

Supplementary Information

When Hearts Meet Minds:
Complementary Effects of Perspective-Getting and
Information on Refugee Inclusion

December 18, 2024

Contents

| | | |
|-----------|---|-----------|
| 1 | Additional information about each of the 3 studies | 1 |
| 2 | Summary statistics | 3 |
| 3 | Study 2 treatment texts | 7 |
| 4 | Study 3 treatment texts | 8 |
| 5 | Full descriptive analysis of Study 1 | 9 |
| 6 | Regression Results from Study 1 | 13 |
| 7 | Full analysis of Study 2 | 13 |
| 8 | Full analysis of Study 3 per the PAP | 19 |
| 8.1 | H1 | 20 |
| 8.2 | H2 | 27 |
| 8.3 | H3 | 31 |
| 8.4 | H4 | 35 |
| 9 | Ethics | 45 |
| 10 | Pre-Analysis Plan: Introduction | 46 |
| 10.1 | Abstract | 47 |
| 10.2 | Motivation | 47 |
| 10.3 | Research Questions | 48 |
| 11 | Pre-Analysis Plan: Experimental Treatments | 51 |
| 12 | Pre-Analysis Plan: Research Strategy | 53 |
| 12.1 | Sampling | 53 |
| 12.1.1 | Sampling Frame | 53 |
| 12.1.2 | Statistical Power | 54 |
| 12.1.3 | Assignment to Treatment | 55 |
| 12.1.4 | Attrition from the Sample | 55 |
| 13 | Pre-Analysis Plan: Empirical Analysis | 55 |
| 13.1 | Variables | 55 |
| 13.2 | Balancing Checks | 56 |
| 13.3 | Treatment Effects | 56 |
| 13.3.1 | Intent to Treat and Treatment on the Treated | 56 |
| 13.4 | Heterogeneous Effects | 57 |
| 13.4.1 | Intent to Treat and Treatment on the Treated | 57 |
| 13.5 | Standard Error Adjustments | 57 |

1 Additional information about each of the 3 studies

- Study 1: Study 1 was conducted in the Fall of 2019. A nationally-representative sample of 3,834 respondents was recruited using Lucid’s marketplace. The questionnaire measured Americans’ knowledge about the average refugee. The outcomes collected were:
 - Attitudes:
 - * Thermometer: On a scale from 0 to 100, where 0 equals completely unfavorable and 100 equals completely favorable, how would you describe your feelings toward refugees?
 - * Lose national identity: How much do you agree or disagree with the following statements? [Strongly Agree, Agree, Somewhat Agree, Neither Agree nor Disagree, Somewhat Disagree, Disagree, Strongly Disagree] “If America is too open to refugees, we risk losing our identity as a nation.”
 - * Increase risk terror: How much do you agree or disagree with the following statements? [Strongly Agree, Agree, Somewhat Agree, Neither Agree nor Disagree, Somewhat Disagree, Disagree, Strongly Disagree] “Refugees increase the risk of terrorist attacks in our country.”
 - * Burden: How much do you agree or disagree with the following statements? [Strongly Agree, Agree, Somewhat Agree, Neither Agree nor Disagree, Somewhat Disagree, Disagree, Strongly Disagree] “Refugees are a burden on our economy because they take jobs I, my friends, or my family work in.”
 - Policy Preference:
 - * Time to support: Once refugees have been accepted into the United States, for how long should they receive financial support from the US government? [No support; 3 months; 6 months; 1 year; 3 years; 5 years; As long as needed]
 - * Support Muslim ban: Do you support or oppose a ban on refugees from Muslim majority countries? [Strongly support – Strongly oppose]
 - * Submit comments to Trump: The White House has a website where you can submit comments to President Trump. Would you be willing to contact President Trump to let him know your opinion on the number of refugees that should be accepted by the United States? [Yes; No]
 - * Priority given to women/children: Do you agree or disagree that female and child refugees should be given priority to enter the United States over male refugees? [Strongly agree – Strongly disagree]
 - * More screening: What is your opinion on the current level of security screenings refugees go through before entering the United States? [Increased screening is needed; Current procedures are acceptable; Less screening is needed]
 - * Increase refugees: In your opinion, should the number of refugees accepted by the United States be increased, kept at present levels, or decreased?
 - * Allow refugees to bring family: Do you agree or disagree that refugees whose applications are granted should be entitled to bring their close family members to the United States as well? [Strongly agree – Strongly disagree]

- Behavior: You have the chance to win a drawing for \$100. All survey respondents have an equal probability of being chosen. If you win, you may keep all of the money for yourself, or you may donate some or all of it to one of the two organizations listed below: The first organization is **Refugee Council USA**, which has assisted refugees and advocated for more refugees to be admitted to the United States. The second organization is the **The Heritage Foundation**, which has pushed for stricter security procedures that would make it harder for refugees to enter the United States. If you win the \$100, what do you want to do with the money? [Keep all money; Donate some or all money to Refugee Council USA; Donate some or all money to the Heritage Foundation]
 - * Donate Refugee Council: Respondent chose to donate some or all to Refugee Council
 - * Donate pro-refugee: Amount of money respondent chose to donate to Refugee Council
 - * Donate Heritage: Respondent chose to donate some or all to Heritage Foundation
- Study 2: Study 2 was conducted in the Spring of 2021. A nationally-representative sample of 2,500 respondents was recruited using Lucid’s marketplace. The questionnaire piloted three perspective-taking treatments (one narrative about a Muslim-American, one narrative about a refugee, and one narrative about a Muslim refugee) as well as an information treatment (a set of facts about the number of refugees resettled in the US, the length of the vetting process, and the agencies involved in the vetting process). The outcomes collected were:
 - Updating on vetting: Approximately how many months of vetting does a refugee go through before being resettled into the United States? If you do not know, please provide your best guess [0-2 months; 2-6 months; 6-12 months; 12-18 months; 18-24 months; 24-36 months; more than 36 months]. This is asked before and after treatment. The analysis uses the post-treatment question as the dependent variable, and controls for the pre-treatment question.
 - Warmth: “On a scale from 0 to 100, where 0 is equal to completely unfavorable and 100 is equal to completely favorable, how do you feel about refugees who come to the United States?”
 - Cap: “The Biden administration has considered raising the number of refugees allowed into the United States each year from 15,000 to 125,000. would you support or oppose the Biden administration raising the number of refugees allowed into the United States? [Strongly support, Support, Somewhat support, Neither support nor oppose, Somewhat oppose, Oppose, Strongly oppose]
 - Letter: “Would you be willing to write a letter to the Biden administration advocating for your opinion about letting more refugees into the United States?” [Yes, I would like to write a letter supporting an increase in refugees; Yes, I would like to write a letter opposing an increase in refugees; No, I would not like to write a letter]

- Study 3: Study 3 was conducted in the Fall of 2021. A nationally-representative sample of 9,407 respondents was recruited via Lucid. Respondents were randomly assigned to one of four conditions (Control, Information only, PG only, and PG-Info combined). The outcomes collected were:
 - Updating: Respondents were more likely to answer accurately post-treatment; Respondents answered a longer vetting period after treatment relative to before treatment.
 - Warmth: “On a scale from 0 to 100, where 0 is equal to completely unfavorable and 100 is equal to completely favorable, how do you feel about refugees who come to the United States?”
 - Cap: “Every year the federal government decides how many refugees to allow to be resettled in the United States. The refugee cap was at its highest when the refugee resettlement program was first formalized in the United States in 1980, with a cap of 231,000. In the mid-1990s, it hovered around 100,000 to 150,000, but then decreased to the 70,000-80,000 range in the 2000s. Under President Obama, it was raised to 110,000, and under President Trump it was reduced to 15,000. This year the number of refugees permitted to enter the United States is 125,000. Next year, do you think the number should be higher, lower, or stay the same?”
 - Letter: “Would you be willing to write a letter to the Biden administration advocating for your opinion about letting more refugees into the United States?” [Yes, I would like to write a letter supporting an increase in refugees; Yes, I would like to write a letter opposing an increase in refugees; No, I would not like to write a letter]

2 Summary statistics

Table A.1: Study 1 Summary Statistics

| Variable | Mean | N |
|-----------------------------|--------|------|
| Age | 45.628 | 3831 |
| Proportion Female | 0.505 | 3830 |
| Proportion Educ HS or Less | 0.271 | 3830 |
| Proportion Republican | 0.360 | 3831 |
| Proportion Democrat | 0.372 | 3831 |
| Proportion White | 0.762 | 3831 |
| Proportion African American | 0.127 | 3831 |
| Proportion Latino | 0.111 | 3831 |

Table A.2: Study 2 Summary Statistics

| Variable | Mean | N |
|-----------------------------|-------|------|
| Age | 46.62 | 2011 |
| Proportion Female | 0.48 | 2011 |
| Proportion Educ HS or Less | 0.27 | 2011 |
| Proportion Republican | 0.29 | 2011 |
| Proportion Democrat | 0.41 | 2011 |
| Proportion White | 0.71 | 2011 |
| Proportion African American | 0.11 | 2011 |
| Proportion Latino | 0.08 | 2011 |

Table A.3: Study 3 Summary Statistics

| Variable | Mean | N |
|-----------------------------|-------|------|
| Age | 39.84 | 9398 |
| Proportion Female | 0.55 | 9406 |
| Proportion Educ HS or Less | 0.34 | 9406 |
| Proportion Republican | 0.30 | 9400 |
| Proportion Democrat | 0.39 | 9400 |
| Proportion White | 0.67 | 9293 |
| Proportion African American | 0.17 | 9293 |
| Proportion Latino | 0.16 | 9287 |

Balance Tables

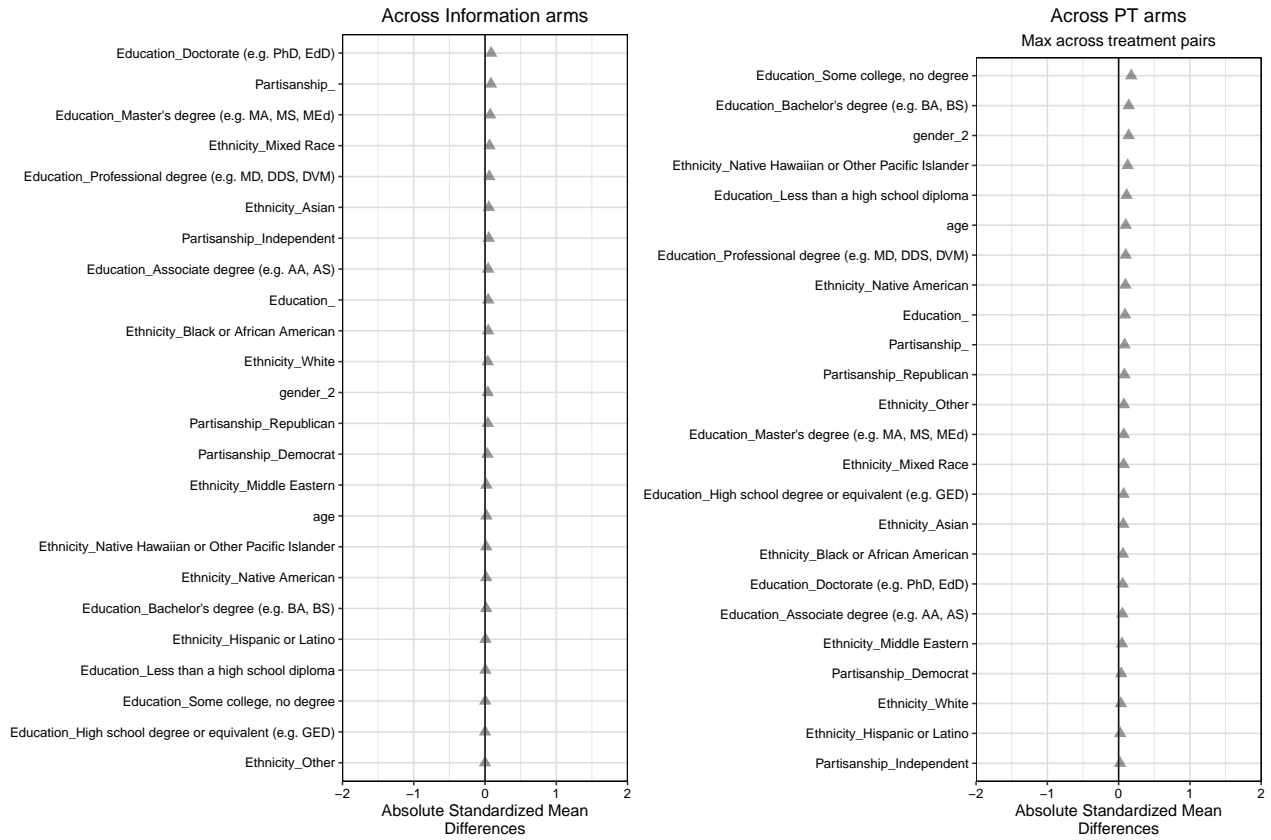


Figure A.1: Study 2 Balance. Absolute standardized mean differences used as balance statistic on the X-axis, covariates on the Y-axis. All of the points are within 0.1 threshold. Left panel presents differences across information and control arms; right panel presents maximum across pairs of PT arms (Control, Refugee, Muslim, Refugee-Muslim)

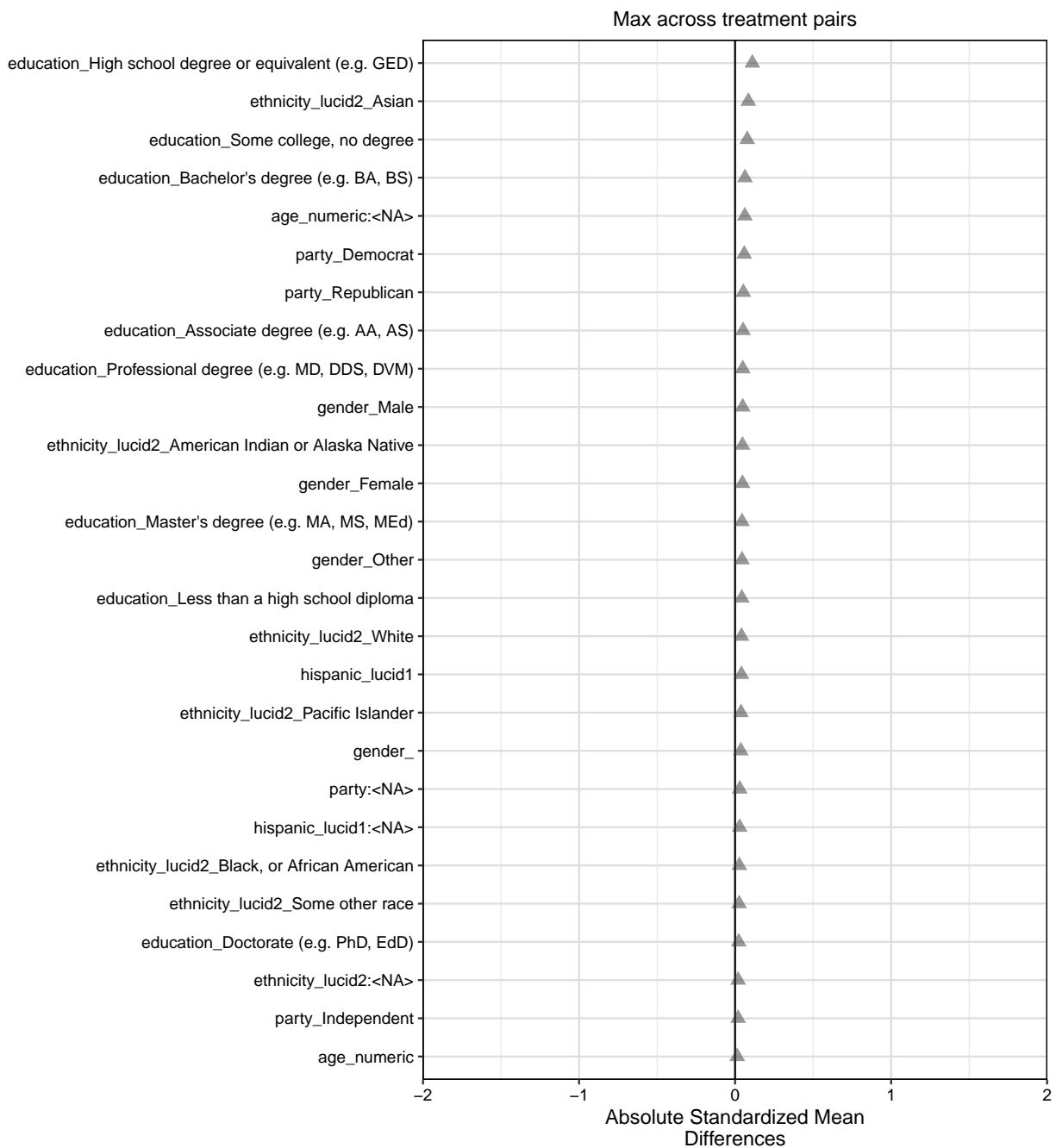


Figure A.2: Study 3 Balance. Absolute standardized mean differences used as balance statistic on the X-axis, covariates on the Y-axis. All of the points are within or at 0.1 threshold. Panel presents maximum across pairs of intervention arms (Control, Info, PG, PGInfo).

