Debiasing: A Pre-Analysis Plan*

Mohamed Abbadi Yan Chen Ann Chih Lin Kentaro Toyama

December 3, 2019

Abstract

Evidence from different disciplines, including behavioral economics, psychology and political science, suggests that conversation-based interventions may reduce prejudice against out-groups, at least in the short term (Broockman and Kalla, 2016). In this study, we plan to compare the effects of two interventions in a randomized online field experiment, using a representative sample of the United States population. We will implement three experimental conditions in an online platform (Dynata), randomizing participants into a perspective taking treatment, a value consistency treatment, and a control condition. Participants will be asked to watch a video, do a writing exercise, play a trust game, and complete a survey. Results will be used to test the effectiveness of the two debiasing techniques.

*Comments from audiences at the University of Michigan are gratefully acknowledged. We thank Zerui Wei for excellent research assistance. Financial support from the Russell Sage Foundation through grant no. 93-17-06 is gratefully acknowledged. This research was approved by the University of Michigan IRB (HUM00163822). Abbadi, Chen and Toyama: School of Information, University of Michigan, 105 South State Street, Ann Arbor, MI 48109-2112. Lin: Ford School of Public Policy, University of Michigan, 735 South State Street, Ann Arbor, MI 48109.Email: {meabbadi, yanchen, annlin, toyama}@umich.edu.

1 Introduction

Muslims are one of the fastest growing populations in the United States. The Pew Research Center estimates that 3.45 million Muslims live in the United States and predicts that the population will reach 8.1 million by 2050 (Mohamed, 2018).

Bias against Muslims is frequent: in 2017, nearly half of Muslims reported at least one incident of discrimination over the past year (Mohamed et al., 2017). Field studies have shown that resumes indicating a Muslim religious affiliation receive one-third fewer return contacts from employers than resumes without any mention of religion (Wright et al., 2013, 2014), and that female job applicants dressed in Muslim hijab (headscarf) or abbaya (cloak) had more negative interactions with interviewers, absent proactive efforts to signal warmth (King and Ahmad, 2010). Analysis of FBI hate crime data between 2000-2016 also shows sharp increases in assaults against Muslims after the 2001 World Trade Center bombing and then again in 2015-2016 (Kishi, 2017).

While there are many indicators of discrimination against Muslims in the United States, very little research examines how to reduce it. Most such studies examine anti-Muslim prejudice in Europe, with a few in other countries such as Australia. Anti-Muslim bias might be considered especially intractable in a period where terrorism caused by Islamic extremists and fear stoked by anti-Muslim politicians are frequently in the news. However, personal knowledge of Muslims is associated with less bias among Western Europeans, suggesting that contact-based interventions might be successful (Gardner and Evans, 2018).

In this study, we adapt two conversation-based interventions to an online setting, and compare their effectiveness in reducing anti-Muslim bias. The perspective-taking intervention is inspired by Broockman and Kalla (2016), who illustrate that having short conversations about experiences of discrimination reduces prejudice against the transgender community. The value-consistency intervention follows Fein and Spencer (1997) and others, who find that participants writing about positive moral values leads to more positive ratings of job candidates from minority groups. We focus on interventions that require active processing because other research has demonstrated their lasting effectiveness in reducing bias(Broockman and Kalla, 2016). Because these interventions are short and do not require intense efforts to administer, a successful model could potentially be implemented widely through canvassing or online surveys by anti-bias organizations.

We employ instruments from behavioral economics and political science to measure bias against Muslims and compare the effectiveness of these two interventions. The investment game (also known as the trust game) measures bias as the difference in amounts given to respondents who have or do not have a particular characteristic, and as the subject's expectation of how much that respondent will return to the subject(Berg et al., 1995); (Fershtman and Gneezy, 2001). The list randomization method measures bias by asking one group of subjects to look at a list of statements, including one statement expressing bias, and volunteer the number of statements they agree with. The average number of statements for the group is then compared with the average from a group of subjects given a list of statements that is identical except for the omission of the biased statement. This method has been shown to reduce the effect of social acceptability norms that prevent honest responses to questions about bias(Kuklinski et al., 1997; Glynn, 2013; Coffman et al., 2016).

