.126)	**	0.205	(0.104)		0.017	(0.053)	
Education	0.106	(0.030)	***	0.069	(0.025)	**	0.025	(0.013)	*
Children under 18	0.021	(0.057)		-0.080	(0.049)		-0.033	(0.023)	
Income	-0.043	(0.027)		-0.014	(0.023)		-0.016	(0.011)	
Party	0.043	(0.034)		0.027	(0.027)		0.011	(0.014)	
Ideology	-0.139	(0.059)	*	-0.049	(0.049)		-0.037	(0.024)	
Conversion without explanation	-0.823	(0.122)		0.268	(0.103)	**	-0.070	(0.052)	
Conversion with explanation	-0.824	(0.458)		0.081	(0.386)		-0.030	(0.049)	
Credibility							0.044	(0.022)	*
Argument strength							0.528	(0.027)	***
Climate belief	-0.092	(0.091)		-0.030	(0.077)				
Conversion with explanation x Climate belief	0.271	(0.127)		0.055	(0.107)				

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, Indirect effects based on 5,000 bootstrap samples with bias corrected confidence intervals. Index of moderated mediation of conversion without explanation through credibility, moderated by climate belief = .01 (.01) (95% CI [0.0003, 0.0356]). Index of moderated mediation of conversion with explanation through argument strength, moderated by climate belief = .03(.05) (95% CI [-0.0783, 0.1301]). $N = 587$.

Table A5. Effect of conversion without explanation condition on attitudes about GM safety mediated through credibility and argument strength, moderated by environmentalism, controlling for age, gender, race, education, children under the age of 18, household income, political party, and political ideology

	Credibility			Argument Strength			GMO Attitudes		
	B	(SE)		B	(SE)		B	(SE)	
(Constant)	3.523	(0.434)	***	3.838	(0.366)	***	-2.126	(0.175)	***
Age	-0.001	(0.003)		-0.001	(0.003)		-0.004	(0.001)	**
Gender	-0.172	(0.097)		-0.131	(0.082)		-0.098	(0.041)	*
Race	0.388	(0.125)	**	0.195	(0.105)		0.004	(0.053)	
Education	0.098	(0.030)	**	0.068	(0.025)	**	0.025	(0.013)	*
Children under 18	0.000	(0.056)		-0.080	(0.049)		-0.034	(0.023)	
Income	-0.043	(0.027)		-0.015	(0.023)		-0.016	(0.012)	
Party	0.046	(0.034)		0.026	(0.029)		0.009	(0.014)	
Ideology	-0.117	(0.059)	*	-0.043	(0.050)		-0.031	(0.025)	
Conversion without explanation	0.690	(0.441)		0.246	(0.371)		-0.068	(0.051)	
Conversion with explanation	0.182	(0.115)		0.279	(0.098)	**	-0.034	(0.048)	
Credibility							0.048	(0.022)	*
Argument strength							0.525	(0.026)	***
Environmentalism	0.162	(0.049)	**	0.031	(0.041)				
Conversion without explanation x Environmentalism	-0.126	(0.086)		0.010	(0.072)				

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, Indirect effects based on 5,000 bootstrap samples with bias corrected confidence intervals. Index of moderated mediation of conversion without explanation through credibility, moderated by climate belief = -.01 (.01) (95% CI [-0.0245, 0.0024]). Conditional indirect effect of conversion with explanation through argument strength, moderated by climate belief = .00 (.04) (95% CI [-0.0773, 0.0879]). $N = 590$.

Table A6. Effect of conversion with explanation condition on attitudes about GM safety mediated through credibility and argument strength, moderated by environmentalism, controlling for age, gender, race, education, children under the age of 18, household income, political party, and political ideology

	Credibility			Argument Strength			GMO Attitudes		
	B	(SE)		B	(SE)		B	(SE)	
(Constant)	4.172	(0.459)	***	3.985	(0.388)	***	-2.126	(0.175)	***
Age	-0.001	(0.003)		-0.001	(0.003)		-0.004	(0.001)	**
Gender	-0.170	(0.097)		-0.133	(0.082)		-0.098	(0.041)	*
Race	0.391	(0.124)	**	0.199	(0.105)		0.004	(0.053)	
Education	0.094	(0.030)	**	0.066	(0.025)	**	0.025	(0.013)	*
Children under 18	0.003	(0.055)		-0.079	(0.048)		-0.034	(0.023)	
Income	-0.038	(0.027)		-0.014	(0.023)		-0.016	(0.012)	
Party	0.053	(0.034)		0.033	(0.029)		0.009	(0.014)	
Ideology	-0.112	(0.059)		-0.041	(0.050)		-0.031	(0.025)	
Conversion without explanation	0.032	(0.122)		0.268	(0.103)		-0.068	(0.051)	
Conversion with explanation	-0.873	(0.420)	*	-0.059	(0.355)	**	-0.034	(0.048)	
Credibility							0.048	(0.022)	*
Argument strength							0.525	(0.026)	***
Environmentalism	0.037	(0.054)		0.005	(0.045)				
Conversion with explanation x Environmentalism	0.206	(0.079)	*	0.066	(0.068)				

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, Indirect effects based on 5,000 bootstrap samples with bias corrected confidence intervals. Index of moderated mediation of conversion without explanation through credibility, moderated by climate belief = -.01 (.01) (95% CI [0.0010, 0.0291]). Conditional indirect effect of conversion with explanation through argument strength, moderated by climate belief = .04 (.04) (95% CI [-0.0421, 0.1171]). $N = 590$.