3 Study 2 treatment texts

Muslim-Refugee Treatment Abdi was a Muslim refugee who, at the age of 4, fled war-torn Somalia with his family for a United Nations refugee camp in Kakuma, Kenya. Over the next 9 years he would see his mother die and his father leave the family. “It feels like a big jail cell. They give you food, housing and the rest will be from the hands of countries coming to help people, like America. You just pray to Allah, ‘When am I going to leave this place?’ It’s a long process. It took us almost 12 years to get here [the United States]. We did more than 1,000 interviews. You have to have patience.”

Abdi now lives in the midwestern United States. When he arrived, he felt different. He entered school where he found himself having to explain why he fasted during Ramadan and was the only one in his school who gave presentations about Muslim holidays like Eid while most everyone else talked about Christmas. Today, he has a degree in business. He runs his own accounting and tax business to help people file taxes; when tax season is over, he does community service. In his free time he enjoys listening to Middle Eastern music, but also likes to mix it up with Led Zeppelin and Miles Davis. Music makes him feel connected to both his Muslim heritage and his American upbringing.

Refugee-Treatment Abdi was a refugee who, at the age of 4, fled war-torn Somalia with his family for a United Nations refugee camp in Kakuma, Kenya. Over the next 9 years he would see his mother die and his father leave the family. “It feels like a big jail cell. They give you food, housing and the rest will be from the hands of countries coming to help people, like America. You just pray to God, ‘When am I going to leave this place?’ It’s a long process. It took us almost 12 years to get here [the United States]. We did more than 1,000 interviews. You have to have patience.”

Abdi now lives in the midwestern United States. When he arrived, he felt different. He entered school where he found himself having to explain his culture. Today, he has a degree in business. He runs his own accounting and tax business to help people file taxes; when tax season is over, he does community service. In his free time he enjoys listening to music from his homeland, but also likes to mix it up with Led Zeppelin and Miles Davis. Music makes him feel connected to his home country and his new life in America.

Muslim-Treatment Abdi is a Muslim-American living in the Midwest. When he was young, his mother died and his father left the family. He was raised by relatives who gave him food, housing and provided a safe place to stay. Growing up, he felt different. He had to explain why he fasted during Ramadan to his middle and high school classmates and was the only one in his school who gave presentations about Muslim holidays like Eid while most everyone else talked about Christmas. Today, Abdi has a degree in business. He runs his own accounting and tax business to help people file taxes; when tax season is over, he does community service. In his free time he enjoys listening to music from his homeland, but also likes to mix it up with Led Zeppelin and Miles Davis. Music makes him feel connected to both his Muslim heritage and his American upbringing.

4 Study 3 treatment texts

PGInfo Abdi was once one of 26 million refugees in the world. A Muslim refugee himself, at the age of 4, his family fled war-torn Somalia for a United Nations refugee camp in Kakuma, Kenya. Over the next 9 years in this refugee camp, he would see his mother die and his father leave the family. “It feels like a big jail cell. They give you food, housing and the rest will be from the hands of countries coming to help people, like America. You just pray to Allah, ‘When am I going to leave this place?’”

According to US government and non-governmental agencies, refugees undergo more extensive and thorough screening than anyone else who travels into the United States. Biometric and medical data are collected from the refugee, who is screened by the National Counterterrorism Center, the FBI, the Department of Homeland Security, the State Department, Customs and Border Protection, and the Transportation Security Administration. The average time for the vetting process is 18-24 months, but it can take even longer. To view an infographic of the vetting process from the U.S. Citizen and Immigration Services (USCIS), [click here](#) (page will open in a new tab).

Abdi now lives in the midwestern United States. When he arrived, he felt different. He entered school where he found himself having to explain why he fasted during Ramadan and was the only one in his school who gave presentations about Muslim holidays like Eid while most everyone else talked about Christmas. Today, he has a degree in business. He runs his own accounting and tax business to help people file taxes; when tax season is over, he does community service. In his free time he enjoys listening to Somali music, but also likes to mix it up with Led Zeppelin and Miles Davis. Music makes him feel connected to both his heritage and his American upbringing.

PG Abdi was once one of 26 million refugees in the world. A Muslim refugee himself, at the age of 4, his family fled war-torn Somalia for a United Nations refugee camp in Kakuma, Kenya. Over the next 9 years in this refugee camp, he would see his mother die and his father leave the family. “It feels like a big jail cell. They give you food, housing and the rest will be from the hands of countries coming to help people, like America. You just pray to Allah, ‘When am I going to leave this place?’” Abdi now lives in the midwestern United States. When he arrived, he felt different. He entered school where he found himself having to explain why he fasted during Ramadan and was the only one in his school who gave presentations about Muslim holidays like Eid while most everyone else talked about Christmas. Today, he has a degree in business. He runs his own accounting and tax business to help people file taxes; when tax season is over, he does community service. In his free time he enjoys listening to Somali music, but also likes to mix it up with Led Zeppelin and Miles Davis. Music makes him feel connected to both his heritage and his American upbringing.

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5 Full descriptive analysis of Study 1