In the first phase of our study, we tested the effectiveness of these interventions via a randomized control trial in two metropolitan Detroit cities matched on income and education: Dearborn, a city with a significant Muslim population, and Warren, where few Muslims live. Our enumerators interacted face-to-face with over 900 residents who were randomized into one of three experimen-

tal conditions. While we found interesting treatment effects, by definition our canvassing approach captured only those subjects willing to open their doors and spend 30 minutes with strangers. These subjects are also likely to be less biased than average. For this reason, we propose to follow up with an online panel of a representative sample of the US population.

2 Experimental Design

We implement an online randomized field experiment to evaluate two de-biasing techniques: perspective taking and value consistency. Participants are randomly assigned to one of three experimental conditions: a control condition, the perspective-taking, or the value-consistency treatments.

Our experimental protocol consists of five components; 1) an introductory section, 2) a short demographic survey, 3) a 10-minute interactive session varying across experimental conditions, 4) an investment game (Berg et al., 1995) measuring potential bias at the individual level, and 5) a post-experiment survey, which includes the list randomization measure of bias at the group level (Kuklinski et al., 1997; Glynn, 2013). The complete script for each experimental condition is included in Appendix A. In what follows, we summarize each component of our protocol.

In the introduction section (Appendix A.1), we provide an overview of the study, and elicit the subject's consent to participate. We follow that with a short demographic survey (Appendix A.6) to ensure that we have a representative sample of the United States population. We also use the demographic information to test the robustness of the results.

Once the participant fills out the demographic survey, we move to the intervention. In this section, we randomly assign participants to one of three arms: perspective taking, value consistency, or control (recycling). These arms have similar structures (number and types of questions, length of videos). In the perspective-taking arm (Appendix A.3), adapted from Broockman and Kalla (2016) to the Muslim context, participants are asked whether they would vote for a Muslim candidate for mayor in their city or town. They then see a video about what it is like to be a Muslim in the United States. After that, the participant is asked to write about an instance of facing prejudice because of who they are. In the value-consistency arm (Appendix A.4), we ask participants to choose a value that is important to them: empathy, opportunity, or kindness. They watch a video of people discussing these values and then write about expressing the value of their choice. In the placebo arm (Appendix A.2), we ask participants whether they would support their city's effort to increase recycling rates. They watch a video about recycling and then write about their own experience with recycling.

The intervention is followed immediately by the investment game, also known as the trust game — a two-player sequential move game used to measure trust in economic decision making (Berg et al., 1995) as well as intergroup trust (Fershtman and Gneezy, 2001). We use this game to measure a participant's trust in a randomly selected person with either a typical Muslim or non-Muslim first name. In this game, each participant is given a fixed amount of money, e.g. $5. The first mover, the investor, is asked to invest some amount of their money in the second mover, the respondent. The amount invested is tripled before it is passed to the respondent. The respondent then decides how much to return to the investor. The subgame perfect Nash equilibrium prediction is for the investor to invest nothing and the respondent to return nothing. Thousands of laboratory and field experiments show that, depending on the context, most investors invest a positive amount, and many respondents return positive amounts after receiving investment.

In our adaptation of the game to the online study setting, we collected the responders' strategies using the strategy method in real-time two-player trust games conducted at the University of Michigan prior to our experiment. We then selected a total of ten responders (Appendix A.10) from two sub-samples - five from those with non-Muslim sounding first names (Chen et al., 2018) and five from those with Muslim sounding first names. For the latter, we pre-test whether Michigan students can identify the ethnic origin of the first names and kept only those with unambiguous evaluations (Bertrand and Mullainathan, 2004).

During the trust game (Appendix A.5), a participant randomly selects from ten different icons to find out the first name of the responder. Then, we give the participant $5 and tell her that she can invest, some, all or none of the $5 in the responder. Whatever amount she invests, we triple it and pass it to the responder, who also also had an initial endowment of $5. We also inform the participant that the responder had decided how much to return based on the invested amount and that her response is pre-recorded in the system.

Once a participant makes a choice of how much she wants to pass to the responder, we ask the participant to guess how much the responder decided to return. The actual amount is then revealed. If the guess is within $1 of the actual returned amount, the participant earns a $2 bonus for guessing correctly. This belief elicitation method is incentive compatible and also simple to implement in the field (Charness and Dufwenberg, 2006; Schotter and Trevino, 2014).

