

# Pre-Analysis Plan: Priming Empathy through Family History to Increase Support for Immigrants and Immigration

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August 22, 2019

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# 1 Project Overview

As anti-immigrant political parties have gained strength in recent years, scholars have increasingly sought to understand processes by which individuals may develop more inclusive attitudes toward migrants. Building on a nascent literature that leverages emotion to shift such attitudes, this study utilizes online experiments to test whether priming family history can increase support for immigration in the United States by generating greater empathy for immigrants. Almost all American citizens are descended from elsewhere, and these stories are often passed down to the present. By reminding Americans of the struggles and hopes experienced by their families as they came to the United States, can attitudes toward immigrants and immigration be made more favorable?

The experiment randomizes whether respondents are asked about their family’s immigration history prior to asking about their attitudes toward immigration. In two already-conducted rounds of this experiment, we find positive effects of the treatment. Our third round, which is the focus of this pre-analysis plan, seeks to replicate this effect once more while also exploring the hypothesized mechanism of generating empathy for immigrants.

The experiment will take place on a survey programmed in Qualtrics and fielded by Lucid, with a nationally representative sample of 4,000 respondents. The survey will ask about perceptions of refugees, respondents’ general levels of empathy, and demographic information prior to the implementation of the experiment. Institutional Review Boards at all participating universities approved the study.

## 2 Empathy and Attitudes toward Immigration

An extensive literature explores the causes and correlates of anti-immigrant sentiment in the United States and Europe, and these studies suggest that such attitudes are motivated by perceptions of both economic and cultural threats (e.g. Dancygier 2010, 2017; Malhotra et al. 2013; Hainmueller and Hopkins 2015). Recently, a growing literature has begun to explore strategies for nudging negative attitudes in a more positive direction. Several of these studies have sought to shift attitudes by correcting the public’s misperceptions about how immigrants create economic and cultural threats, but this approach has produced mixed results (e.g. Grigorieff et al. 2016; Hopkins et al. 2019).

Another set of strategies to change attitudes toward immigrants involves the use of emotions, and especially perspective-taking exercises that can encourage greater empathy. Existing literature in psychology and political science indicates that the experience of putting one’s self in the shoes of vulnerable minority groups is associated with – and can cause – more favorable attitudes toward these groups (e.g. Brockman

and Kalla 2016; Galinsky and Moskowitz 2000; Todd et al. 2012). Regarding migrants specifically, Adida et al. (2018) demonstrate that a perspective taking exercise, in which respondents are asked to imagine decisions they would make as a refugee, can increase pro-refugee behaviors. Likewise, Dinas et al. (2019) show that reminding Germans and Greeks about past refugee waves in their countries can generate more positive attitudes toward refugees among respondents whose families were affected by these historical events. Such results suggest the utility of exploring methods for creating greater empathy toward immigrants.

We expand on Dinas et al.’s use of family history and Adida et al.’s use of perspective taking to explore in greater depth the ability of heightened empathy to result in more positive views of immigrants in the United States. We do this by designing an experiment in which American respondents are randomly assigned to a treatment that primes them to think about when and why their family moved to the country. This exercise should make it easier for them to empathize with the motives immigrants hold and the difficulties they face, which should in turn result in more supportive views of immigrants and pro-immigrant policies. Furthermore, we design several tests, discussed below, to evaluate whether treatment effects are mediated by empathetic responses. While both Dinas et al. and Adida et al. argue that their treatments work because of empathy, neither study tests this mechanism directly.<sup>1</sup> Yet, demonstrating the relevance of this specific mechanism is important in this context, since different interventions that reflect a variety of subjects and activities can be built to increase empathy.

Substantively, we believe it is also particularly fruitful to evaluate an intervention built around family histories of immigration in the United States. Nearly every American family originated somewhere else, and immigration advocates frequently rely on messaging that emphasizes these immigrant histories.<sup>2</sup> Thus, priming family history may provide an especially useful approach for increasing empathy and improving attitudes toward immigrants in the United States.

## 3 Family History Experiment

### 3.1 Experimental Design

Respondents will be assigned with equal probability to a treatment or control condition. For those assigned to the treatment group, they answer a battery of questions

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<sup>1</sup>Dinas et al. posit that their treatment effects may be explained by two mechanisms: recategorization of group identities and increased empathy.

<sup>2</sup>For example, in 1938, the US Office of Education sponsored a radio series, aired on CBS and called “Americans All...Immigrants All” that highlighted the contributions of immigrants to American society (Shiffman 1996). For more recent examples, see Starr (2011) in the Huffington Post and Everett (2018).

about their family history prior to answering the outcome questions. For those assigned to the control group, they answer the family history questions after completing the outcome questions.