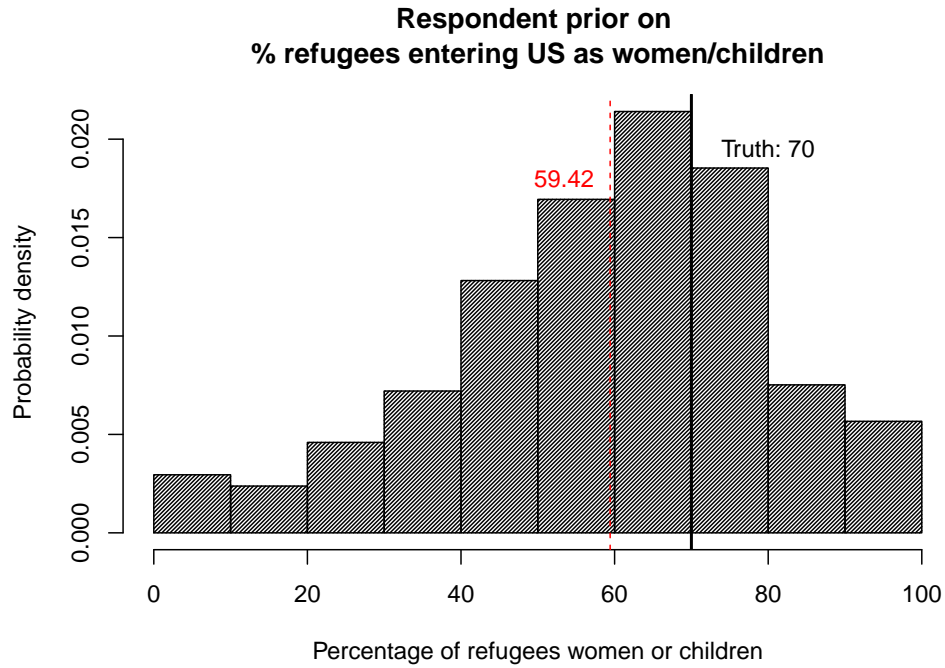


Figure A.3: Priors about refugee age and gender

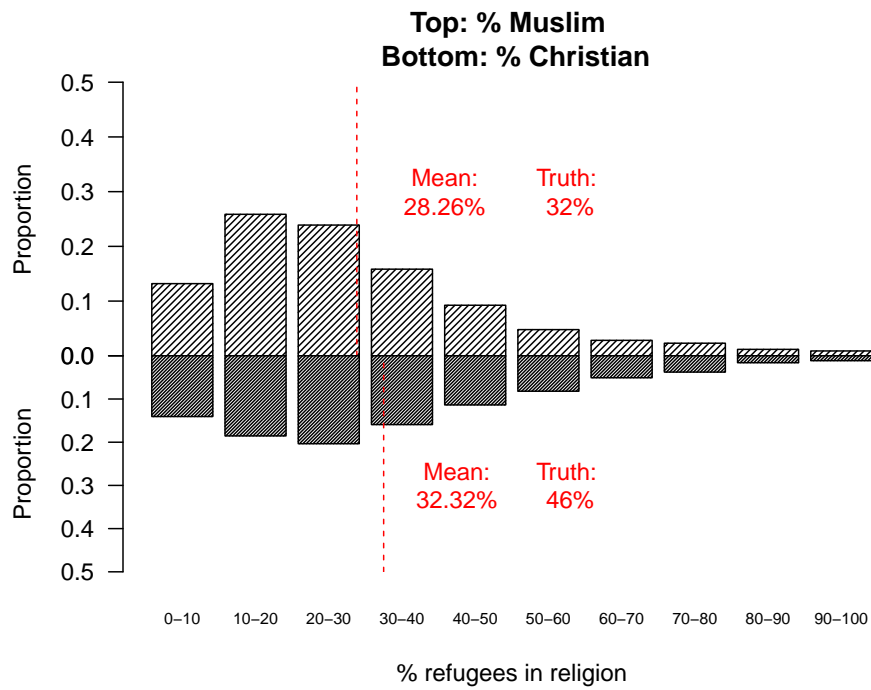


Figure A.4: Priors about refugee religion

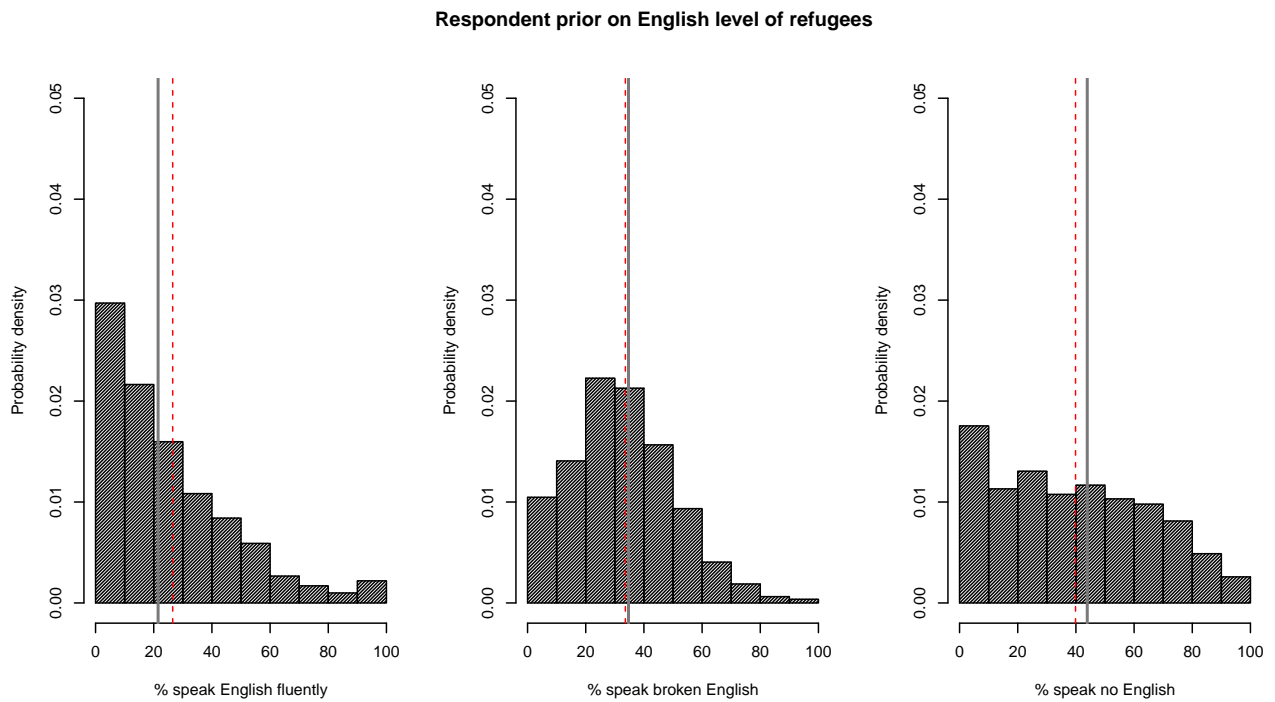


Figure A.5: Priors about English fluency

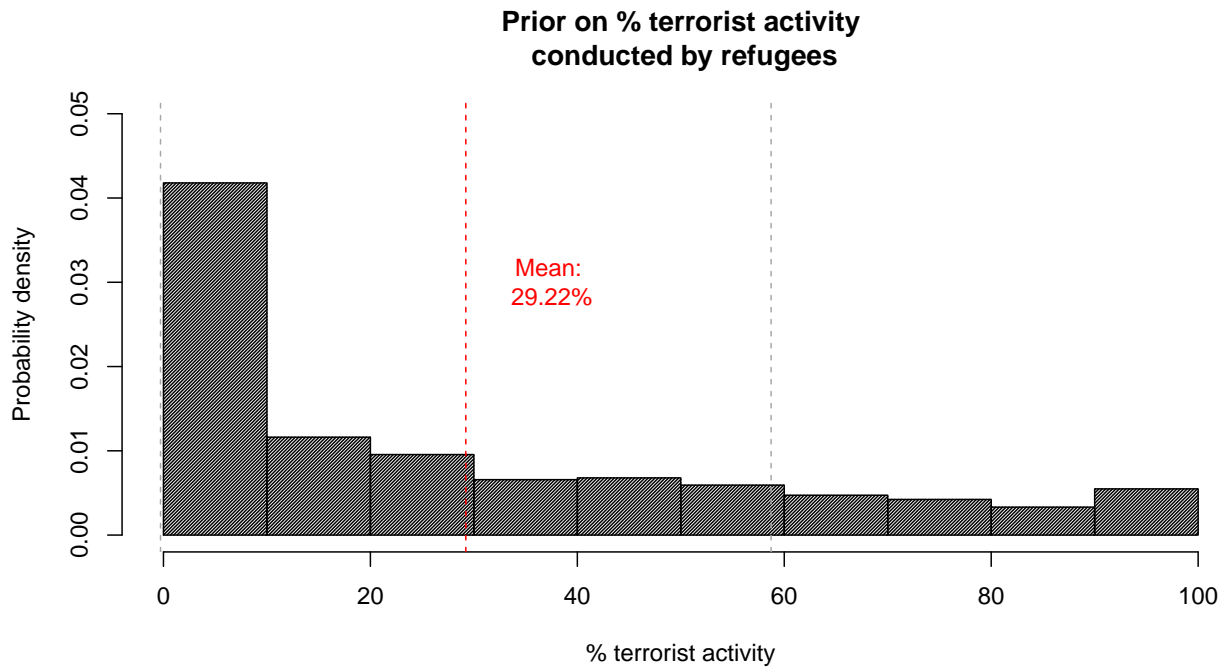


Figure A.6: Priors about terrorist activity

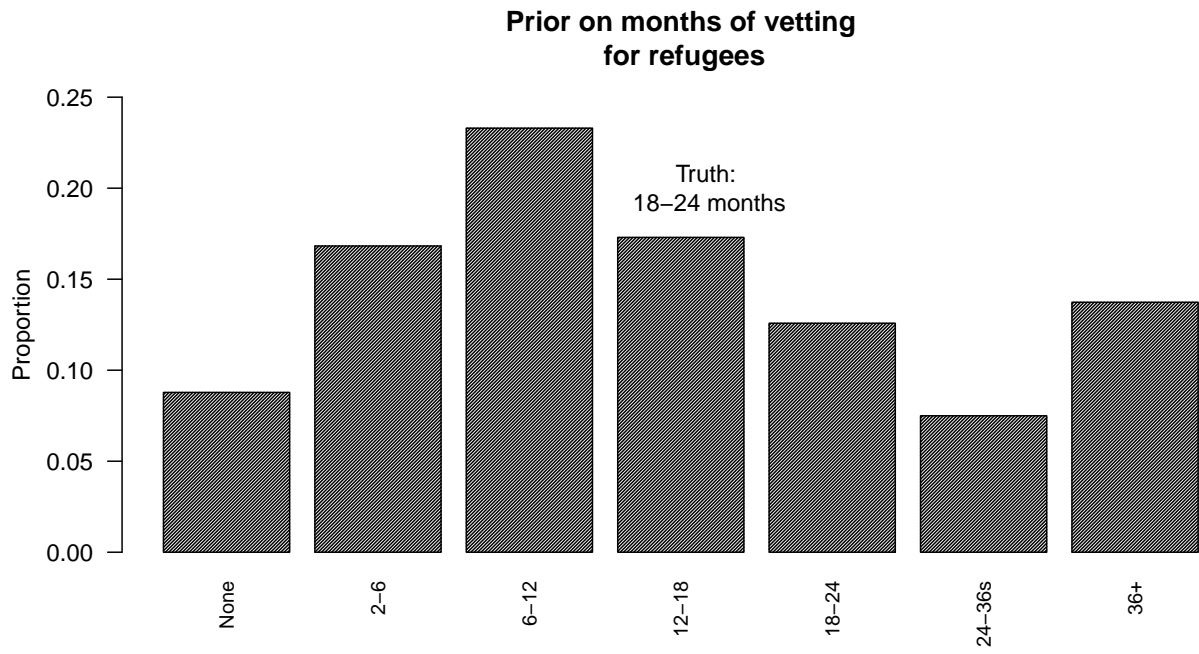


Figure A.7: Priors about time spent on vetting

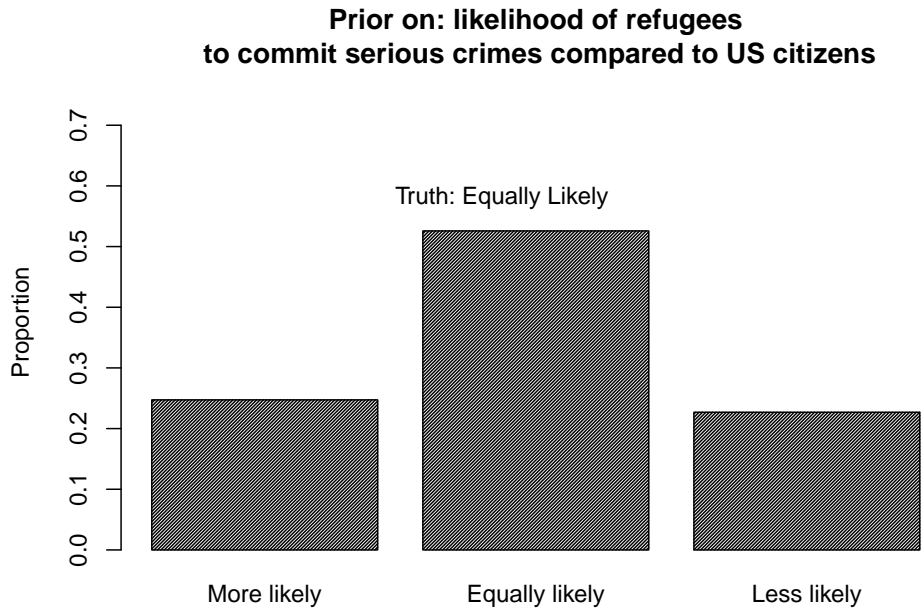


Figure A.8: Priors about relative criminal activity

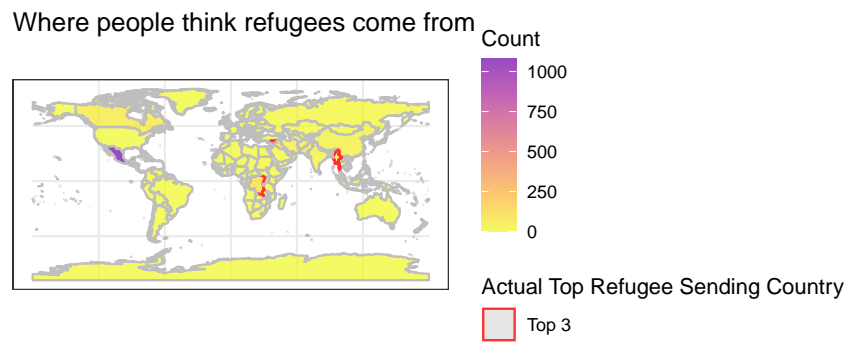


Figure A.9: Priors about sending countries

6 Regression Results from Study 1

7 Full analysis of Study 2

Table A.4: Correlates of Security Errors and Refugee Attitudes

| | <i>Dependent variable:</i> | | | |
|------------------------------------|----------------------------|----------------------|----------------------|----------------------|
| | Thermometer | Burden | Terror Risk | Identity Risk |
| | <i>OLS</i> (1) | <i>OLS</i> (2) | <i>OLS</i> (3) | <i>OLS</i> (4) |
| Security Error | -25.102*** (1.629) | 2.911*** (0.100) | 2.790*** (0.105) | 3.239*** (0.096) |
| Is Immigrant | 4.400*** (0.879) | 0.283*** (0.054) | 0.216*** (0.057) | 0.098* (0.052) |
| Empathy Battery | 5.604*** (0.415) | -0.097*** (0.025) | -0.163*** (0.027) | -0.099*** (0.025) |
| Male | 4.402*** (0.856) | 0.021 (0.052) | 0.013 (0.055) | -0.009 (0.051) |
| Other Gender | 5.382 (8.080) | 0.383 (0.496) | 0.114 (0.521) | -0.395 (0.477) |
| African American | -0.565 (1.256) | 0.285*** (0.077) | 0.001 (0.081) | 0.214*** (0.074) |
| Alaska Native | -14.676 (9.116) | 0.279 (0.559) | -0.627 (0.588) | 1.198** (0.538) |
| American Indian | 1.640 (3.857) | -0.246 (0.237) | -0.493** (0.249) | -0.437* (0.228) |
| Asian | -6.223*** (2.324) | 0.156 (0.143) | -0.051 (0.150) | 0.303** (0.137) |
| Native Hawaiian | 3.938 (8.004) | 0.157 (0.491) | 0.064 (0.516) | 0.307 (0.473) |
| Other Race | -3.556 (2.361) | -0.027 (0.145) | -0.112 (0.152) | 0.101 (0.139) |
| Pacific Islander | -15.167* (8.013) | 0.464 (0.492) | -0.644 (0.517) | -0.149 (0.473) |
| Associates degree (2-year college) | -0.919 (2.465) | -0.158 (0.151) | -0.062 (0.159) | -0.129 (0.146) |
| Bachelors degree | 2.660 (2.354) | -0.496*** (0.144) | -0.467*** (0.152) | -0.529*** (0.139) |
| High school graduate | -3.913* (2.337) | 0.039 (0.143) | 0.060 (0.151) | -0.042 (0.138) |
| Post-graduate degree | 6.997*** (2.501) | -0.213 (0.153) | -0.159 (0.161) | -0.340** (0.148) |
| Some college, but no degree | 0.126 (2.345) | -0.286** (0.144) | -0.203 (0.151) | -0.233* (0.139) |
| Democrat | 6.811*** (1.071) | -0.197*** (0.066) | -0.181*** (0.069) | -0.237*** (0.063) |
| Republican | 0.133 (1.161) | 0.004 (0.071) | 0.104 (0.075) | 0.067 (0.069) |
| Trump approval | -1.982*** (0.287) | 0.315*** (0.018) | 0.338*** (0.019) | 0.302*** (0.017) |
| Northeast | -2.020* (1.165) | 0.010 (0.071) | 0.004 (0.075) | -0.049 (0.069) |
| South | -0.244 (1.071) | 0.112* (0.066) | 0.138** (0.069) | 0.079 (0.063) |
| West | 0.693 (1.285) | 0.015 (0.079) | 0.032 (0.083) | -0.056 (0.076) |
| Constant | 67.602*** (2.542) | 1.860*** (0.156) | 1.818*** (0.164) | 1.970*** (0.150) |
| Observations | 3,560 | 3,560 | 3,557 | 3,559 |
| Adjusted R ² | 0.240 | 0.445 | 0.437 | 0.487 |

Note:

* p<0.1; ** p<0.05; *** p<0.01
OLS regression

Table A.5: Correlates of Security Errors and Views of Refugee Policies

| | <i>Dependent variable:</i> | | | | | | |
|------------------------------------|----------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | Support Time | Muslim Ban | Comments | Increase | Family | Screening | Priority |
| | <i>OLS</i> (1) | <i>OLS</i> (2) | <i>OLS</i> (3) | <i>OLS</i> (4) | <i>OLS</i> (5) | <i>OLS</i> (6) | <i>OLS</i> (7) |
| Security Error | -0.317*** (0.044) | 1.132*** (0.056) | 0.156*** (0.033) | -0.733*** (0.061) | -0.644*** (0.114) | 0.428*** (0.038) | 0.182*** (0.066) |
| Is Immigrant | 0.264*** (0.024) | 0.095*** (0.030) | 0.081*** (0.018) | 0.057* (0.033) | 0.466*** (0.061) | -0.073*** (0.020) | 0.251*** (0.036) |
| Empathy Battery | 0.126*** (0.011) | -0.072*** (0.014) | 0.049*** (0.008) | 0.151*** (0.016) | 0.352*** (0.029) | 0.011 (0.010) | 0.170*** (0.017) |
| Male | 0.226*** (0.023) | -0.043 (0.029) | 0.100*** (0.017) | 0.174*** (0.032) | 0.495*** (0.060) | -0.078*** (0.020) | 0.182*** (0.035) |
| Other Gender | 0.556** (0.217) | -0.241 (0.276) | 0.095 (0.162) | 0.782*** (0.303) | 1.015* (0.565) | -0.634*** (0.186) | -0.274 (0.326) |
| African American | 0.096*** (0.034) | 0.057 (0.043) | -0.007 (0.025) | 0.233*** (0.047) | 0.284*** (0.088) | -0.030 (0.029) | 0.121** (0.051) |
| Alaska Native | 0.137 (0.245) | 0.158 (0.311) | -0.267 (0.182) | 0.594* (0.342) | 0.857 (0.637) | -0.469** (0.210) | -0.291 (0.368) |
| American Indian | 0.181* (0.104) | -0.141 (0.132) | 0.156** (0.077) | 0.341** (0.145) | 0.093 (0.270) | -0.131 (0.089) | 0.179 (0.156) |
| Asian | -0.120* (0.063) | -0.047 (0.079) | -0.199*** (0.046) | 0.114 (0.087) | -0.311* (0.162) | -0.049 (0.053) | -0.085 (0.094) |
| Native Hawaiian | 0.361* (0.215) | -0.375 (0.273) | -0.212 (0.160) | 0.398 (0.300) | 0.046 (0.560) | -0.432** (0.184) | 0.648** (0.323) |
| Other Race | -0.025 (0.064) | 0.064 (0.081) | 0.031 (0.047) | 0.122 (0.088) | -0.092 (0.165) | -0.031 (0.054) | -0.022 (0.095) |
| Pacific Islander | 0.059 (0.216) | 0.021 (0.273) | 0.119 (0.160) | -0.161 (0.300) | 0.428 (0.560) | -0.140 (0.184) | -0.186 (0.324) |
| Associates degree (2-year college) | -0.111* (0.066) | -0.015 (0.084) | 0.150*** (0.049) | -0.175* (0.092) | -0.056 (0.172) | 0.043 (0.057) | -0.184* (0.100) |
| Bachelors degree | 0.073 (0.063) | -0.103 (0.080) | 0.178*** (0.047) | -0.084 (0.088) | 0.189 (0.165) | 0.009 (0.054) | -0.164* (0.095) |
| High school graduate | -0.117* (0.063) | -0.001 (0.080) | 0.089* (0.047) | -0.134 (0.088) | -0.152 (0.163) | -0.011 (0.054) | -0.319*** (0.094) |
| Post-graduate degree | 0.233*** (0.067) | -0.050 (0.085) | 0.226*** (0.050) | 0.147 (0.094) | 0.571*** (0.175) | -0.047 (0.058) | -0.052 (0.101) |
| Some college, but no degree | -0.077 (0.063) | -0.069 (0.080) | 0.157*** (0.047) | -0.148* (0.088) | -0.106 (0.164) | 0.035 (0.054) | -0.217** (0.095) |
| Democrat | 0.207*** (0.029) | -0.090** (0.037) | 0.122*** (0.021) | 0.137*** (0.040) | 0.247*** (0.075) | -0.004 (0.025) | 0.119*** (0.043) |
| Republican | -0.028 (0.031) | 0.067* (0.040) | 0.080*** (0.023) | -0.136*** (0.044) | -0.260*** (0.081) | 0.114*** (0.027) | -0.017 (0.047) |
| Trump Approval | -0.070*** (0.008) | 0.159*** (0.010) | 0.045*** (0.006) | -0.091*** (0.011) | -0.106*** (0.020) | 0.073*** (0.007) | -0.024** (0.012) |
| Region: Northeast | -0.064** (0.031) | 0.015 (0.040) | -0.011 (0.023) | -0.041 (0.044) | -0.154* (0.081) | 0.020 (0.027) | -0.049 (0.047) |
| Region: South | 0.026 (0.029) | 0.057 (0.037) | -0.013 (0.021) | 0.033 (0.040) | 0.123* (0.075) | 0.001 (0.025) | 0.131*** (0.043) |
| Region: West | 0.084** (0.035) | 0.038 (0.044) | -0.005 (0.026) | 0.090* (0.048) | 0.274*** (0.090) | -0.081*** (0.030) | 0.114** (0.052) |
| Constant | 0.065 (0.068) | -0.954*** (0.087) | -0.00001 (0.051) | 0.503*** (0.095) | 4.606*** (0.178) | 0.119** (0.059) | -0.087 (0.103) |
| Observations | 3,560 | 3,559 | 3,560 | 3,560 | 3,560 | 3,559 | 3,560 |
| Adjusted R ² | 0.253 | 0.341 | 0.096 | 0.215 | 0.171 | 0.189 | 0.078 |

Note:

*p<0.1; **p<0.05; ***p<0.01
OLS regression

Table A.6: Correlates of Security Errors and Pro-Refugee Behaviors

| | <i>Dependent variable:</i> | | |
|------------------------------------|----------------------------|------------------------|----------------------|
| | Donate Pro-Refugee | Donate Refugee Council | Donate Heritage |
| | <i>OLS</i> (1) | <i>OLS</i> (2) | <i>OLS</i> (3) |
| Security Error | -0.239*** (0.041) | -0.227*** (0.030) | 0.011 (0.023) |
| Is Immigrant | 0.126*** (0.022) | 0.080*** (0.016) | -0.046*** (0.012) |
| Empathy Battery | 0.029*** (0.010) | 0.030*** (0.008) | 0.0004 (0.006) |
| Male | 0.049** (0.022) | 0.038** (0.016) | -0.010 (0.012) |
| Other Gender | -0.223 (0.204) | -0.172 (0.147) | 0.052 (0.113) |
| African American | -0.095*** (0.032) | -0.060*** (0.023) | 0.035** (0.018) |
| Alaska Native | -0.275 (0.230) | -0.130 (0.166) | 0.145 (0.128) |
| American Indian | -0.076 (0.098) | 0.010 (0.070) | 0.086 (0.054) |
| Asian | -0.127** (0.059) | -0.079* (0.042) | 0.047 (0.033) |
| Native Hawaiian | -0.147 (0.202) | -0.041 (0.145) | 0.106 (0.112) |
| Other Race | -0.180*** (0.060) | -0.106** (0.043) | 0.074** (0.033) |
| Pacific Islander | -0.052 (0.203) | 0.049 (0.146) | 0.102 (0.112) |
| Associates degree (2-year college) | 0.020 (0.062) | 0.008 (0.045) | -0.012 (0.035) |
| Bachelors degree | 0.107* (0.060) | 0.059 (0.043) | -0.047 (0.033) |
| High school graduate | 0.062 (0.059) | -0.008 (0.042) | -0.069** (0.033) |
| Post-graduate degree | 0.144** (0.063) | 0.061 (0.045) | -0.083** (0.035) |
| Some college, but no degree | 0.042 (0.059) | -0.003 (0.043) | -0.045 (0.033) |
| Democrat | 0.074*** (0.027) | 0.082*** (0.019) | 0.008 (0.015) |
| Republican | -0.078*** (0.029) | -0.024 (0.021) | 0.054*** (0.016) |
| Trump Approval | -0.046*** (0.007) | -0.031*** (0.005) | 0.015*** (0.004) |
| Region: Northeast | -0.088*** (0.029) | -0.034 (0.021) | 0.054*** (0.016) |
| Region: South | -0.062** (0.027) | -0.032* (0.019) | 0.030** (0.015) |
| Region: West | -0.007 (0.033) | 0.027 (0.023) | 0.034* (0.018) |
| Constant | 0.330*** (0.064) | 0.418*** (0.046) | 0.088** (0.036) |
| Observations | 3,557 | 3,557 | 3,557 |
| Adjusted R ² | 0.091 | 0.102 | 0.025 |

Note:

*p<0.1; **p<0.05; ***p<0.01
OLS regression

Table A.7: Effects of Perspective-Getting Treatments in Pilot Study.

| | <i>Dependent variable:</i> | | | | |
|--------------------------|----------------------------|-------------------|--------------------|-------------------|-------------------|
| | Vetting Correct | Vetting Update | Thermometer | Refugee Cap | Letter Intent |
| | (1) | (2) | (3) | (4) | (5) |
| Refugee Treatment | -0.06** (0.03) | 0.37*** (0.09) | 9.01*** (1.75) | 0.48*** (0.13) | 0.15*** (0.04) |
| Muslim Refugee Treatment | -0.07** (0.03) | 0.42*** (0.10) | 9.84*** (1.72) | 0.24* (0.13) | 0.11*** (0.04) |
| Muslim Treatment | -0.02 (0.03) | -0.07 (0.08) | 6.94*** (1.75) | 0.31** (0.13) | 0.08* (0.04) |
| Constant | 0.35*** (0.02) | 0.28*** (0.06) | 55.53*** (1.24) | -0.07 (0.09) | -0.07** (0.03) |
| Observations | 2,010 | 2,010 | 2,006 | 2,011 | 2,007 |

Note:

*p<0.1; **p<0.05; ***p<0.01
 OLS regression of outcomes on Refugee, Muslim Refugee, and Muslim treatments.

Table A.8: Effects of Info Treatments in Pilot Study

| | <i>Dependent variable:</i> | | | | |
|----------------|----------------------------|-------------------|--------------------|-------------------|-----------------|
| | Vetting Correct | Vetting Update | Thermometer | Refugee Cap | Letter Intent |
| | (1) | (2) | (3) | (4) | (5) |
| Info Treatment | 0.37*** (0.02) | 0.31*** (0.07) | -0.54 (1.24) | -0.07 (0.09) | 0.05 (0.03) |
| Constant | 0.13*** (0.01) | 0.30*** (0.05) | 62.08*** (0.89) | 0.22*** (0.07) | -0.01 (0.02) |
| Observations | 2,010 | 2,010 | 2,006 | 2,011 | 2,007 |

Note:

*p<0.1; **p<0.05; ***p<0.01
 OLS regression of outcomes on Information treatment.

Table A.9: Interacting Info and Perspective-Getting Treatments in Pilot Study

| | <i>Dependent variable:</i> | | | |
|--------------------------|----------------------------|-----------------------|--------------------|--------------------|
| | Vetting Correct (1) | Vetting Update (2) | Thermometer (3) | Refugee Cap (4) |
| Info Treatment | 0.42*** (0.04) | 0.56*** (0.11) | -0.25 (2.48) | 0.003 (0.17) |
| Refugee Treatment | -0.04 (0.03) | 0.58*** (0.13) | 8.41*** (2.55) | 0.49*** (0.19) |
| Muslim Refugee Treatment | -0.03 (0.03) | 0.69*** (0.13) | 9.77*** (2.45) | 0.21 (0.18) |
| Muslim Treatment | 0.03 (0.03) | -0.02 (0.08) | 8.21*** (2.46) | 0.49*** (0.18) |
| Info x Refugee | -0.06 (0.05) | -0.44** (0.19) | 1.15 (3.52) | -0.03 (0.26) |
| Info x Muslim Refugee | -0.07 (0.05) | -0.53*** (0.19) | 0.14 (3.44) | 0.06 (0.25) |
| Info x Muslim | -0.10* (0.05) | -0.08 (0.16) | -2.61 (3.51) | -0.36 (0.25) |
| Constant | 0.14*** (0.02) | -0.00 (0.05) | 55.66*** (1.74) | -0.07 (0.13) |
| Observations | 2,010 | 2,010 | 2,006 | 2,011 |

Note:

OLS regression of outcomes on interaction of Info treatment with Refugee, Muslim

8 Full analysis of Study 3 per the PAP

Pre-registered analyses per our pre-specified PAP, specifically focusing on the hypotheses detailed in the PAP (from H1 to H4).

Below we first specify the variables used to measure the main outcome variables in our manuscript.

Table A.10: Main Outcome Variables.

| Type of Outcome | Survey question |
|-------------------|---|
| Belief updating | “Approximately how many months of vetting does a refugee go through before being resettled into the United States? If you do not know, please give your best guess.” (asked before and after treatment). Measured as whether or not the answer is correct post-treatment (Vetting 1) and as updating to a longer vetting period between pre- and post-treatment (Vetting 2) |
| Warmth | “On a scale from 0 to 100, where 0 = completely unfavorable and 100 = completely favorable, how do you feel about refugees who come to the United States?” |
| Policy Preference | “Every year the federal government decides how many refugees to allow to be resettled in the United States. The refugee cap was at its highest when the refugee resettlement program was first formalized in the United States in 1980, with a cap of 231,000. In the mid-1990s, it hovered around 100,000 to 150,000, but then decreased to the 70,000-80,000 range in the 2000s. Under President Obama, it was raised to 110,000, and under President Trump it was reduced to 15,000. This year the number of refugees permitted to enter the United States is 125,000. Next year, do you think the number should be higher, lower, or stay the same?” |
| Behavior | “Would you be willing to write a letter to the current president’s administration advocating for your position on how many refugees should be admitted into the United States?” (1) Yes, I would like to write a letter supporting an increase in refugees, (2) Yes, I would like to write a letter opposing an increase in refugees, (3) No, I would not like to write a letter. Measured as intent to write a letter in the main manuscript, and as actual writing of letter supporting a cap increase in the SI. |

8.1 H1

PAP-registered analyses:

1. Tables A.11 and A.12 presents full tables for OLS specifications with and without controls for H1, as registered in our PAP.
2. Tables A.13-A.14 presents full tables for OLS specifications with and without controls for H1a, as registered in our PAP, for the two vetting outcomes.
3. Tables A.15-A.16 presents full tables for OLS specifications with and without controls for H1b, as registered in our PAP, for the two vetting outcomes.

Table A.11: H1: PGInfo effects on vetting outcome. OLS regressions of PGInfo and prior measure of vetting knowledge on vetting outcomes, as per PAP.

| | Vetting | |
|----------------------------|----------------------|---------------------|
| | Vetting 1 | Vetting 2 |
| | (1) | (2) |
| PGInfo | -0.900*** (0.028) | 0.680*** (0.032) |
| Pre-measure vetting | -0.282*** (0.009) | 0.561*** (0.011) |
| Constant | 2.508*** (0.031) | 1.258*** (0.035) |
| Observations | 5,671 | 5,671 |
| Adjusted R ² | 0.289 | 0.432 |
| F Statistic (df = 2; 5668) | 1,151.490*** | 2,160.642*** |

Note: *p<0.1; **p<0.05; ***p<0.01
PGInfo MH-adjusted p-values

We see from Table A.11 that Hypothesis 1, which was about the effectiveness of PGInfo, we find a positive effect on Vetting 2 (more likely to say more time for vetting after seeing PGInfo). The coefficient on PGInfo for Vetting 1, however is negative (as is the correlation between the pre-measure and the post-measure); the reason behind this is related to the correct answer being a 4 in a 0 to 6 scale; respondents updated not only in shifting upwards towards 4s from lower values in responding to PGInfo, but also downwards from overly high values too (resulting in negative values). However, as can be seen from Figure A.10, overwhelming effect is that respondents updated to the correct amount of vetting upon receiving the PGInfo intervention. In this Figure, we can see that in respondents in

Table A.12: H1: PGInfo effects on vetting outcome, specification with controls included.

| | Vetting | |
|--|-------------------|-------------------|
| | Vetting 1 | Vetting 2 |
| | (1) | (2) |
| PGInfo | -0.899*** (0.027) | 0.689*** (0.031) |
| Pre-measure vetting | -0.269*** (0.009) | 0.552*** (0.011) |
| Constant | 0.061* (0.034) | 0.023 (0.038) |
| partyRepublican | 0.011 (0.034) | 0.037 (0.039) |
| educationBachelor's degree (e.g. BA, BS) | -0.070 (0.048) | -0.007 (0.054) |
| educationDoctorate (e.g. PhD, EdD) | 0.007 (0.121) | -0.128 (0.119) |
| educationHigh school degree or equivalent (e.g. GED) | 0.035 (0.046) | 0.015 (0.053) |
| educationLess than a high school diploma | 0.310*** (0.083) | -0.144* (0.100) |
| educationMaster's degree (e.g. MA, MS, MEd) | 0.006 (0.064) | -0.100 (0.070) |
| educationProfessional degree (e.g. MD, DDS, DVM) | 0.014 (0.112) | -0.131 (0.131) |
| educationSome college, no degree | -0.018 (0.045) | 0.044 (0.052) |
| gender | -0.120 (0.047) | -0.213 (0.053) |
| genderFemale | -0.065** (0.029) | 0.065** (0.033) |
| genderOther | -0.016 (0.173) | -0.264 (0.214) |
| age_numeric | -0.002** (0.001) | 0.005*** (0.001) |
| ethnocentric1 | 0.019*** (0.002) | -0.016*** (0.002) |
| religionAgnostic | 0.495 (0.247) | 0.333 (0.575) |
| religionAtheist | 0.527 (0.247) | 0.355 (0.575) |
| religionCatholic Christian | 0.491 (0.244) | 0.259 (0.574) |
| religionHindu | 0.405 (0.337) | 0.396 (0.599) |
| religionJewish | 0.622 (0.264) | 0.297 (0.588) |
| religionMuslim | 0.722 (0.259) | -0.019 (0.582) |
| religionOther | 0.473 (0.243) | 0.369 (0.574) |
| religionProtestant Christian (Evangelical) | 0.519 (0.245) | 0.295 (0.574) |
| religionProtestant Christian (Non-Evangelical) | 0.458 (0.244) | 0.353 (0.574) |
| Constant | 1.736** (0.254) | 1.019 (0.580) |
| Observations | 5,660 | 5,660 |
| Adjusted R ² | 0.319 | 0.450 |
| F Statistic (df = 25; 5634) | 107.078*** | 186.140*** |

Note:

*p<0.1; **p<0.05; ***p<0.01
PGInfo MH-adjusted p-values

the Control group, understandably, do not update often (blue and red points sit atop one another—dark shaded purple dots), and shifts in answers can be in any direction. However, in the PGInfo group, there is a sorting towards the dashed vertical line at 4 (the true amount of vetting), and some over and under updating — including a group of individuals who start with beliefs that there are more months to vetting (values 5 and 6, in blue) and then update downwards, to the correct value of 4.

Table A.13: H1a: PGInfo effect on vetting 1 outcome different from Info effect

| | Vetting 1 | |
|--|---------------------------|----------------------------|
| | update_refugeevet1 | |
| | (1) | (2) |
| PGInfo | −0.900*** (0.028) | −0.899*** (0.027) |
| Info | −1.103*** (0.031) | −1.100*** (0.030) |
| refugeevet_pre | −0.248*** (0.007) | −0.234*** (0.007) |
| partyIndependent | | 0.033 (0.029) |
| partyRepublican | | −0.030 (0.029) |
| educationBachelor’s degree (e.g. BA, BS) | | −0.079* (0.043) |
| educationDoctorate (e.g. PhD, EdD) | | 0.006 (0.106) |
| educationHigh school degree or equivalent (e.g. GED) | | 0.026 (0.040) |
| educationLess than a high school diploma | | 0.283*** (0.064) |
| educationMaster’s degree (e.g. MA, MS, MEd) | | 0.015 (0.056) |
| educationProfessional degree (e.g. MD, DDS, DVM) | | −0.008 (0.105) |
| educationSome college, no degree | | −0.042 (0.041) |
| gender | | −0.114 (1.020) |
| genderFemale | | −0.045* (0.025) |
| genderOther | | 0.065 (0.194) |
| age_numeric | | −0.005*** (0.001) |
| ethnocentric1 | | 0.022*** (0.001) |
| religionAgnostic | | −1.142** (0.512) |
| religionAtheist | | −1.082** (0.512) |
| religionCatholic Christian | | −1.124** (0.511) |
| religionHindu | | −1.143** (0.538) |
| religionJewish | | −1.018** (0.519) |
| religionMuslim | | −0.871* (0.516) |
| religionOther | | −1.135** (0.511) |
| religionProtestant Christian (Evangelical) | | −1.095** (0.511) |
| religionProtestant Christian (Non-Evangelical) | | −1.164** (0.511) |
| Constant | 2.416*** (0.027) | 3.293*** (0.515) |
| Controls | No | Yes |
| Test stat diff PGInfo and Info coef | 41.569*** | 42.926*** |
| Observations | 7,569 | 7,556 |
| Adjusted R ² | 0.271 | 0.315 |
| F Statistic | 939.822*** (df = 3; 7565) | 134.738*** (df = 26; 7529) |

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.14: H1a: PGInfo effect on vetting 2 outcome different from Info effect

| | Vetting 2 | |
|--|-----------------------------|----------------------------|
| | update_refugeevet2 | |
| | (1) | (2) |
| PGInfo | 0.681*** (0.032) | 0.688*** (0.031) |
| Info | 0.794*** (0.035) | 0.791*** (0.034) |
| refugeevet_pre | 0.482*** (0.008) | 0.473*** (0.008) |
| partyIndependent | | 0.059* (0.033) |
| partyRepublican | | 0.079** (0.034) |
| educationBachelor's degree (e.g. BA, BS) | | 0.021 (0.049) |
| educationDoctorate (e.g. PhD, EdD) | | -0.101 (0.121) |
| educationHigh school degree or equivalent (e.g. GED) | | 0.011 (0.046) |
| educationLess than a high school diploma | | -0.137* (0.073) |
| educationMaster's degree (e.g. MA, MS, MEd) | | -0.103 (0.064) |
| educationProfessional degree (e.g. MD, DDS, DVM) | | -0.138 (0.120) |
| educationSome college, no degree | | 0.043 (0.046) |
| gender | | -0.281 (1.163) |
| genderFemale | | 0.040 (0.028) |
| genderOther | | -0.218 (0.222) |
| age_numeric | | 0.007*** (0.001) |
| ethnocentric1 | | -0.019*** (0.002) |
| religionAgnostic | | 1.107* (0.584) |
| religionAtheist | | 1.094* (0.584) |
| religionCatholic Christian | | 1.022* (0.583) |
| religionHindu | | 1.038* (0.613) |
| religionJewish | | 1.099* (0.591) |
| religionMuslim | | 0.719 (0.588) |
| religionOther | | 1.093* (0.582) |
| religionProtestant Christian (Evangelical) | | 1.030* (0.583) |
| religionProtestant Christian (Non-Evangelical) | | 1.104* (0.583) |
| Constant | 1.471*** (0.031) | 0.455 (0.587) |
| Controls | No | Yes |
| Test stat diff PGInfo and Info coef | 10.268** | 8.7723** |
| Observations | 7,569 | 7,556 |
| Adjusted R ² | 0.365 | 0.390 |
| F Statistic | 1,450.743*** (df = 3; 7565) | 186.694*** (df = 26; 7529) |