At the end of the trust game, participants finish a short survey (Appendices A.7, A.8 and A.9) which contains a second measure of bias, namely, the list randomization method. List randomization elicits responses to sensitive questions at the sample level (Kuklinski et al., 1997; Glynn, 2013; Coffman et al., 2016). We use three lists: one with four statements, one with the same four statements and one additional about reducing immigration to the United States, and one with the same four statements and one additional about reducing Muslim immigration. Each participant is randomized to only one list, which she responds to by stating the number of statements she disagrees with, but not which one(s). We compare the difference in the distribution of these numbers to infer the level of discrimination.

Power calculation

Based on our design, we have two levels of randomization. First, participants are randomized into one of three experimental conditions. Participants in each condition are then paired with either a Muslim or a white sounding name. Because of the second level of randomization, we effectively have six experimental conditions. In what follows, we present our power calculation under different scenarios.

We assume that the effect size and variances from our online panel will be "similar" to those generated from the control and value-consistency conditions in our door-to-door canvassing experiment.[1] Thus, we use the corresponding mean and variance in that data set as an approximation for the mean and standard deviation in the corresponding experimental condition for our power calculation. Specifically, we use the following Stata command for our power calculation of various parameter combinations:

```
power twomeans 3.966 4.248, sd1(1.443) sd2(1.216) a(0.01) b(0.10)
```

[1] In our door-to-door experiment, the perspectives taking condition generates the mean investment amount of 3.868 (stdev = 1.533), which is actually lower than the control mean.

Based on our power calculation, in order to observe the same effect size and anticipate similar variances in the treatment and control conditions, with $\alpha = 0.01$ and 90% power ($\beta = 0.10$), we need a sample size of 670 per experimental condition, and 2010 for the three experimental conditions. In Table 1, we document the sample size needed for power of 80%, 85% and 90%, while keeping type I error at $\alpha = 0.01$.

Table 1: Power Calculation

α	0.01	0.01	0.01
β	0.20	0.15	0.10
# of subjects per condition	526	588	670
Total # of subjects	1578	1764	2010

In the actual implementation, we will include a minimum of 526 subjects per experimental condition, and attempt to increase to 670 per condition if budget allows.

3 Hypotheses

Based on the existing de-biasing literature, we measure three outcomes. The investment game measures the investor's trust in the recipient (either Muslim or non-Muslim) and their beliefs regarding the recipient's trustworthiness through an incentive-compatible belief elicitation method. In the survey section, we use the list randomization method to measure participants' attitude towards Muslims or immigrants. We formulate the following hypotheses:

Hypothesis 1 (Value consistency)**.** Compared to control-group participants, value-consistency participants will...

a. invest more in the respondent, irrespective of the religious identity of their name;

b. be more likely to believe that the respondent is more trustworthy (irrespective of the religious identity of their name); and

c. be less likely to agree with a reduction in Muslim immigration or overall immigration as measured by list randomization.

Hypothesis 2 (Perspective taking)**.** Compared to participants in the control condition, perspective-taking participants will...

a. invest more in Muslim-name respondents;

b. believe that a Muslim-name respondent is more trustworthy; and

c. be less likely to agree with a reduction in Muslim immigration or overall immigration as measured by list randomization.

Hypothesis 3 (Value consistency vs. perspective taking)**.** ...

a. Overall, participants in the value-consistency treatment will invest more in a respondent, irrespective of their name, compared with participants in the perspective-taking treatment.

b. Participants in the value-consistency treatment will be more likely to believe that a respondent, irrespective of their name, is more trustworthy compared with participants in the perspective-taking treatment.

c. Participants in the value-consistency treatment will be less likely to agree with the reduction in overall immigration as measured by list randomization, compared with participants in the perspective-taking treatment.

Hypothesis 4 (Contact)**.** A participant who has more contact with Muslim people will have more accurate belief about the trustworthiness of Muslim-name respondents.

4 Analysis Plan

We measure the impact of the treatments on the following primary outcomes obtained from the trust game: investment amount (measuring trust), investor guess proportion (measuring beliefs) and guess accuracy (measuring belief accuracy).