The family history battery is designed to encourage respondents to think about their families' immigrant roots as well as the reasons their families came to the United States. It includes the following questions. First, respondents are asked to: *Take a moment to think about your own family history. Which was the first generation in your family to arrive in America?* Respondents can answer "my generation," "my parents' generation," "my grandparents' generation," "my great-grandparents' generation," or "my great-great-grandparents' generation or earlier."

Next, respondents are asked: *Do you know why your family came to the United States?* They can answer "yes" or "no." Those who say yes are then directed to a question in which they are asked the following: *In one or two sentences, please tell us why your family came to the United States.*

### **3.2 Outcome Questions**

Respondents will be asked one outcome question about their policy attitudes toward immigration and one outcome question about their attitudes toward immigrants as people.

The policy outcome asks their views about restricting immigration to the United States. Specifically, respondents are asked: *Do you agree or disagree that the United States should limit the number of immigrants entering the country?* Responses range from strongly agree to strongly disagree on a 7-point Likert scale.

The attitudinal outcome uses a feeling thermometer in which respondents are asked: *On a scale from 0 to 100, how do you feel about immigrants in the United States?* Respondents are told that a value of 0 means viewing immigrants "completely unfavorably" and a value of 100 means viewing immigrants "completely favorably."

### **3.3 Empathy Mechanism Questions**

Immediately prior to the outcome questions and following the treatment, respondents will be asked a question that measures their empathy toward immigrants. Specifically, respondents are asked how much they agree or disagree with the following statement: *I empathize with the reasons people want to immigrate to the United States, as well as the hardships they face when coming to this country.* Higher responses would indicate more empathy for immigrants.

We will implement a parallel encouragement design in an effort to influence whether the treatment causes respondents to feel more empathy for immigrants (Imai et al.

2013). The implementation of this analysis will be discussed further below. It relies on a series of questions that scholars have used previously to measure the ability of individuals to regulate their emotions – i.e. suppress their emotional response to a given situation. These questions are listed below in the Appendix.

Earlier in the survey, respondents are also asked a battery of questions utilized by psychologists to measure an individual’s general levels of empathy (Davis 1980). This battery includes 21 questions whose order is randomized.<sup>3</sup> These questions are listed below in the Appendix.

## 4 Analysis

### 4.1 Main Effects

We will first estimate the difference in means of the treatment and control groups using t-tests for both outcome questions. We will then analyze the results using linear regression with robust standard errors, while including control variables for gender, age, political party, region of the United States, education, ethnicity, and employment status to increase precision. Specifically, we will estimate the following equation for both outcome measures:

$$Y_i = \beta_0 + \beta_1 \text{Treatment}_i + \delta X_i + \epsilon_i$$

in which  $Y_i$  is the relevant outcome measure for respondent  $i$ ,  $\text{Treatment}_i$  is an indicator for the individual’s assignment to the family history treatment group;  $X_i$  is a vector of control variables; and  $\epsilon_i$  is the error term.

### 4.2 Empathy Mechanism

The empathy mechanism will be tested through the following three strategies.

#### 4.2.1 Mediation Analysis for Empathizing with Immigrant Experiences

First we include the mediation question about empathy toward immigrants, described above. We will follow the approach used by Baron and Kenny (1986) to assess whether responses to this question mediate the effects of the treatment. To account for potential confounding between the mediator and the outcome measures, we will control for pre-treatment demographic variables, including gender, age, political party, region of the United States, education, ethnicity, and employment status.

First, we will estimate the equation outlined in Section 4.1. Then, we will test whether the treatment affects the mediator and whether the mediator affects the outcome

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<sup>3</sup>We exclude 7 questions from the battery that ask about respondents’ ability to empathize with characters in books, movies, and plays.

measures using the following two equations:

$$Mediator_i = \beta_0 + \beta_1 Treatment_i + \delta X_i + \epsilon_i$$

$$Y_i = \alpha_0 + \alpha_1 Mediator_i + \delta X_i + \epsilon_i$$

Finally, we will test whether the treatment effect remains significant when controlling for the mediator, using the following equation:

$$Y_i = \gamma_0 + \gamma_1 Treatment_i + \gamma_2 Mediator_i + \delta X_i + \epsilon_i$$

If the inclusion of  $\gamma_2$  in the above equation results in a decrease of the substantive and statistical significance of  $\gamma_1$ , it would suggest that the treatment effect of priming family history is mediated by increased empathy for immigrants.