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.15: H1b: PGInfo effect on vetting 1 outcome different from PG effect

| | Vetting 1 | |
|--|-----------------------------|----------------------------|
| | update_refugeevet1 | |
| | (1) | (2) |
| PGInfo | -0.900*** (0.027) | -0.898*** (0.027) |
| PG | 0.020 (0.030) | 0.025 (0.030) |
| refugeevet_pre | -0.283*** (0.007) | -0.271*** (0.007) |
| partyIndependent | | 0.066** (0.029) |
| partyRepublican | | 0.011 (0.029) |
| educationBachelor's degree (e.g. BA, BS) | | -0.035 (0.043) |
| educationDoctorate (e.g. PhD, EdD) | | -0.025 (0.102) |
| educationHigh school degree or equivalent (e.g. GED) | | 0.054 (0.040) |
| educationLess than a high school diploma | | 0.313*** (0.064) |
| educationMaster's degree (e.g. MA, MS, MEd) | | -0.039 (0.055) |
| educationProfessional degree (e.g. MD, DDS, DVM) | | 0.012 (0.103) |
| educationSome college, no degree | | 0.010 (0.040) |
| gender | | -0.088 (1.000) |
| genderFemale | | -0.058** (0.024) |
| genderOther | | 0.065 (0.176) |
| age_numeric | | -0.0004 (0.001) |
| ethnocentric1 | | 0.015*** (0.001) |
| religionAgnostic | | 0.456 (0.579) |
| religionAtheist | | 0.467 (0.579) |
| religionCatholic Christian | | 0.435 (0.578) |
| religionHindu | | 0.268 (0.603) |
| religionJewish | | 0.519 (0.583) |
| religionMuslim | | 0.579 (0.582) |
| religionOther | | 0.434 (0.578) |
| religionProtestant Christian (Evangelical) | | 0.459 (0.578) |
| religionProtestant Christian (Non-Evangelical) | | 0.420 (0.578) |
| Constant | 2.509*** (0.026) | 1.746*** (0.581) |
| Controls | No | Yes |
| Test stat diff PGInfo and PG coef | 899.9*** | 929.93*** |
| Observations | 7,500 | 7,488 |
| Adjusted R ² | 0.295 | 0.315 |
| F Statistic | 1,045.264*** (df = 3; 7496) | 133.577*** (df = 26; 7461) |

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.16: H1b: PGInfo effect on vetting 2 outcome different from PG effect

| | Vetting 2 | |
|--|-----------------------------|----------------------------|
| | update_refugeevet2 | |
| | (1) | (2) |
| PGInfo | 0.680*** (0.034) | 0.690*** (0.034) |
| PG | 0.510*** (0.039) | 0.508*** (0.038) |
| refugeevet_pre | 0.575*** (0.009) | 0.565*** (0.009) |
| partyIndependent | | 0.021 (0.037) |
| partyRepublican | | 0.046 (0.037) |
| educationBachelor's degree (e.g. BA, BS) | | -0.033 (0.055) |
| educationDoctorate (e.g. PhD, EdD) | | -0.140 (0.131) |
| educationHigh school degree or equivalent (e.g. GED) | | -0.005 (0.051) |
| educationLess than a high school diploma | | -0.135 (0.083) |
| educationMaster's degree (e.g. MA, MS, MEd) | | -0.154** (0.071) |
| educationProfessional degree (e.g. MD, DDS, DVM) | | -0.218* (0.132) |
| educationSome college, no degree | | 0.019 (0.051) |
| gender | | -0.198 (1.281) |
| genderFemale | | 0.090*** (0.031) |
| genderOther | | -0.211 (0.225) |
| age_numeric | | 0.004*** (0.001) |
| ethnocentric1 | | -0.017*** (0.002) |
| religionAgnostic | | 0.470 (0.741) |
| religionAtheist | | 0.480 (0.741) |
| religionCatholic Christian | | 0.393 (0.740) |
| religionHindu | | 0.671 (0.772) |
| religionJewish | | 0.373 (0.747) |
| religionMuslim | | 0.195 (0.745) |
| religionOther | | 0.490 (0.740) |
| religionProtestant Christian (Evangelical) | | 0.430 (0.740) |
| religionProtestant Christian (Non-Evangelical) | | 0.472 (0.740) |
| Constant | 1.220*** (0.033) | 0.908 (0.744) |
| Controls | No | Yes |
| Test stat diff PGInfo and PG coef | 18.969*** | 21.958*** |
| Observations | 7,500 | 7,488 |
| Adjusted R ² | 0.390 | 0.406 |
| F Statistic | 1,600.590*** (df = 3; 7496) | 197.423*** (df = 26; 7461) |

Note:

*p<0.1; **p<0.05; ***p<0.01

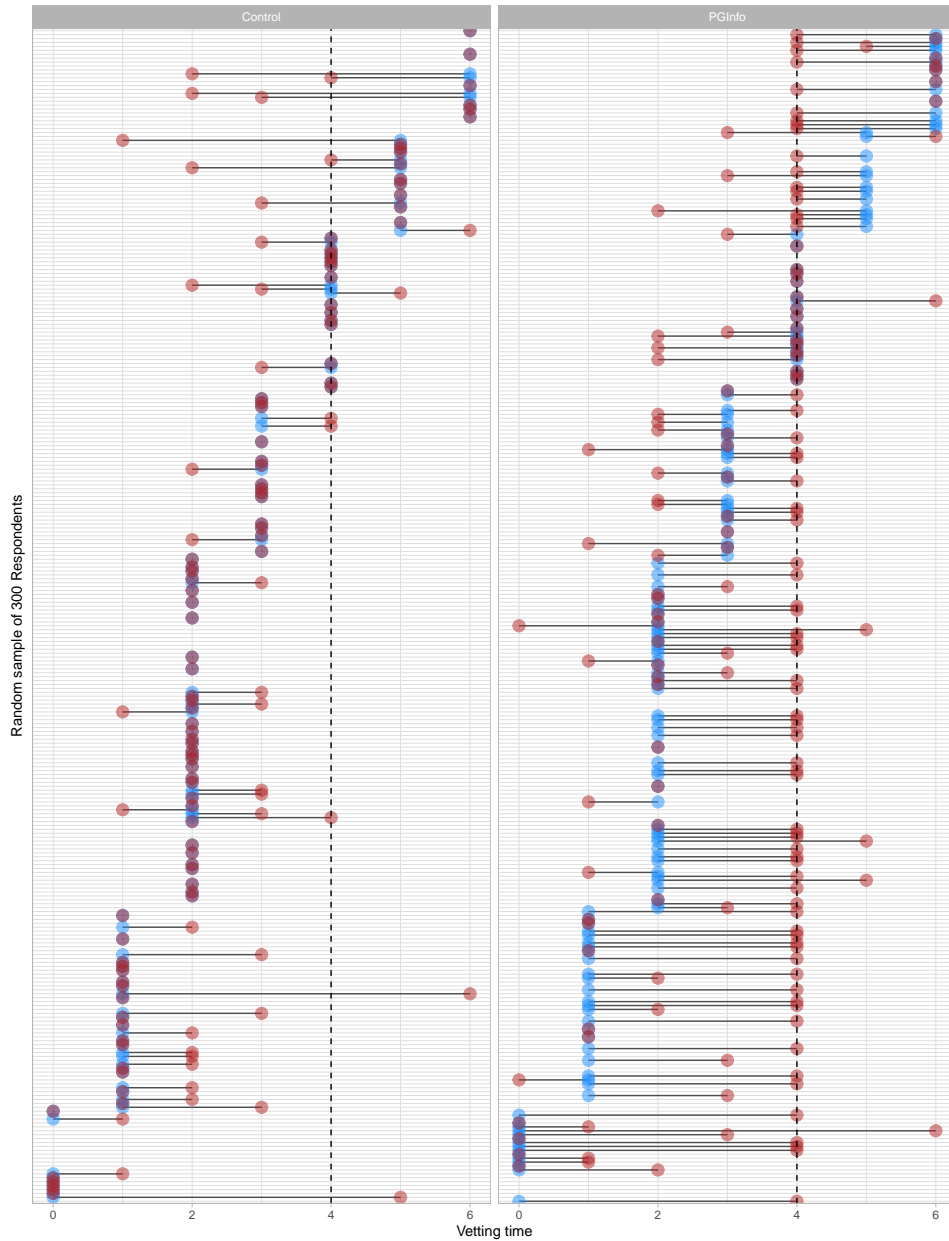


Figure A.10: Pre and post measures of vetting beliefs. Respondents’ prior beliefs about vetting times for refugees (blue points) and their posterior beliefs about vetting times for refugees (red points) for each row, faceted by whether they are in the Control or PGInfo group. The true vetting time is option “4” in a dashed line. Respondents are sorted by prior beliefs about vetting (largest values at the top). (for presentation purposes we draw a random sample of 300 respondents)

8.2 H2

PAP-registered analyses:

1. Tables A.17 and A.18 presents full tables for OLS specifications with and without controls for H2, as registered in our PAP.
2. Table A.19 presents full tables for OLS specifications with and without controls for H2a and H2b, as registered in our PAP. We do not find evidence towards H2a or H2b (PG effects are not statistically different from PGInfo ones on thermometer).
3. Table A.20 presents a full table for OLS specifications with and without controls for H2c, as registered in our PAP. We find support for H2c, which predicts Info alone will not differentially affect Thermometer compared to Control.

Table A.17: H2: PG/PGInfo effects on Thermometer

| | Thermometer |
|-------------------------|--------------------------|
| PGInfo | 6.545*** (0.728) |
| PG | 5.939*** (0.822) |
| Constant | 62.572*** (0.517) |
| Observations | 7,482 |
| Adjusted R ² | 0.012 |
| F Statistic | 47.493*** (df = 2; 7479) |

Note: *p<0.1; **p<0.05; ***p<0.01
PGInfo and PG MH-adjusted p-values

Table A.18: H2: PGInfo effects on Thermometer, specification with controls included.

| | Thermometer |
|--|---------------------------|
| PGInfo | 5.751*** (0.662) |
| PG | 5.380*** (0.740) |
| partyIndependent | -9.050*** (0.695) |
| partyRepublican | -13.419*** (0.730) |
| educationBachelor's degree (e.g. BA, BS) | 1.852* (0.995) |
| educationDoctorate (e.g. PhD, EdD) | 10.081*** (2.335) |
| educationHigh school degree or equivalent (e.g. GED) | -2.826*** (0.991) |
| educationLess than a high school diploma | -6.160*** (1.776) |
| educationMaster's degree (e.g. MA, MS, MEd) | 4.442*** (1.322) |
| educationProfessional degree (e.g. MD, DDS, DVM) | 4.717* (2.541) |
| educationSome college, no degree | 0.508 (0.959) |
| gender | -22.282 (1.052) |
| genderFemale | -0.727 (0.600) |
| genderOther | 12.196*** (3.787) |
| age_numeric | -0.177*** (0.021) |
| ethnocentric1 | -0.872*** (0.033) |
| religionAgnostic | -8.690 (7.424) |
| religionAtheist | -10.781 (7.441) |
| religionCatholic Christian | -8.485 (7.385) |
| religionHindu | -5.264 (8.364) |
| religionJewish | -11.176 (7.644) |
| religionMuslim | 0.213 (7.542) |
| religionOther | -11.404 (7.379) |
| religionProtestant Christian (Evangelical) | -9.019 (7.391) |
| religionProtestant Christian (Non-Evangelical) | -11.782 (7.393) |
| Constant | 103.142*** (7.501) |
| Observations | 7,471 |
| Adjusted R ² | 0.194 |
| F Statistic | 73.111*** (df = 25; 7445) |

Note:

*p<0.1; **p<0.05; ***p<0.01
PGInfo and PG MH-adjusted p-values

Table A.19: H2ab: PGInfo effect on Thermometer different from PG effect

| | Thermometer | |
|--|--------------------------|---------------------------|
| | refugee | thermometer |
| | (1) | (2) |
| PGInfo | 6.545*** (0.729) | 5.751*** (0.660) |
| PG | 5.939*** (0.816) | 5.380*** (0.739) |
| partyIndependent | | -9.050*** (0.709) |
| partyRepublican | | -13.419*** (0.715) |
| educationBachelor's degree (e.g. BA, BS) | | 1.852* (1.062) |
| educationDoctorate (e.g. PhD, EdD) | | 10.081*** (2.530) |
| educationHigh school degree or equivalent (e.g. GED) | | -2.826*** (0.989) |
| educationLess than a high school diploma | | -6.160*** (1.601) |
| educationMaster's degree (e.g. MA, MS, MEd) | | 4.442*** (1.372) |
| educationProfessional degree (e.g. MD, DDS, DVM) | | 4.717* (2.551) |
| educationSome college, no degree | | 0.508 (0.992) |
| gender | | -22.282 (24.750) |
| genderFemale | | -0.727 (0.594) |
| genderOther | | 12.196*** (4.348) |
| age_numeric | | -0.177*** (0.021) |
| ethnocentric1 | | -0.872*** (0.032) |
| religionAgnostic | | -8.690 (14.330) |
| religionAtheist | | -10.781 (14.329) |
| religionCatholic Christian | | -8.485 (14.301) |
| religionHindu | | -5.264 (14.927) |
| religionJewish | | -11.176 (14.437) |
| religionMuslim | | 0.213 (14.399) |
| religionOther | | -11.404 (14.296) |
| religionProtestant Christian (Evangelical) | | -9.019 (14.305) |
| religionProtestant Christian (Non-Evangelical) | | -11.782 (14.306) |
| Constant | 62.572*** (0.506) | 103.142*** (14.366) |
| Controls | No | Yes |
| Test stat diff PGInfo and PG coef | 0.5346 | 0.2454 |
| Observations | 7,482 | 7,471 |
| Adjusted R ² | 0.012 | 0.194 |
| F Statistic | 47.493*** (df = 2; 7479) | 73.111*** (df = 25; 7445) |

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.20: H2c: Info should not have effect on Thermometer relative to Control

| | Thermometer | |
|--|----------------------|---------------------------|
| | (1) | (2) |
| Info | 0.033 (0.832) | -0.324 (0.749) |
| partyIndependent | | -10.001*** (0.911) |
| partyRepublican | | -15.219*** (0.918) |
| educationBachelor's degree (e.g. BA, BS) | | 3.364** (1.353) |
| educationDoctorate (e.g. PhD, EdD) | | 13.129*** (3.379) |
| educationHigh school degree or equivalent (e.g. GED) | | -1.041 (1.228) |
| educationLess than a high school diploma | | -5.661*** (1.978) |
| educationMaster's degree (e.g. MA, MS, MEd) | | 7.487*** (1.768) |
| educationProfessional degree (e.g. MD, DDS, DVM) | | 10.437*** (3.492) |
| educationSome college, no degree | | 1.328 (1.258) |
| gender | | -23.679 (25.334) |
| genderFemale | | -2.157*** (0.760) |
| genderOther | | 8.036 (6.183) |
| age_numeric | | -0.204*** (0.026) |
| ethnocentric1 | | -0.844*** (0.041) |
| religionAgnostic | | 16.093 (14.703) |
| religionAtheist | | 14.908 (14.693) |
| religionCatholic Christian | | 14.532 (14.649) |
| religionHindu | | 19.229 (15.599) |
| religionJewish | | 10.355 (14.933) |
| religionMuslim | | 23.529 (14.837) |
| religionOther | | 10.916 (14.640) |
| religionProtestant Christian (Evangelical) | | 13.475 (14.652) |
| religionProtestant Christian (Non-Evangelical) | | 11.989 (14.658) |
| Constant | 62.572*** (0.521) | 80.892*** (14.765) |
| Controls | No | Yes |
| Observations | 4,823 | 4,815 |
| Adjusted R ² | -0.0002 | 0.195 |
| F Statistic | 0.002 (df = 1; 4821) | 49.666*** (df = 24; 4790) |

Note:

*p<0.1; **p<0.05; ***p<0.01

8.3 H3

1. Tables A.21 and A.22 presents full tables for OLS specifications with and without controls for H3, as registered in our PAP.
2. Table A.23 presents full table for OLS specifications with and without controls for H3a, as registered in our PAP. H3a predicts Info will not increase refugee cap relative to Control group, which is supported; indeed Info treated respondents display backlash — a negative effect on refugee cap.
3. Table A.24 presents full table for OLS specifications with and without controls for H3b, as registered in our PAP. No evidence for H3b.