To test Hypothesis 1 (a) and (b), we employ Equation (1) to estimate the average treatment effect based on an OLS model, where y_i is the dependent variable, representing investment amount or investor guess proportions, T_j is the treatment dummy, where $j \in \{p, v\}$ represents perspective taking and value consistency, respectively. Lastly, X_i is a set of covariates collected in the survey, such as age, education, ethnicity and working status.

$$y_i = \beta_0 + \beta_p T_p + \beta_v T_v + \gamma X_i + \varepsilon_i \tag{1}$$

Hypothesis 1 (a) and (b) implies that $\beta_v > 0$. If a large proportion of the observations hit the boundaries of the outcome variables, as we observed in our door-to-door canvassing study, we will use the equivalent Tobit model (which takes into account that the dependent variable will be censored for a sub-sample of the observations) instead of the OLS model (Equation 1). For example, Equation 2 presents the Tobit model for investment amount $y_i \in \{0, 1, 2, \cdots, 5\}$.

$$\overline{y}_i^* = \beta_0 + \beta_p T_p + \beta_v T_v + \gamma X_i + \varepsilon_i, \text{ and } \overline{y}_i = \max\{0, min\{\overline{y}_i^*, 5\}\}. \tag{2}$$

To test Hypothesis 2 (a) and (b), we estimate the heterogeneous treatment effects on investment amount and investor guess proportion with Equation (3). Specifically, we investigate whether the treatment has differential effects on outcomes based on the responder's religious identity inferred from their names (Muslim versus non-Muslim). Here, M is an indicator variable for a responder with a Muslim-sounding name.

$$y_i = \beta_0 + \beta_p T_p + \beta_v T_v + \beta_m M + \beta_{pm} T_p M + \beta_{vm} T_v M + \gamma X_i + \varepsilon_i \tag{3}$$

Hypothesis 2 (a) and (b) implies that $\beta_p + \beta_{pm} > 0$. By contract, we do not expect similar heterogeneous treatment effects from the value consistency treatment, i.e., $\beta_{vm} = 0$.

To test Hypothesis 3 (a) and (b), we will test equality of coefficients from Equation (1): $\beta_p = \beta_v$ against the alternative hypothesis of $\beta_v > \beta_p$ on two outcomes: investment amount and investor guess proportion.

To test Hypothesis 4, we will use the outcome variable, guess accuracy, measured by the distance between the investor's guess and the actual responder's decision. We test the null that the coefficient for "reports Muslim neighbors and/or colleagues", $\gamma = 0$, against the alternative hypothesis that $\gamma > 0$. We use Equation (3) to test this hypothesis.

Finally, we examine the results from a second measure of heterogeneous treatment effect, namely the list randomization method in the survey. Here the outcome variable, y_i, is the number of statement a participant agrees with. Equation (4) measure the impact of the treatments on the attitude towards Muslims and immigrants:

$$y_i = \beta_0 + \beta_p T_p + \beta_v T_v + \beta_g G + \beta_m M + \beta_{pm} T_p M + \beta_{vm} T_v M + \beta_{pg} T_p G + \beta_{vg} T_v G + \gamma X_i + \varepsilon_i \quad (4)$$

We now partition each treatment into three subsets based on the version of the list they receive, including the baseline, the version including Muslim immigration (M) and the version including immigration more generally (G). Specifically, for Hypothesis 1 (c), we test the hypotheses of $\beta_{vm} = 0$ and $\beta_{vg} = 0$. Similarly, for Hypothesis 2 (c), we test the hypotheses of $\beta_{pm} = 0$ and $\beta_{pg} = 0$.

5 Next Steps

We plan to run the online experiment in early 2020 after finalizing the software application development, testing and deploying it. We will recruit participants from an online surveying platform, Dynata. Data collection will take around one month after which we will start our analysis and write-up.

References

Berg, J., Dickhaut, J., and McCabe, K. (1995). Trust, reciprocity, and social history. *Games and Economic Behavior*, 10(1):122 – 142.

Bertrand, M. and Mullainathan, S. (2004). Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. *The American Economic Review*, 94(4):991–1013.

Broockman, D. and Kalla, J. (2016). Durably reducing transphobia: A field experiment on door-to-door canvassing. *Science*, 352(6282):220–224.

Charness, G. and Dufwenberg, M. (2006). Promises and partnership. *Econometrica*.

Chen, Y., YeckehZaare, I., and Zhang, A. F. (2018). Real or bogus: Predicting susceptibility to phishing with economic experiments. *PloS one*, 13(6):e0198213.

Coffman, K. B., Coffman, L. C., and Ericson, K. M. M. (2016). The size of the lgbt population and the magnitude of antigay sentiment are substantially underestimated. *Management Science*, 63(10):3168–3186.