#### 4.2.2 Causal Mediation Analysis with Emotion Regulation

Second, we also use a parallel encouragement design to acquire causal leverage on empathy's role as a mediator of the treatment (Imai et al. 2013). To conduct this test, respondents are randomly assigned to one of two groups. The first participates in the family history experiment exactly as described above, with respondents assigned to the treatment or control conditions with equal probability before answering the outcome questions. In the second, we also attempt to manipulate the empathy mediator by randomly assigning half of respondents to a battery of questions about their ability to regulate their emotions. We expect that respondents primed to think about emotion regulation will be more likely to control their emotional responses to the remainder of the survey questions, which should encourage them to avoid becoming more empathetic toward immigrants if they are assigned to the family history treatment. By randomly adjusting the mediator in this way, we should be able to evaluate more credibly whether the treatment effects are driven by increased empathy.<sup>4</sup> This analysis will be conducted using the *mediation* package in R (Tingley et al. 2014).

#### 4.2.3 Subgroup Analysis for Respondents with High and Low Empathy

Third, if priming family history improves attitudes toward immigrants by increasing empathy, the treatment may be more effective among respondents predisposed to feel empathy toward others in the first place. Thus, we will use the empathy battery to evaluate whether respondents with higher levels of empathy are more responsive to the treatment. We will utilize principal components analysis (PCA) to identify high and low empathy respondents, and we will then interact this binary empathy variable with the the treatment to assess conditional average treatment effects (Gerber and Green 2012). As above, we will control for pre-treatment demographic variables to

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<sup>4</sup>It is plausible that the emotional regulation questions will fail to impact empathetic responses, in which case we will rely on the mediation analysis outlined in Section 4.2.1.

account for potential omitted variable bias concerning the relationship between the moderating variable and the outcome measures. Specifically, we will estimate the following equation:

$$Y_i = \beta_0 + \beta_1 \text{Treatment}_i + \beta_2 \text{Empathy}_i + \beta_3 \text{Treatment} : \text{Empathy} + \delta X_i + \epsilon_i$$

where  $\beta_1$  is the effect of the treatment among respondents with low empathy,  $\beta_2$  is the relationship between high empathy and the outcome questions in the control condition, and  $\beta_3$  is the interaction term between the treatment and high empathy. We would interpret a positive and significant  $\beta_3$  as evidence of the empathy mechanism.

### 4.3 Heterogeneous Effects

Prejudice reduction interventions are particularly interested in changing the attitudes of individuals predisposed to prejudiced views. As such, we examine heterogeneous effects among one subgroup that is particularly likely to hold more hostile attitudes toward immigrants: Trump supporters (Jones 2019). We will analyze whether they respond more strongly or weakly to the treatment, using a linear regression model in which the treatment is interacted with an indicator for respondents who approve of the president. Because these demographic characteristics are not randomly assigned, we will include control variables to account for potential confounding. Specifically, we will estimate the following model:

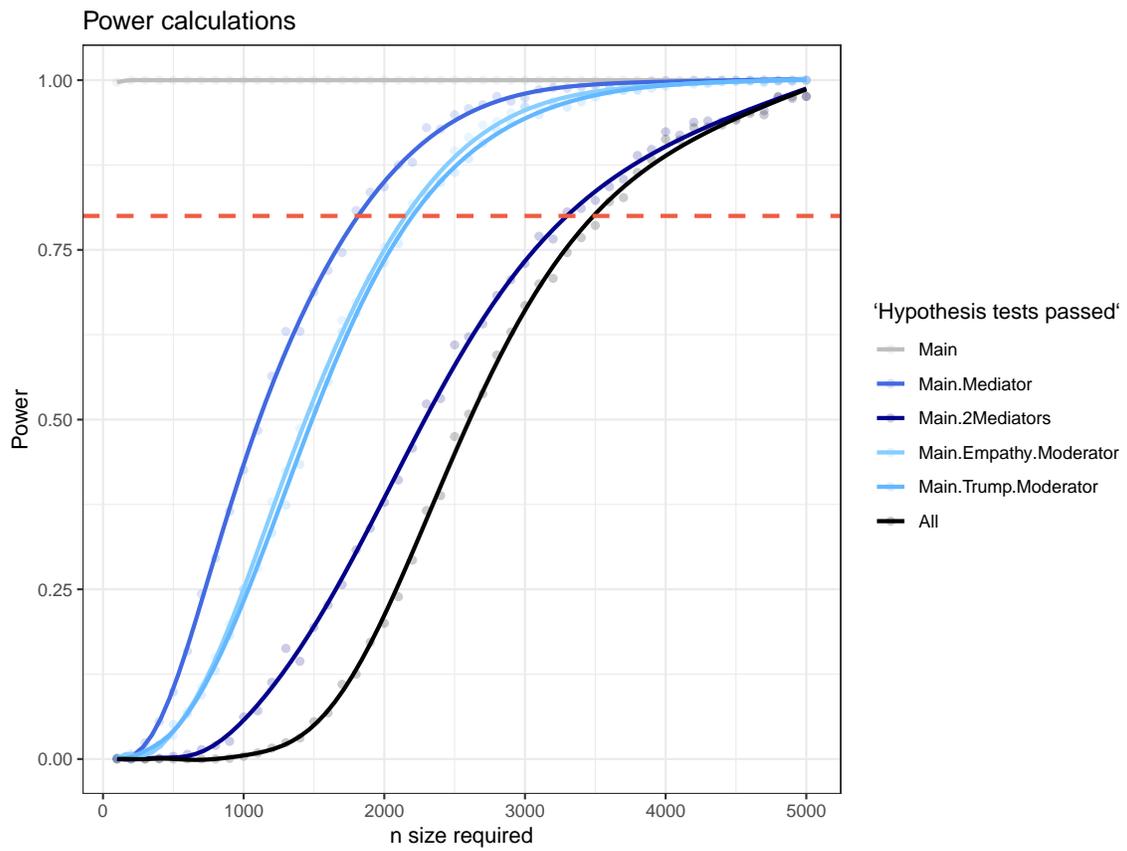
$$Y_i = \beta_0 + \beta_1 \text{Treatment}_i + \beta_2 \text{Demographic}_i + \beta_3 \text{Treatment} : \text{Demographic} + \delta X_i + \epsilon_i$$