Table A.21: H3: PGInfo effects on Refugee Cap. OLS regressions of PGInfo on Cap (baseline Control condition), as per PAP.

| <i>Dependent variable:</i> | |
|---|-------------------------|
| Refugee Cap | |
| PGInfo | 0.067*** (0.022) |
| Constant | 0.021 (0.015) |
| Observations | 5,673 |
| Adjusted R ² | 0.002 |
| F Statistic | 9.576*** (df = 1; 5671) |
| <i>Note:</i> *p<0.1; **p<0.05; ***p<0.01 PGInfo MH-adjusted p-values | |

Table A.22: H3: PGInfo effects on Refugee Cap, specification with controls included.

| | <i>Dependent variable:</i> |
|--|----------------------------|
| | Refugee Cap |
| PGInfo | 0.045 (0.021) |
| partyIndependent | -0.263*** (0.025) |
| partyRepublican | -0.413*** (0.026) |
| educationBachelor's degree (e.g. BA, BS) | 0.082** (0.038) |
| educationDoctorate (e.g. PhD, EdD) | 0.400*** (0.085) |
| educationHigh school degree or equivalent (e.g. GED) | 0.003 (0.036) |
| educationLess than a high school diploma | 0.066 (0.057) |
| educationMaster's degree (e.g. MA, MS, MEd) | 0.194*** (0.049) |
| educationProfessional degree (e.g. MD, DDS, DVM) | 0.356*** (0.083) |
| educationSome college, no degree | -0.031 (0.036) |
| gender | -1.036 (0.036) |
| genderFemale | -0.065*** (0.021) |
| genderOther | 0.266 (0.171) |
| age_numeric | -0.008*** (0.001) |
| ethnocentric1 | -0.006*** (0.001) |
| religionAgnostic | -0.279 (0.179) |
| religionAtheist | -0.331 (0.180) |
| religionCatholic Christian | -0.397 (0.177) |
| religionHindu | -0.339 (0.245) |
| religionJewish | -0.324 (0.195) |
| religionMuslim | -0.224 (0.188) |
| religionOther | -0.450 (0.177) |
| religionProtestant Christian (Evangelical) | -0.423 (0.177) |
| religionProtestant Christian (Non-Evangelical) | -0.408 (0.178) |
| Constant | 1.060* (0.184) |
| Observations | 5,663 |
| Adjusted R ² | 0.105 |
| F Statistic | 28.575*** (df = 24; 5638) |

Note:

*p<0.1; **p<0.05; ***p<0.01
PGInfo MH-adjusted p-value

Table A.23: H3a: Info does not change Refugee Cap relative to Control

| | Refugee Cap | |
|--|-----------------------|---------------------------|
| | refugeecap | |
| | (1) | (2) |
| Info | -0.043* (0.024) | -0.048** (0.023) |
| partyIndependent | | -0.265*** (0.028) |
| partyRepublican | | -0.401*** (0.028) |
| educationBachelor's degree (e.g. BA, BS) | | 0.070* (0.041) |
| educationDoctorate (e.g. PhD, EdD) | | 0.441*** (0.103) |
| educationHigh school degree or equivalent (e.g. GED) | | 0.028 (0.037) |
| educationLess than a high school diploma | | 0.041 (0.060) |
| educationMaster's degree (e.g. MA, MS, MEd) | | 0.239*** (0.054) |
| educationProfessional degree (e.g. MD, DDS, DVM) | | 0.222** (0.107) |
| educationSome college, no degree | | -0.060 (0.038) |
| gender | | -1.088 (0.773) |
| genderFemale | | -0.089*** (0.023) |
| genderOther | | 0.240 (0.189) |
| age_numeric | | -0.009*** (0.001) |
| ethnocentric1 | | -0.005*** (0.001) |
| religionAgnostic | | -0.352 (0.449) |
| religionAtheist | | -0.426 (0.448) |
| religionCatholic Christian | | -0.461 (0.447) |
| religionHindu | | -0.162 (0.476) |
| religionJewish | | -0.342 (0.456) |
| religionMuslim | | -0.314 (0.453) |
| religionOther | | -0.507 (0.447) |
| religionProtestant Christian (Evangelical) | | -0.503 (0.447) |
| religionProtestant Christian (Non-Evangelical) | | -0.474 (0.447) |
| Constant | 0.021 (0.015) | 1.185*** (0.450) |
| Controls | No | Yes |
| Observations | 4,845 | 4,837 |
| Adjusted R ² | 0.0005 | 0.108 |
| F Statistic | 3.272* (df = 1; 4843) | 25.398*** (df = 24; 4812) |

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.24: H3b: PG alone does not change Refugee Cap relative to Control

| | Refugee Cap | |
|--|------------------------|---------------------------|
| | refugeecap | |
| | (1) | (2) |
| PG | 0.061** (0.024) | 0.052** (0.023) |
| partyIndependent | | -0.237*** (0.028) |
| partyRepublican | | -0.376*** (0.028) |
| educationBachelor's degree (e.g. BA, BS) | | 0.039 (0.042) |
| educationDoctorate (e.g. PhD, EdD) | | 0.435*** (0.101) |
| educationHigh school degree or equivalent (e.g. GED) | | -0.027 (0.038) |
| educationLess than a high school diploma | | 0.004 (0.062) |
| educationMaster's degree (e.g. MA, MS, MEd) | | 0.205*** (0.054) |
| educationProfessional degree (e.g. MD, DDS, DVM) | | 0.158 (0.107) |
| educationSome college, no degree | | -0.059 (0.039) |
| gender | | -1.078 (0.772) |
| genderFemale | | -0.075*** (0.023) |
| genderOther | | 0.430*** (0.166) |
| age_numeric | | -0.009*** (0.001) |
| ethnocentric1 | | -0.005*** (0.001) |
| religionAgnostic | | 0.533 (0.548) |
| religionAtheist | | 0.503 (0.548) |
| religionCatholic Christian | | 0.479 (0.547) |
| religionHindu | | 0.622 (0.575) |
| religionJewish | | 0.618 (0.552) |
| religionMuslim | | 0.627 (0.552) |
| religionOther | | 0.415 (0.547) |
| religionProtestant Christian (Evangelical) | | 0.412 (0.547) |
| religionProtestant Christian (Non-Evangelical) | | 0.446 (0.547) |
| Constant | 0.021 (0.015) | 0.242 (0.550) |
| Controls | No | Yes |
| Observations | 4,774 | 4,767 |
| Adjusted R ² | 0.001 | 0.100 |
| F Statistic | 6.390** (df = 1; 4772) | 23.124*** (df = 24; 4742) |

Note:

*p<0.1; **p<0.05; ***p<0.01

8.4 H4

1. Tables A.25 and A.26 presents full tables for OLS specifications with and without controls for H4, as registered in our PAP.
2. Table A.27 presents full table for OLS specifications with and without controls for H4a, as registered in our PAP. H4a predicts PG/PGInfo effect on letter will be more than that of Info (all compared to Control), which we do find evidence towards.

Table A.25: H4: PGInfo/PG effects on Refugee Letter

| <i>Dependent variable:</i> | |
|----------------------------|-------------------------|
| | Letter |
| PGInfo | 0.063*** (0.017) |
| PG | 0.064*** (0.019) |
| Constant | 0.120*** (0.012) |
| Observations | 7,505 |
| Adjusted R ² | 0.002 |
| F Statistic | 8.420*** (df = 2; 7502) |

Note: *p<0.1; **p<0.05; ***p<0.01
PGInfo/PG MH-adjusted p-values

Table A.26: H4: PGInfo/PG effects on Refugee Letter, specification with controls included.

| | <i>Dependent variable:</i> |
|--|--|
| | Letter |
| PGInfo | 0.046** (0.017) |
| PG | 0.057*** (0.018) |
| partyIndependent | -0.164*** (0.017) |
| partyRepublican | -0.306*** (0.019) |
| educationBachelor's degree (e.g. BA, BS) | 0.083*** (0.027) |
| educationDoctorate (e.g. PhD, EdD) | 0.366*** (0.069) |
| educationHigh school degree or equivalent (e.g. GED) | -0.032 (0.025) |
| educationLess than a high school diploma | -0.023 (0.038) |
| educationMaster's degree (e.g. MA, MS, MEd) | 0.158*** (0.036) |
| educationProfessional degree (e.g. MD, DDS, DVM) | 0.252*** (0.073) |
| educationSome college, no degree | -0.022 (0.025) |
| gender | -1.123* (0.025) |
| genderFemale | -0.017 (0.015) |
| genderOther | 0.217** (0.099) |
| age_numeric | -0.006*** (0.001) |
| ethnocentric1 | -0.004*** (0.001) |
| religionAgnostic | 0.162 (0.091) |
| religionAtheist | 0.116 (0.091) |
| religionCatholic Christian | 0.189 (0.089) |
| religionHindu | 0.238 (0.159) |
| religionJewish | 0.147 (0.106) |
| religionMuslim | 0.422 (0.101) |
| religionOther | 0.172 (0.088) |
| religionProtestant Christian (Evangelical) | 0.187 (0.089) |
| religionProtestant Christian (Non-Evangelical) | 0.136 (0.089) |
| Constant | 0.397 (0.095) |
| Observations | 7,493 |
| Adjusted R ² | 0.088 |
| F Statistic | 30.003*** (df = 25; 7467) |
| <i>Note:</i> | *p<0.1; **p<0.05; ***p<0.01 PGInfo/PG MH-adjusted p-value |

Table A.27: H4a: PGInfo/PG effect larger than Info on Letter

| | Refugee Letter | |
|--|-------------------------|---------------------------|
| | refugeeletter_orig | |
| | (1) | (2) |
| PGInfo | 0.063*** (0.017) | 0.046*** (0.017) |
| PG | 0.064*** (0.019) | 0.057*** (0.018) |
| Info | -0.007 (0.019) | -0.011 (0.018) |
| partyIndependent | | -0.165*** (0.016) |
| partyRepublican | | -0.302*** (0.016) |
| educationBachelor's degree (e.g. BA, BS) | | 0.082*** (0.024) |
| educationDoctorate (e.g. PhD, EdD) | | 0.327*** (0.057) |
| educationHigh school degree or equivalent (e.g. GED) | | -0.022 (0.022) |
| educationLess than a high school diploma | | -0.026 (0.035) |
| educationMaster's degree (e.g. MA, MS, MEd) | | 0.164*** (0.031) |
| educationProfessional degree (e.g. MD, DDS, DVM) | | 0.253*** (0.058) |
| educationSome college, no degree | | -0.015 (0.022) |
| gender | | -1.125* (0.621) |
| genderFemale | | -0.031** (0.013) |
| genderOther | | 0.219** (0.101) |
| age_numeric | | -0.006*** (0.0005) |
| ethnocentric1 | | -0.004*** (0.001) |
| religionAgnostic | | 0.083 (0.279) |
| religionAtheist | | 0.063 (0.279) |
| religionCatholic Christian | | 0.102 (0.278) |
| religionHindu | | 0.150 (0.292) |
| religionJewish | | 0.085 (0.282) |
| religionMuslim | | 0.345 (0.281) |
| religionOther | | 0.083 (0.278) |
| religionProtestant Christian (Evangelical) | | 0.115 (0.278) |
| religionProtestant Christian (Non-Evangelical) | | 0.064 (0.278) |
| Constant | 0.120*** (0.012) | 0.484* (0.280) |
| Controls | No | Yes |
| Test stat diff PGInfo and Info coef | 13.022*** | 9.36** |
| Test stat diff PG and Info coef | 11.187*** | 11.118*** |
| Observations | 9,406 | 9,392 |
| Adjusted R ² | 0.002 | 0.088 |
| F Statistic | 8.149*** (df = 3; 9402) | 35.799*** (df = 26; 9365) |

Note:

*p<0.1; **p<0.05; ***p<0.01

- Main analysis on original letter-writing variable (per our PAP)

Table A.28: H1: Information Treatment Versus Control Group

| | <i>Dependent variable:</i> | | | | |
|----------------|----------------------------|-------------------|--------------------|--------------------|-------------------|
| | Correct (1) | Update (2) | Thermometer (3) | Refugee Cap (4) | Letter (5) |
| Info Treatment | 0.52*** (0.01) | 0.75*** (0.04) | 0.03 (0.83) | -0.04* (0.02) | -0.01 (0.02) |
| Constant | 0.15*** (0.01) | 2.77*** (0.03) | 62.57*** (0.52) | 0.02 (0.02) | 0.12*** (0.01) |
| Observations | 4,845 | 4,845 | 4,823 | 4,845 | 4,847 |

Note: *p<0.1; **p<0.05; ***p<0.01

Table A.29: H2: PG Treatment Versus Control Group

| | <i>Dependent variable:</i> | | | | |
|--------------|----------------------------|-------------------|--------------------|--------------------|-------------------|
| | Correct (1) | Update (2) | Thermometer (3) | Refugee Cap (4) | Letter (5) |
| PG Treatment | -0.02** (0.01) | 0.49*** (0.05) | 5.94*** (0.82) | 0.06** (0.02) | 0.06*** (0.02) |
| Constant | 0.15*** (0.01) | 2.77*** (0.03) | 62.57*** (0.52) | 0.02 (0.02) | 0.12*** (0.01) |
| Observations | 4,774 | 4,774 | 4,757 | 4,774 | 4,776 |

Note: *p<0.1; **p<0.05; ***p<0.01

Table A.30: H3: PG-Info Treatment Versus Control Group

| | <i>Dependent variable:</i> | | | | |
|-------------------|----------------------------|-------------------|--------------------|-------------------|-------------------|
| | Correct | Update | Thermometer | Refugee Cap | Letter |
| | (1) | (2) | (3) | (4) | (5) |
| PG-Info Treatment | 0.43*** (0.01) | 0.68*** (0.04) | 6.54*** (0.73) | 0.07*** (0.02) | 0.06*** (0.02) |
| Constant | 0.15*** (0.01) | 2.77*** (0.03) | 62.57*** (0.52) | 0.02 (0.02) | 0.12*** (0.01) |
| Observations | 5,673 | 5,673 | 5,656 | 5,673 | 5,675 |

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.31: H3: PG-Info Treatment Versus PG Treatment

| | <i>Dependent variable:</i> | | | | |
|-------------------|----------------------------|-------------------|--------------------|-------------------|-------------------|
| | Correct | Update | Thermometer | Refugee Cap | Letter |
| | (1) | (2) | (3) | (4) | (5) |
| PG-Info Treatment | 0.45*** (0.01) | 0.19*** (0.05) | 0.61 (0.82) | 0.01 (0.02) | -0.001 (0.02) |
| Constant | 0.12*** (0.01) | 3.26*** (0.05) | 68.51*** (0.64) | 0.08*** (0.02) | 0.18*** (0.02) |
| Observations | 4,559 | 4,559 | 4,551 | 4,557 | 4,559 |

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.32: H3: PG-Info Treatment Versus Info Treatment

| | <i>Dependent variable:</i> | | | | |
|-------------------|----------------------------|-------------------|--------------------|--------------------|-------------------|
| | Correct (1) | Update (2) | Thermometer (3) | Refugee Cap (4) | Letter (5) |
| PG-Info Treatment | -0.09*** (0.01) | -0.07* (0.04) | 6.51*** (0.83) | 0.11*** (0.02) | 0.07*** (0.02) |
| Constant | 0.66*** (0.01) | 3.52*** (0.03) | 62.61*** (0.66) | -0.02 (0.02) | 0.11*** (0.01) |
| Observations | 4,630 | 4,630 | 4,617 | 4,628 | 4,630 |

Note:

*p<0.1; **p<0.05; ***p<0.01

- Main analysis on recoded letter variable where nonsense letters or unwritten letters are coded as 0.