Fein, S. and Spencer, S. J. (1997). Prejudice as self-image maintenance: Affirming the self through derogating others. *Journal of personality and Social Psychology*, 73(1):31.

Fershtman, C. and Gneezy, U. (2001). Discrimination in a segmented society: An experimental approach. *The Quarterly Journal of Economics*, 116(1):351–377.

Gardner, S. and Evans, J. (2018). In west europe, familiarity with muslims is linked to positive views of muslim and islam. FactTank: Pew Research Center.

Glynn, A. N. (2013). What can we learn with statistical truth serum? design and analysis of the list experiment. *Public Opinion Quarterly*, 77(S1):159–172.

King, E. B. and Ahmad, A. S. (2010). An experimental study of interpersonal discrimination toward muslim job applicants. *Personnel Psychology*, 63(4):881–906.

Kishi, K. (2017). Assaults against muslims in us surpass 2001 level. FactTank: Pew Research Center.

Kuklinski, J. H., Cobb, M. D., and Gilens, M. (1997). Racial attitudes and the" new south". *The Journal of Politics*, 59(2):323–349.

Mohamed, B. (2018). New estimates show us population of muslims continues to grow. FactTank: Pew Research Center.

Mohamed, B., Smith, G., and Cooperman, A. (2017). Us muslims concerned about their place in society, but continue to believe in the american dream. *Pew Research Center*, pages 1–192.

Schotter, A. and Trevino, I. (2014). Belief elicitation in the laboratory. *Annual Review of Economics*, 6(1):103–128.

Wright, B. R., Wallace, M., Bailey, J., and Hyde, A. (2013). Religious affiliation and hiring discrimination in new england: A field experiment. *Research in Social Stratification and Mobility*, 34:111–126.

Wright, B. R., Wallace, M., Bailey, J., and Hyde, A. (2014). Religious affiliation and hiring discrimination in the american south: A field experiment. *Social Currents*, 1(2):189–207.

Appendices

This appendix contains experimental instructions and surveys.

A Appendix

A.1 Consent Form

Consent to Participate in Research Study

Title of the Project: Decision-making experiment

Principal Investigator: Yan Chen, Daniel Kahneman Collegiate Professor, University of Michigan School of Information

Co-investigators: Mohamed Abbadi, Ph.D. Student, University of Michigan School of Information; Ann Chih Lin, Associate Professor of Public Policy, University of Michigan School of Public Policy; Kentaro Toyama, W. K. Kellogg Associate Professor, University of Michigan School of Information

Invitation to Participate in a Research Study

Researchers from the University of Michigan invite you to be part of an online research study to better understand how different types of conversations affect how we perceive or treat each other. The study is funded by the Russell Sage Foundation.

Description of Your Involvement

If you agree to be part of the research study, you will be prompted to participate in a short demographic survey which would determine your eligibility. If you are eligible, you will watch a short video, engage in an online writing activity and a brief research game, and respond to a short questionnaire. The total time taken today will be about 30 minutes. In addition, we will send you a follow-up survey in about three months time which will take 15-20 minutes.

Benefits of Participation

Although you may not directly benefit from being in this study, others may benefit because the results from the study may inform public policy.

Risks and Discomforts of Participation

Some of the survey questions may touch on sensitive topics and cause you discomfort. However, we stress that your participation is entirely voluntary. You may choose at any time to abandon the study or to skip a particular question.

Compensation for Participation

During one part of this research project, you will have the opportunity to receive a small amount of cash.

Confidentiality

The results of this study will be published. We will not include any information that would identify you. Your privacy will be protected and your research records will be confidential.

It is possible that other people may need to see the information you give us as part of the study, such as organizations responsible for making sure the research is done safely and properly like the University of Michigan or the study sponsor, the Russell Sage Foundation.

Storage and Future Use of Data

We will store your answers for possible use in future research studies, for a period of up to ten years.

Your study answers will be secured and stored at the University of Michigan School of Information.

Only the researchers involved in this study will have access to your research files and data. Research data may be shared with other investigators but will never contain any information that could identify you.

Voluntary Nature of the Study

Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You can also skip any question you do not want to answer. Your data will not be used if you abandon the survey before reaching the end.

Contact Information for the Study Team

If you have any questions about this study, click this link to be taken to a question form. A member of the research team will see your question and reply within two days. With the answer, you will receive a new link allowing you to participate in the study if you are interested.