where  $\beta_3$  is the interaction term between the treatment and the indicator for Trump approval. A positive and significant interaction term would indicate that this subgroup responds more strongly to the treatment on average (Gerber and Green 2012).

## 5 Power Analysis

We estimate the sample size necessary for 80 percent power by relying on the effect sizes and variance from the first two replications of the experiment, in which we evaluated the main effect of priming family history on attitudes toward immigrants. We then make assumptions about the effect sizes for the mediator and moderator variables and account for multiple comparisons. As shown in Figure 1, the analysis suggests a sample size of approximately 3,500 would be needed to detect the treatment effects.

Figure 1: Power Calculations



*Sample needed to attain 80 percent power with adjustments for multiple comparisons.*

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## Appendix

### Empathy Battery

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, you will see a scale from 1 to 5 with 1 indicating the

statement does not describe you well and 5 indicating the statement describes you very well.

Please indicate how well each statement describes you by choosing the appropriate response. Read each item carefully before responding.

Answer as honestly as you can. Thank you.

Please click the arrow to proceed to the statements.

1. I often have tender, concerned feelings for people less fortunate than me.
2. I sometimes find it difficult to see things from the “other guy’s” point of view.
3. Sometimes I don’t feel very sorry for other people when they are having problems.
4. In emergency situations, I feel apprehensive and ill-at-ease.
5. I try to look at everybody’s side of disagreement before I make a decision.
6. When I see someone being taken advantage of, I feel kind of protective towards them.
7. I sometimes feel helpless when I am in the middle of a very emotional situation.
8. I sometimes try to understand my friends better by imagining how things look from their perspective.
9. When I see someone get hurt, I tend to remain calm.
10. Other people’s misfortunes do not usually disturb me a great deal.
11. If I’m sure I’m right about something, I don’t waste much time listening to other people’s arguments.
12. Being in a tense emotional situation scares me.
13. When I see someone being treated unfairly, I sometimes don’t feel very much pity for them.
14. I am usually pretty effective in dealing with emergencies.
15. I am often quite touched by things that I see happen.
16. I believe that there are two sides to every question and try to look at them both.
17. I would describe myself as a pretty soft-hearted person.

18. I tend to lose control during emergencies.
19. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.
20. When I see someone who badly needs help in an emergency, I go to pieces.
21. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

## **Emotion Regulation Battery**

Now we would like to ask you about how you manage your emotions. Please click to what extent you agree or disagree with each of the following statements.

1. I control my emotions by changing the way I think about the situation I'm in.
2. When I want to feel **more positive** emotion, I change what I'm thinking about.
3. When I want to feel **less negative** emotion, I change what I'm thinking about.
4. When I'm faced with a **stressful** situation, I make myself think about it in a way that helps me stay calm.
5. When I want to feel **less negative** emotion, I change the way I'm thinking about the situation.
6. When I want to feel **more positive emotion**, I change the way I'm thinking about the situation.