Table A.33: H2: PG Treatment Versus Control Group

| | <i>Dependent variable:</i> |
|-------------------|-----------------------------|
| | Refugee Letter Recoded |
| Info Treatment | 0.01 (0.02) |
| PG Treatment | 0.08*** (0.02) |
| PG-Info Treatment | 0.06*** (0.01) |
| Constant | 0.07*** (0.01) |
| Observations | 9,406 |
| <i>Note:</i> | *p<0.1; **p<0.05; ***p<0.01 |

- Correlation between treatment assignment and the likelihood of writing a nonsense letter / no letter after saying they would write a letter.

Table A.34: Treatment status and non-sensical letters

| | Write a nonsensical letter |
|-------------------------|-----------------------------|
| Info | -0.019* (0.010) |
| PG | -0.019* (0.010) |
| PGInfo | -0.001 (0.009) |
| Intercept | 0.147*** (0.007) |
| Observations | 9,406 |
| R ² | 0.001 |
| Adjusted R ² | 0.0004 |
| Residual Std. Error | 0.347 (df = 9402) |
| F Statistic | 2.159* (df = 3; 9402) |
| <i>Note:</i> | *p<0.1; **p<0.05; ***p<0.01 |

- Time analysis

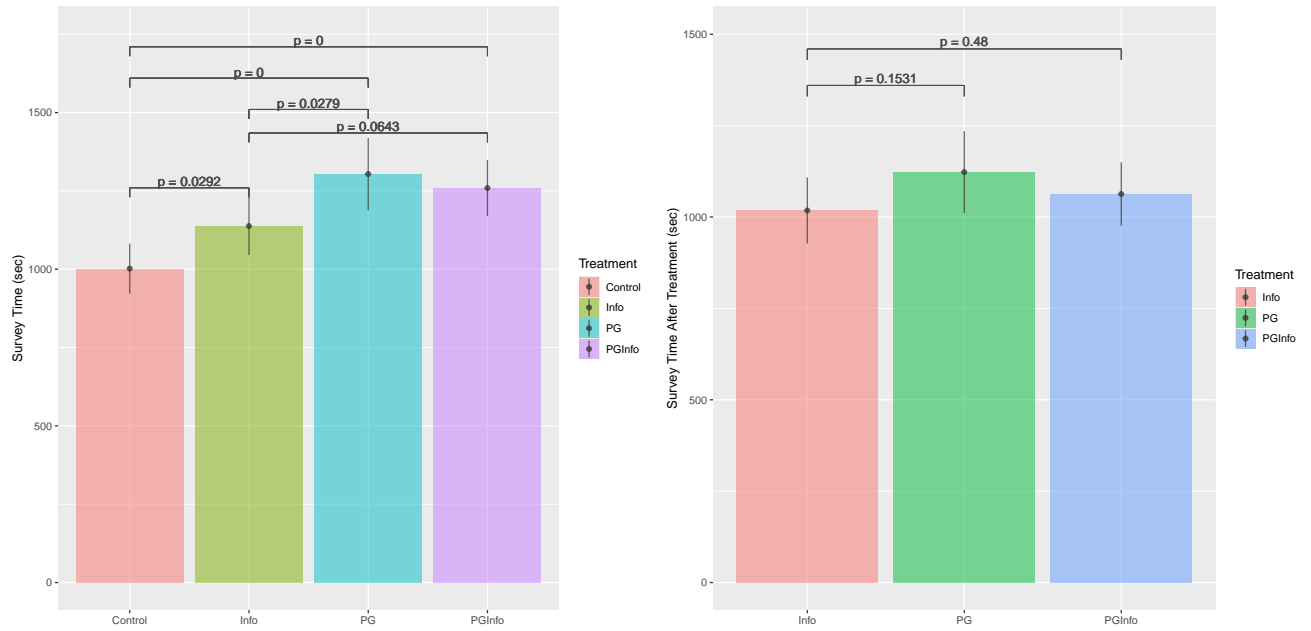
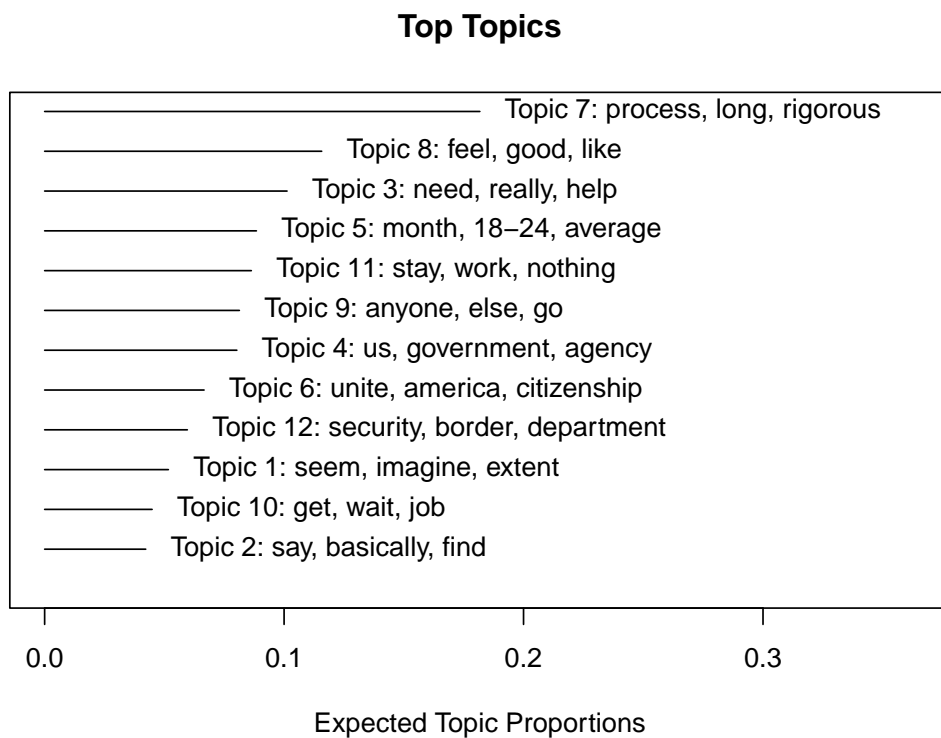


Figure A.11: Time spent on survey overall (left) and after treatment (right)

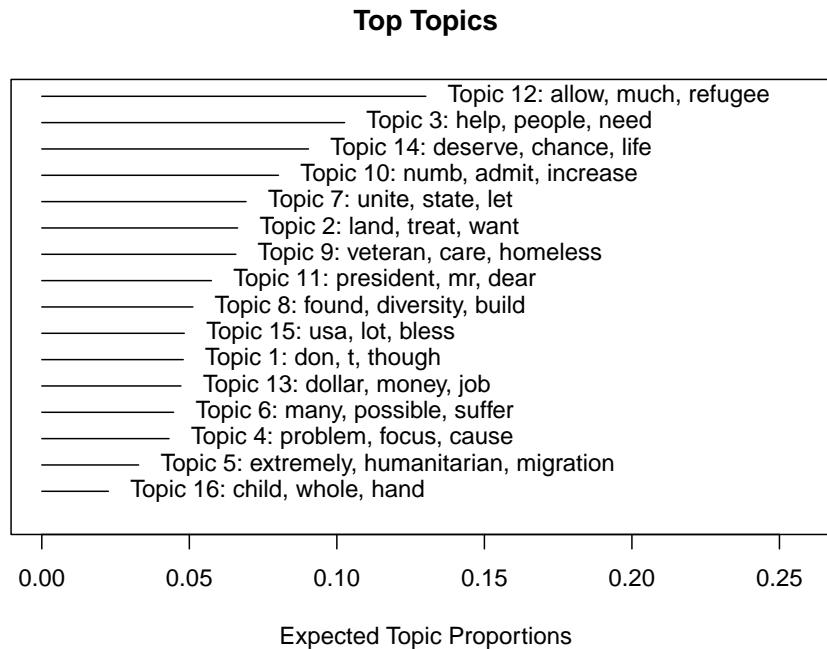
- Most common topics in the prompt after our *Info* treatment

Figure A.12: Topic proportions for prompt responses after Information treatment.



- Most common topics in the letter

Figure A.13: Topic proportions for respondent letters.



9 Ethics

All three studies were approved as exempt by the Institutional Review Boards of X, Y, and Z schools. None of the studies collected identifying information. Indeed, Lucid does not collect any personally identifiable information. More information on Lucid’s Institutional Review Board methodology can be found here: <https://luc.id/wp-content/uploads/2019/10/Lucid-IRB-Methodology.pdf>. All participants read an informed consent form before agreeing to proceed with the study. The authors declare no conflict of interest. The study was funded by a XXXX Academic Senate Research Grant and a XXXX Research Enhancement Fund Award.

10 Pre-Analysis Plan: Introduction

Our pre-analysis plan, provided in detail in this section, lays out several hypotheses. In Table A.35, we show how these hypotheses map onto our hypotheses in the manuscript. We re-organize the hypotheses to a treatment-centered approach (in the paper) from an outcome-centered approach (in the PAP). The PAP also includes hypotheses around heterogeneous treatment effects, which are excluded here as the authors are investigating them in a separate paper. In section 8 of this SI, we present the full analyses in the order of and according to the PAP.

Table A.35: Pre-Analysis Plan Mapping.

| Paper hypotheses | Pre-analysis plan hypotheses | Mapping |
|---------------------|------------------------------|---|
| H1: Info effect | H1a H2c H3a H4a | Implied by H3 (manuscript) ✓ ✓ Implied by H1 and H3 (manuscript) |
| H2: PG effect | H1b H2 H3b H4 | Implied by H3 (manuscript) ✓ ✓ ✓ |
| H3: Combined effect | H2b H4a | ✓ ✓ |

10.1 Abstract

- This study offers a systematic investigation into the independent and interactive roles that empathy and information play in shaping American knowledge about refugee policy, attitudes toward refugees, and behavior toward refugee policy.
- It deepens our theoretical understanding of the ways in which empathy can and cannot improve information uptake; probes the scope of empathy's effects in shaping attitudes and behaviors toward refugees and refugee policy; and informs public messaging on refugee advocacy.

10.2 Motivation

- What is the main problem/question motivating the study?
 - Negative attitudes toward refugees remain common in the United States, as does opposition to policies designed to welcome more refugees into the country. At the same time, many Americans hold misperceptions about refugees, particularly regarding the threat they pose to US security. Can correcting these misperceptions result in Americans updating their views of refugees as a security threat, developing warmer feelings toward refugees, and becoming more supportive of pro-refugee policies? And how can empathy shape the extent to which this information is effective at changing Americans' views of refugees?
- How has this problem/question been addressed thus far?
 - On information: The literature so far informs us that information has limited to no effect on updating, attitudes and behavior toward refugees and other migrants, as well as migration policy. But these studies typically deliver information as a statement of fact or manipulate only the identity of the information source. They also deliver information that may not be most salient to the public.
 - On empathy: The literature so far informs us that empathy can reduce stereotyping and prejudice, and motivate people to take action on behalf of minoritized others, including refugees and other migrants. But some argue that empathy can also increase polarization because it is more accessible for certain kinds of outgroups. There is also concern about potential backlash effects.
- How is this study different from prior research on this problem/question?
 - We bring together the two strands of research on what shapes public attitudes and behavior toward migrants and migration policy by examining the extent to which empathy can improve the uptake of new information, and how information delivered in the context of a perspective-getting treatment might shape attitudes and behaviors toward refugees and refugee policy.
- Why is the context that you have chosen for this study appropriate?

- We have chosen to study this in the context of a survey experiment delivered to a nationally-representative sample of Americans via the Lucid marketplace. This reflects the mode of data collection typically used to measure public opinion, but allows us to assess the causal effect of different messaging techniques.

10.3 Research Questions

- What are the main research questions the study seeks to answer?
 - **RQ1: Under what conditions does the delivery of information about the refugee vetting process increase uptake, improve attitudes toward refugees, and move people to act on their behalf?**

Our study takes seriously the evidence showing that new information rarely changes attitudes toward migration [9]; and yet our study also takes seriously the evidence-base for the role that perspective-taking and perspective-getting play in reducing prejudice [10].

We argue there are at least three reasons why information rarely changes attitudes. First, the facts provided to participants are already known to participants (i.e. people already have accurate views). Second, the facts provided to participants may not be salient to their policy attitudes [15]. Finally, even if the facts provided to participants are “right” (i.e. they correct misinformation and are salient), participants may still be resistant to facts that do not comport with their prior stereotypes about out-groups.

Our study addresses each of these problems. First, we identify facts about refugees about which Americans are most misinformed. In a baseline data collection effort that surveyed Americans on their knowledge about refugees and the refugee vetting process in 2019, we found that knowledge about the refugee-vetting process is often misguided: 87.4 percent of respondents did not know how many months of vetting refugees go through, and two-thirds underestimate it. Second, we demonstrate that knowledge about the vetting process is salient to people’s policy preferences: respondents who believe that refugees experience low levels of vetting are less likely to support open policies toward refugees than those who believe vetting is more extensive. Specifically, in the baseline survey, those who thought the vetting process was shorter than it is (18-24 months) scored lower on a refugee thermometer measure and higher on a question about supporting the Muslim ban implemented by President Trump.

Having collected this initial data, we now propose to conduct a second study that provides the “right” information to individuals, and provides it in a way that minimizes individuals’ prejudicial impulse to reject it. The delivery method we test is providing information in the context of a narrative that activates a person’s empathy. We elaborate more on these treatments in Section 2 and explain the

theoretical underpinnings below.

Existing work has shown that providing information is often insufficient to ensure updating, much less affect policy preferences or behavior change. In an earlier and related study, [1] find that an information treatment had no effect on attitudes or behavior toward refugees in the United States. [8] demonstrates that while Americans do update in the presence of accurate information about political facts, this updating is incomplete. Others have demonstrated the role of partisan bias in shaping reported knowledge about political facts [3], and the role of factors such as motivated reasoning and confirmation bias in affecting information processing and the assessment of politicians. A set of coordinated field experiments from around the world found that providing information on politician performance had no effect on voter behavior of and support for these politicians [6]. Thus, we have reason to believe that simply providing information about refugees will be insufficient either to cause people to update their beliefs about this information or to change their policy preferences or behavior.

Therefore, we propose to embed information within a treatment that is designed to invoke empathy toward refugees. This treatment takes the form of a perspective-getting (PG) exercise in which respondents read about the experience of a hypothetical refugee. There are two mechanisms by which we might expect empathy to improve the uptake of new information, an emotional and a cognitive one. First, empathy may spur emotions that open one up to integrating new information [11]. Second, the evidence shows that individuals who engage in a more complex cognitive task are less likely to rely on out-group stereotyping [7, 16].

We thus expect that embedding information about the refugee vetting process – a piece of information we know Americans hold inaccurate beliefs about and is consequential for their policy preferences – in a perspective-getting exercise will be effective in causing respondents to *update their factual beliefs* about the refugee vetting process (H1). We will further examine whether embedded information is more effective in causing respondents to update factual beliefs than is a pure information treatment (H1a), and suggest that the PG exercise alone will have a smaller effect, if any, on updating beliefs than the embedded treatment (H1b).