If you have questions about this research after completing the study, including questions about your compensation for participating, you may contact Prof. Yan Chen (email: yanchen@umich.edu; phone: (734) 764-9488).

The University of Michigan Health Sciences and Behavioral Sciences Institutional Review Board (IRB) has determined that this research is exempt from IRB oversight.

Consent

By checking the box, I agree to participate in the study. I understand that if I complete it, I will be re-contacted for a follow-up in about three months. I also understand that my responses will be saved after the expiration of the study, for a period of up to ten years.

I agree to participate

I agree to be re-contacted in 3 months

A.2 Recycling Script

1. Recycling is an issue that many communities are wrestling with. On the one hand it's good for the environment. On the other hand, recycling itself costs effort and money. Would you support efforts in your own city or town to increase the rate at which people recycle?

   (a) Yes
   (b) No
   (c) Unsure
   (d) Don't want to answer

2. [If a or b above] Please indicate, on a scale from 0-10, how sure you are that you would support recycling efforts, where 0 means that you are 100% sure you would NOT support efforts to improve recycling, and 10 means that you are 100% sure you would support efforts to improve recycling.

   (a) 0-10

3. What are the reasons for your response?

   (a) _____

4. Please watch this video that shows two views of recycling.

   [Click to see video.]

5. Think of someone you know personally who has strong feelings about recycling one way or the other. Please write 100-200 words about what you know about them, answering some or all of the following questions: What are their views on recycle? Why do they feel that way? What do you think of their views?

   (a) _____

   The reality is that most people try to recycle, but often fail to do so. Please write 200-300 words about a time when you acted differently from how you would like to act with respect to recycling. Or, if you have never deviated from your personal views on recycling, please write about why your beliefs about recycling are so important to you.

   (a) _____

6. Please answer again: Would you support efforts in your own city or town to increase the rate at which people recycle?

   (a) Yes
   (b) No
   (c) Unsure
   (d) Don't want to answer

7. [If the response changed:] What are the reasons for your response? What made you change your mind?

   (a) _____

A.3 Perspective-Taking Script

1. Muslims are often in the news these days. Radical extremists like ISIS call themselves Muslim, but their claims about Islam are challenged by most Muslims around the world. As you may know, London has a Muslim mayor who has condemned the ISIS attacks on his city. If a Muslim candidate who was qualified, and who shared most of your views on issues, were to run for mayor in your city or town, would you be willing to vote for him or her?

   a) Yes
   b) No

c) Unsure

d) Don't want to answer

2. [If a or b above] Please indicate, on a scale from 0-10, how sure you are that you would vote for him or her. 0 means you are 100% sure that you would NOT vote for him or her; 10 means that you are 100% sure you would vote for him or her.

   (a) 0-10

3. What are the reasons for your response?

   (a) _____

4. Please watch this video that shows two different perspectives on Muslims in America.

   [Click to see video.]

5. Think of someone you know personally who is Muslim, or who is a member of a religious belief different from yours. Please write 100-200 words about what you know about them, answering some or all of the following questions: What do you think of their beliefs? How do their different beliefs make you feel about them? Do you think they are good residents or citizens of this country? How do they treat you? How do you think they are treated?

   (a) _____

6. Most people experience judgment at some point, and it can hurt. Please write 200-300 words about a time when *you* felt judged or were treated differently for who you are, and how you felt about it. Or, if you've never had that kind of experience, write 200-300 words about when you witnessed someone else being judged, and how you felt about it.

   (a) _____

7. Please answer again: Would you be willing to vote for a Muslim candidate for mayor who shares your views on issues?

   a) Yes

   b) No

   c) Unsure

   d) Don't want to answer

8. [If the response changed:] What are the reasons for your response? What made you change your mind?

   (a) _____

A.4 Value-consistency Script

1. Personal values are the values we live by. They determine who we are and help us make decisions every day. Of the values below, please indicate *which one* is most important to you. (Even if you think more than one value is important, please choose just one.)

   (a) Kindness
   (b) Opportunity
   (c) Tolerance
   (d) I don't know
   (e) Don't want to answer

2. [If a, b, or c above] How important is this value to you on a scale from 0-10, where 0 is that it's completely unimportant, and 10 is that it is extremely important. Where would you put yourself?