Appendix B
Results without covariate adjustment

Table B1. Effect of experimental conditions on attitudes about GM safety mediated through perceived credibility and argument strength, controlling for age and political party.

	Credibility			Argument Strength			GM Food Attitudes		
	<i>b</i>	(SE)		<i>b</i>	(SE)		<i>b</i>	(SE)	
(Constant)	4.620	(0.164)	***	4.240	(0.138)	***	-2.352	(0.114)	***
Age	0.001	(0.003)		-0.001	(0.002)		-0.003	(0.001)	*
Party	-0.015	(0.024)		0.002	(0.020)		-0.004	(0.010)	
Conversion without explanation	0.037	(0.059)		0.130	(0.050)	**	-0.023	(0.025)	
Conversion with explanation	0.047	(0.037)		0.087	(0.031)	*	-0.016	(0.016)	
Credibility							0.057	(0.021)	**
Argument Strength							0.531	(0.025)	***

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. $N = 642$

Table B1 reports the results while controlling only for age and party, which are included due to the results of the random assignment check. As with the covariate-adjusted model reported in the main text, when looking at perceived credibility, the mediation was not significant. There was no direct effect of conversion without explanation ($b = .04$, $p = .53$), and no direct effect of conversion with explanation on attitudes about GM foods ($b = .05$, $p = .21$). There was no indirect effect through perceived credibility for either the conversion without explanation condition (point-estimate = 0.0021 (0.004), 95% CI [-0.0042, 0.0121]) or the conversion with explanation condition (point-estimate = 0.003 (0.002), 95% CI [-0.0008, 0.0093]).

Again reflecting the primary covariate-adjusted model results, when looking at argument strength, the mediation was supported. Both the conversion without explanation condition ($b = .13$, $p < 0.01$), and the conversion with explanation ($b = .09$, $p < 0.05$), significantly increased the

perceived argument strength. The results indicate that the conversion without explanation had a positive indirect effect on perceived argument strength (point estimate = 0.069 (0.027), 95% CI [0.0168, 0.1216]), as did the conversion with explanation condition (point estimate = 0.046 (0.017), 95% CI [0.0148, 0.0816]). In sum, there were no substantive differences between covariate-adjusted and non-covariate adjusted models.

Table B2. Effect of experimental conditions on attitudes about GM safety mediated through attribution and argument strength, controlling for age and political party.

	Attribution			Argument Strength			GM Food Attitudes		
	<i>b</i>	(SE)		<i>b</i>	(SE)		<i>b</i>	(SE)	
(Constant)	4.626	(0.166)	***	4.246	(0.138)	***	-2.389	(0.116)	***
Age	0.010	(0.003)		-0.001	(0.002)		-0.004	(0.001)	*
Party	-0.056	(0.025)		0.001	(0.020)		-0.005	(0.010)	
Conversion without explanation	-0.034	(0.060)		0.138	(0.050)	**	-0.022	(0.025)	
Conversion with explanation	0.028	(0.038)		0.089	(0.031)	**	-0.013	(0.016)	
Attribution							0.071	(0.019)	***
Argument Strength							0.530	(0.023)	***

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. $N = 638$

Table B2 reports the results substituting attribution for credibility, while controlling only for age and party, which are included due to the results of the random assignment check. As with the covariate-adjusted model reported in the main text, when looking at attribution, the mediation was not significant. There was no direct effect of conversion without explanation ($b = -.02$, $p = .39$), and no direct effect of conversion with explanation on attitudes about GM foods ($b = -.01$, $p = .41$). There was no indirect effect through attribution for either the conversion without explanation condition (point-estimate = -0.0025 (0.004), 95% CI [-0.0122, 0.0053]) or the conversion with explanation condition (point-estimate = 0.0020 (0.002), 95% CI [-0.0032, 0.0089]).

Again reflecting the covariate-adjusted model results, when looking at argument strength, the mediation was supported. Both the conversion without explanation condition ($b = .14, p < 0.01$), and the conversion with explanation ($b = .09, p < 0.01$), significantly increased the perceived argument strength. The results indicate that the conversion without explanation had a positive indirect effect on perceived argument strength (point estimate = 0.073 (0.027), 95% CI [0.0200, 0.1258]), as did the conversion with explanation condition (point estimate = 0.047 (0.017), 95% CI [0.0145, 0.0809]). In sum, there were no substantive differences between covariate-adjusted and non-covariate adjusted models.