We expect that compared to the control condition, perspective-getting, with or without the information treatment, will also result in increased *warmth* toward refugees (H2). Perspective-getting combined with information might add a cognitive element that detracts from the warmth generated in the perspective-getting task alone and/or the information component may prime respondents to consider security issues, which would suggest that the embedded treatment might result in a lower warmth outcome than PG alone (H2a); at the same time, misperceptions about a security threat might cause more hostile attitudes that can be mitigated by a combination of updating and perspective-getting, suggesting the embedded

treatment might result in higher warmth outcomes than PG alone (H2b). Finally, we hypothesize that a pure information treatment will not increase warmth relative to the control condition (H2c).

We also expect the embedded treatment will affect *refugee policy preferences*, with respondents in this treatment group expressing more support for increasing the number of refugees the US commits to resettling each year (H3). We do not think that information alone (H3a), or perspective-getting alone (H3b), will be sufficient to move policy preferences regarding refugees.

Finally, following existing studies showing that empathy increases *inclusionary behavior*, we expect that compared to the control condition, perspective-getting, with or without the information treatment, will increase the likelihood that respondents will write a letter to the White House in support of increasing the number of refugees the US commits to resettling (H4). We also expect that the effect of PG with or without information on letter-writing will be greater than the effect of the pure information treatment on letter-writing (H4a).

To test this theory, we design an experiment with three treatment arms and a control. The treatment arms include an information provision treatment (Info), a perspective getting treatment (PG), and a perspective getting treatment with embedded information (PG-Info). The control group does not receive information and does not participate in the perspective getting exercise (with or without the embedded information).

Based on the above theory, we hypothesize the following relationships:¹

H1: PG-Info increases information updating relative to the control.

- * H1a: Effect of PG-Info on updating larger than effect of Info on updating.
- * H1b: Effect of PG-Info on updating larger than effect of PG on updating.

H2: Perspective-getting (alone as PG or with info as PG-Info) increases warmth towards refugees relative to the control.

- * H2a: PG-info will result in a lower increase in warmth than PG alone.
- * H2b: PG-info will result in a higher increase in warmth than PG alone.
- * H2c: Information alone will not increase warmth relative to the control.

H3: PG-Info raises support for increasing the refugee cap relative to the control.

- * H3a: Information alone will not increase support for raising the refugee cap relative to the control group.
- * H3b: Perspective-getting alone will not increase support for raising the refugee cap relative to the control group.

H4: Perspective-getting (alone as PG or with info as PG-Info) increases rate of writing a letter in support of increasing the refugee cap relative to the control.

¹For our power calculations we focus on the four main hypotheses H1-H4, but list the additional sub-hypotheses here.

- * H4a: The effect of PG with or without information on letter-writing will be greater than effect of the pure information treatment on letter-writing.
- **RQ2: Does the effect of empathy on improving attitudes and behaviors toward refugees and refugee policy depend on baseline levels of empathy?**

Our second research question is an empirical investigation into the scope of empathy for shaping public opinion and behavior toward vulnerable communities, and how it aligns with underlying dispositional empathy. Recent scholarship warns us about the potential backlash effects of empathy: in a lab experimental setting, [4] show that a perspective-taking exercise reduced openness to attitudinal change. Similarly, a correlational analysis shows that high dispositional empathy correlates with higher partisan polarization [14]. At the same time, activated empathy and baseline dispositional empathy have often been confused and interchanged with one another as concepts, which has further blurred findings from empathy-related interventions. We take the stance that dispositional empathy is conceptually distinct from activated empathy, whereby the former can be considered an individual *trait* (and generally measured as such, as in the case of Simas et al. 2019), while the latter a *behavior*. And, we investigate the likelihood that activated empathy might interact heterogeneously with different levels of baseline, dispositional empathy; high dispositional empathy may interact positively with activated empathy as dispositional empathy may signify higher *empathy capabilities* thus facilitating easier activation of empathy. At the same time, high dispositional empathy respondents may respond *less* to activated empathy simply due to generally indulging in activated empathy more often on a day-to-day basis; they may be *maxed out*. And finally, just as we point out the two concepts are theoretically and functionally distinct, so might be their joint effects. As such, we treat the potential relationship between dispositional empathy and activated empathy as an open question.

11 Pre-Analysis Plan: Experimental Treatments

Our study takes the form of an online survey with an embedded experiment. Survey respondents are randomly assigned to one of four conditions, as noted above: Control, Information, Perspective Getting (PG), and Perspective Getting + Information (PG-Info). The information we provide is based on a separate nationally representative survey conducted in 2019, in which we found that most Americans underestimate the amount of time during which refugees undergo vetting prior to being resettled. The information treatment therefore consists of the respondent reading a short paragraph that includes information on the refugee resettlement process, particularly the average time in months that the vetting process takes.

The perspective getting (PG) treatment requires that the respondent reads a short story about the experience of a particular, hypothetical refugee, which is based on a true story. This story is designed to help the respondent take the perspective of the refugee and his experience coming to the US. In the PG-Info embedded treatment, the respondent reads the

short story about the hypothetical refugee with the paragraph providing factual information about the refugee process embedded in the story. The text of the three treatments is as follows:

- **Information:**

- According to US government and non-governmental agencies, refugees undergo more extensive and thorough screening than anyone else who travels into the United States. Biometric and medical data are collected from the refugee, who is screened by the National Counterterrorism Center, the FBI, the Department of Homeland Security, the State Department, Customs and Border Protection, and the Transportation Security Administration. The average time for the vetting process is 18-24 months, but it can take even longer. To view an infographic of the vetting process from the U.S. Citizen and Immigration Services (USCIS), click [here](#).

- **Perspective-Getting:**

- Abdi was once one of 26 million refugees. A Muslim refugee himself, at the age of 4, his family fled war-torn Somalia for a United Nations refugee camp in Kakuma, Kenya. Over the next 9 years he would see his mother die and his father leave the family. “It feels like a big jail cell. They give you food, housing and the rest will be from the hands of countries coming to help people, like America. You just pray to Allah, ‘When am I going to leave this place?’”

Abdi now lives in the midwestern United States. When he arrived, he felt different. He entered school where he found himself having to explain why he fasted during Ramadan and was the only one in his school who gave presentations about Muslim holidays like Eid while most everyone else talked about Christmas. Today, he has a degree in business. He runs his own accounting and tax business to help people file taxes; when tax season is over, he does community service. In his free time he enjoys listening to Somali music, but also likes to mix it up with Led Zeppelin and Miles Davis. Music makes him feel connected to both his heritage and his American upbringing.

- **Perspective-Getting + Info (PG-Info):**

- Abdi was once one of 26 million refugees. A Muslim refugee himself, at the age of 4, his family fled war-torn Somalia for a United Nations refugee camp in Kakuma, Kenya. Over the next 9 years he would see his mother die and his father leave the family. “It feels like a big jail cell. They give you food, housing and the rest will be from the hands of countries coming to help people, like America. You just pray to Allah, ‘When am I going to leave this place?’”

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12 Pre-Analysis Plan: Research Strategy

12.1 Sampling

12.1.1 Sampling Frame

- What is the eligible population for the study?
 - American adults with online access and literacy who have joined Lucid’s marketplace as survey takers.
- What are the main characteristics of this population?
 - Lucid respondents have been shown to reasonably compare against US national probability samples [5].
- What is the expected sample for the study?
 - A nationally-representative sample of the population of American adults with access to the internet.
- What is the expected sample size?
 - We anticipate a sample of approximately 9,500 American adults.
- How does the expected sample differ from the population?
 - The sample will not include any American adults without access to the internet.

12.1.2 Statistical Power

- What is the effect size you will be able to detect?

We assume an alpha level of 0.05, and aim for 0.8 level of statistical power in our power calculations for four hypotheses. For our first hypothesis, that perspective getting and delivery of information increases information updating relative to not receiving either delivery, we rely on a pilot study conducted prior to this preregistration that can help us make an educated assumption about the treatment effect of perspective getting and information on updating vetting information – 0.668 – for which we further assume a standard deviation of a quarter of the treatment effect. For our second hypothesis, that any perspective getting increases thermometer warmth relative to a control group, we also use pilot data to assume a treatment effect of 9.72 with a standard deviation again one fourth of the assumed treatment effect. For the third hypothesis, that perspective getting and delivery of information leads to an increase in agreeing that the refugee cap should be increased relative to a control group, we assume from the pilot that our treatment effect is 0.21 with a standard deviation of one fourth of that effect size. Finally for hypothesis four, that perspective getting of any kind leads to an increase in letter writing relative to a control group, the effect is assumed to be 0.17 (standard deviation again one fourth of that) off of pilot data. In this setting, where control and perspective getting-plus-information arms receive 0.3 probability of random assignment while information and perspective-getting-alone receive 0.2 probability of assignment each, we achieve 0.8 power with 7000 observations (see Figure A.14).

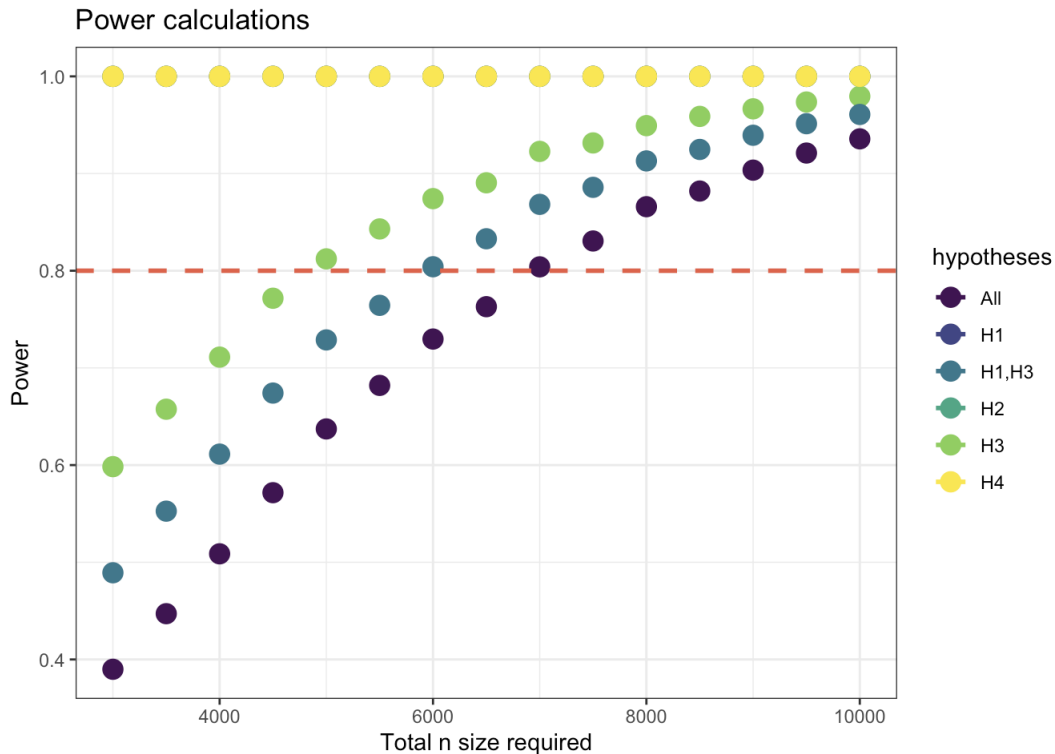


Figure A.14: Power calculations.

12.1.3 Assignment to Treatment

- How will individuals be assigned to treatment and control conditions?
 - Individuals will be randomly assigned such that Control, PG-Info, Info and PG arms receive (0.3, 0.3, 0.2, 0.2) probability, using the Qualtrics randomizer and following attention checks to eliminate low-attention respondents.
- What is the source of exogenous variation in your study?
 - Assignment to treatment is exogenously and randomly assigned via the Qualtrics random assignment option in the survey flow.

12.1.4 Attrition from the Sample

Some level of attrition from online surveying is likely, especially in the current pandemic climate, though [12] suggests there is still a fair amount to learn in this setting, especially with apt usage of attention checks. We will use pre-treatment attention checks from [2] to measure respondent attention and remove respondents who fail all attention checks; among the remaining respondents our targeted sample size of 9,500 allows us to have up to thirty percent (missing at random) attrition and still attain our minimum sample size needed from our power calculations to be powered to identify our treatment effects.

13 Pre-Analysis Plan: Empirical Analysis

13.1 Variables

- Independent variables
 - Pure control
 - Perspective-getting (PG) only
 - Information (Info) only
 - PG embedded with information (PG-Info)
- Dependent variables
 - Information updating: used in two ways – primarily as the absolute value difference between the truth and response, and also as larger values (which are closer to truth) as indicating more correct information.
 - * *Approximately how many months of vetting does a refugee go through before being resettled into the United States? If you do not know, please give your best guess.*
 - *Slider from 0 months to 50 months*
 - Thermometer

- * *On a scale from 0 to 100, where 0 = completely unfavorable and 100 = completely favorable, how do you feel about refugees who come to the United States?*
- Policy preference on refugee cap
 - * *Every year the federal government decides how many refugees to allow to be resettled in the United States. This year the number is 62,500. Next year, do you think the number should be higher, lower, or stay the same?*
 - * *If not “stay the same”: How many refugees would you like to admit to the United States next year?*
- Letter writing in support of policy preference
 - * *Would you be willing to write a letter to the current president’s administration advocating for your opinion about letting more refugees into the United States?*
 - Yes, I would like to write a letter supporting an increase in refugees.
 - Yes, I would like to write a letter opposing an increase in refugees.
 - No, I would not like to write a letter.
 - * *Please write your letter to the White House in the box below explaining your opinion about how many refugees to allow into the United States. We will send it anonymously to the presidential administration on your behalf after you complete the survey.*
- Covariates
 - We plan to report our main results without covariates but we will also run the analysis with covariates for party ID, education, sex, age, ethnocentrism, and religion. For the analysis of heterogeneous treatment effects we will include covariates for party ID, education, sex, age, ethnocentrism, and religion.

13.2 Balancing Checks

We plan to produce balance tables that present t-test differences (in means or proportions) on sociodemographic variables collected on respondents across experiment arms: age, gender, race/ethnicity, education, ideology, ethnocentrism and religion. We will similarly check and produce balance tables across attritors and non-attritors for observed sociodemographic variables.

13.3 Treatment Effects

13.3.1 Intent to Treat and Treatment on the Treated

We will estimate OLS models with treatment arm assignment on the right hand side and relevant outcome variables for the left hand side for our ITT and ToT as respondents are randomized into treatment arms and cannot “take up” arms they are not treated with (for attrition issues see above section on attrition steps); for the update information on vetting outcome, we will further control for prior information respondents have on refugee vetting.

13.4 Heterogeneous Effects

- Which groups do you anticipate will display heterogeneous effects?
 - We are specifically testing for the possibility of HTE by baseline level of empathy, although we expect treatment effects on all of our main outcomes regardless of baseline level of empathy. We will also test for the possibility of HTE by party ID.
- What is the broad theory of action that leads you to anticipate these effects?
 - Recent scholarship suggests that empathy can reduce openness to attitudinal change [?] or result in greater empathy for in-groups in ways that have negative consequences for inter-group relations [14]. These dynamics suggest the possibility that individuals with higher levels of baseline empathy will be less willing to update their views of migrants, particularly if they already hold strong partisan attachments toward the Republican Party, which has made anti-migrant attitudes a core component of its identity. At the same time, high baseline empathy levels may correspond to greater imaginative and/or cognitive capacity towards processing perspectives on behalf of others [13] and therefore interact positively with any perspective-getting treatment.

13.4.1 Intent to Treat and Treatment on the Treated

We will estimate an OLS model regressing outcome variables on the left hand side and, on the right hand side: treatment arm assignment, baseline measure of empathy, the interaction of the treatment and baseline empathy, and sociodemographic variables used in our balance tables as further controls; for the update information on vetting outcome, we will further control for prior information respondents have on refugee vetting.

13.5 Standard Error Adjustments

Respondents receive the treatment a single time, and are randomized at the individual level, and we plan on using robust standard errors in all model specifications. As our power calculations demonstrate, we plan on accounting for multiple hypothesis testing by adjusting for the false discovery rate with a Benjamini-Hochberg approach.

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