   (a) 0-10

3. Why is that value important to you?

   (a) _____

4. Please watch this video about how some other people define these values.

   [Click to see video.]

5. Think of someone you know for which [CHOSEN_VALUE] is a really important value. Please write 100-200 words about that person, answering some or all of the following questions: Who are they? How did they express the value? How did you feel with respect to the way they expressed the value?

   (a) _____

6. Most people believe in [CHOSEN_VALUE] to some degree. Please write 200-300 words about a time when *you* felt the value was very important to you, and how you felt about it. You can answer some or all of the following questions: What was the relevant context? How did the context affect how you expressed or felt about the value? How did you feel about [CHOSEN_VALUE] as a value after the incident or time period?

   (a) _____

7. Please answer again: Of the values below, please indicate *which one* is most important to you.

   (a) Kindness
   (b) Opportunity
   (c) Tolerance
   (d) I don't know
   (e) Don't want to answer

8. [If response changed:] What are the responses for your response? What made you change your mind?

   (a) _____

A.5 Investment Game Protocol

Next, we will ask you to play a game in which you have the opportunity to earn a little bit of cash. You are an Investor, investing in another person called the Responder. The Responder is someone from an American city who has already played their part of the game.

1. Let's first find out who your Responder is. Click on one of the boxes below.

   Your Responder's name is [name of Responder].

   Here's how the game works:

   - Each of you - the Investor and [Responder Name] will be given $ 5.

- As the Investor, you will then have the opportunity to pass some, all or none of your $ 5 to the Responder, as you like.
- Then we will *triple* the amount you give and pass it to [Responder Name]
- After that, [Responder Name] will give some of the money they have at that point to you.
- OK, let's play.

2. You now have $ 5. How much you would like to pass to [Responder Name]? $ _____.

3. Next, guess how much [Responder Name] will give back to you. You receive a bonus for a good guess - if your guess is within $ 1 of the actual amount, you will earn an additional $ 2. How much do you think the Responder has decided to give back to you?

   (a) $ _____

4. You gave [$ X] and for that, they decided to give back [$ X]. Your account will be credited [$ X] accordingly.

A.6 Demographic Survey Questions

1. What is your sex?

   (a) Male

   (b) Female

   (c) Other

2. Here's a list. Mark ALL boxes that describe you. **Note, you may mark more than one group.**

   (a) White

   (b) Black or African American

   (c) American Indian or Alaska Native

   (d) Asian

   (e) Native Hawaiian or Pacific Islander

   (f) Middle Eastern or North African

(g) Other

Q23 Please check ONE circle that describes you the best. If you wish you may also write a more specific religion, such as Orthodox, Catholic, or Sunni, in the space next to a category.

(a) Jewish
(b) Christian
(c) Muslim
(d) Other
(e) None

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

(a) Less than high school degree
(b) High school graduate (high school diploma or equivalent including GED)
(c) Some college but no degree
(d) Associate degree in college (2-year)
(e) Bachelor's degree in college (4-year)
(f) Graduate degree

4. Which statement best describes your current employment status?

(a) Working full time
(b) Working part time
(c) Keeping house
(d) Student
(e) Retired
(f) Unemployed

5. In what year were you born?

   _____

6. What country were you born in?

   (a) United States
   (b) Other _____

7. What year did you arrive in the US to live?

   _____

A.7 Post Survey Part 1

1. Are you a U.S. citizen?

   (a) Yes
   (b) No

2. Did you vote for a presidential candidate last November?

   (a) Yes
   (b) No

3. Who did you vote for?

   (a) Donald Trump
   (b) Hillary Clinton
   (c) Other _____

4. Are your political views generally closer to

   (a) The Democrats
   (b) The Republicans
   (c) Other _____
   (d) No preference

A.8 List Questions

Each participant will be randomly assigned to receive exactly one of the following three questions.

1. Read each of the four statements below and indicate HOW MANY of them you agree with. You are NOT being asked to indicate which ones you agree with, just how many of them.

   - Some corporal punishment (e.g., spanking) is an important element of good child-rearing.
   - I remember when the first Star Wars movie ("A New Hope") was in movie theaters.
   - When I was in high school, I owned my own personal music player (e.g., a Walkman, portable CD player, MP3 player, iPod, smartphone, or similar device that is usually used with earphones).
   - I have traveled to a country other than the United States.

   (a) I agree with none of these things
   (b) I agree with exactly 1 of the above statements.
   (c) I agree with exactly 2 of the above statements.
   (d) I agree with exactly 3 of the above statements.
   (e) I agree with all 4 of the above statements.
   (f) Don't Know
   (g) Refused to Answer

2. Read each of the four statements below and indicate HOW MANY of them you agree with. You are NOT being asked to indicate which ones you agree with, just how many of them.

   - Some corporal punishment (e.g., spanking) is an important element of good child-rearing.
   - I remember when the first Star Wars movie ("A New Hope") was in movie theaters.
   - Immigration to the United States should be further reduced.
   - When I was in high school, I owned my own personal music player (e.g., a Walkman, portable CD player, MP3 player, iPod, smartphone, or similar device that is usually used with earphones).
   - I have traveled to a country other than the United States.

   (a) I agree with none of these things
   (b) I agree with exactly 1 of the above statements.
   (c) I agree with exactly 2 of the above statements.

(d) I agree with exactly 3 of the above statements.

(e) I agree with exactly 4 of the above statements.

(f) I agree with all 5 of the above statements.

(g) Don't Know

(h) Refused to Answer

3. Read each of the four statements below and indicate HOW MANY of them you agree with. You are NOT being asked to indicate which ones you agree with, just how many of them.

   - Some corporal punishment (e.g., spanking) is an important element of good child-rearing.
   - I remember when the first Star Wars movie ("A New Hope") was in movie theaters.
   - Muslim immigration to the United States should be further reduced.
   - When I was in high school, I owned my own personal music player (e.g., a Walkman, portable CD player, MP3 player, iPod, smartphone, or similar device that is usually used with earphones).
   - I have traveled to a country other than the United States.

   (a) I agree with none of these things

   (b) I agree with exactly 1 of the above statements.

   (c) I agree with exactly 2 of the above statements.

   (d) I agree with exactly 3 of the above statements.

   (e) I agree with exactly 4 of the above statements.

   (f) I agree with all 5 of the above statements.

   (g) Don't Know

   (h) Refused to Answer

A.9 Post Survey - Part 2

1. Which do you think is your main source of news?

   (a) ABC, NBC, or CBS

   (b) CNN

(c) Fox News
(d) Local TV or radio
(e) MSNBC
(f) NPR (National Public Radio) or PBS
(g) Newspapers, online or in paper
(h) Facebook
(i) Twitter
(j) Other _____

2. Are there Muslims living in your neighborhood?

(a) Many
(b) Some
(c) A few
(d) None at all
(e) Don't know
(f) Refused to answer

3. Do you have Muslim co-workers?

(a) Many
(b) Some
(c) A few
(d) None at all
(e) Don't know
(f) Refused to answer

4. Have you, personally, ever been treated unfairly due to your race, ethnicity, or religion?

(a) Yes
(b) No
(c) Don't know
(d) Refused to answer

5. Do you think people of your race or ethnicity are treated unfairly?

   (a) Often
   (b) Sometimes
   (c) Seldom
   (d) Never
   (e) Don't know
   (f) Refused to answer

6. Do you think people of your religion are treated unfairly?

   (a) Often
   (b) Sometimes
   (c) Seldom
   (d) Never
   (e) Don't know
   (f) Refused to answer

7. Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?

   (a) Most people can be trusted
   (b) Can't be too careful
   (c) Don't know
   (d) Refused to answer

8. Do you expect the national economy to get better, get worse, or stay about the same over the next 12 months?

   (a) Get Better
   (b) Stay the Same
   (c) Get Worse
   (d) Don't know
   (e) Refused to answer

9. How concerned are you about the rise of Islamic extremism in the U.S.?

   (a) Very concerned
   (b) Somewhat concerned
   (c) Not too concerned
   (d) Not concerned
   (e) Don't know
   (f) Refused to answer

10. In general, how well do you think the American government is doing in reducing the threat of terrorism?

    (a) Very well
    (b) Fairly well
    (c) Not very well
    (d) Not well at all
    (e) Don't know
    (f) Refused to answer

A.10 Responder's Names

- Muslim Sounding Names
  - Eman
  - Ibrahim
  - Omar
  - Sahr
  - Sahal
- Non-Muslim Sounding Names
  - Christopher
  - Douglas
  - Philip
  - Theresa
  - Tracy