# Sources of Misperception: Media Choice and the Economic Impact of Legal Immigration

Pre-Analysis Plan

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**Abstract**

Various important issues at the center of today's politics—such as immigration or climate change—are imbued with citizens' misperceptions. A growing body of research therefore explores whether such misperceptions can be mitigated by providing corrective information. However, while such corrections have been shown to reduce factual misperceptions, they appear to have little to no effect on underlying attitudes. This study examines how the impact of corrective information on beliefs and attitudes is moderated by media choice. In our survey experiment, participants are asked to read a news article published by Fox News or MSNBC, each highlighting the positive economic impact of legal immigration in the United States. While the news content is held constant across sources, our treatment manipulates whether participants are allowed to freely choose a media outlet or are randomly assigned to one of them. Our initial results from a 600 participant survey illustrate how people's media choice moderates the effectiveness of corrective information: While factual misperceptions are easily corrected regardless of how people gained access to the information, subsequent opinion change is conditional on people's prior willingness to seek out alretnative sources. We hope to further validate these conclusions through an additional survey, outlined below.

## 1 Summary

This document describes the planned analyses for a follow-up online survey experiment on the effectiveness of corrective information on misperceptions about the economic impact of legal immigration. As part of the experiment, participants are asked to answer questions about their use of different media sources, political leanings, and attitudes toward current issues covered in the news. Depending on the experimental condition, participants are asked to freely choose, or are assigned to, an article published by different news channels (Fox News vs. MSNBC), which discusses the economic impact of legal immigration. After reading the article, participants are asked to evaluate the news story and answer general questions about their attitudes towards immigration. This survey works in tandem with a previous design which was implemented via Amazon's Mechanical Turk with 600 participants (put link to previous PAP here?).

## 2 Research Design

### 2.1 Ethics

This study has been granted exempt status by the University of Wisconsin-Milwaukee's Institutional Review Board (#20.044) and has been granted approval to waive documentation of informed consent. All participants could stop participation at any time in the study and were debriefed at the end.

### 2.2 Sample

This will need to be updated.

This study will be conducted using a sample of 600 participants recruited via Amazon's Mechanical Turk. It will be advertised as a survey on "Media Usage and News Consumption," where participants are asked to answer a short survey about your personal media diet and issues currently discussed in the news. The approximate length of the survey is 30 minutes and the reward will be $2. MTurk workers are required to have a 90% approval rate and have to be located in the United States in order to be eligible to participate. In line with current best practices, we are going to identify and screen out bots [see @kennedy2018shape].

## 2.3 Overview

Our study builds on the Preference-Incorporating Choice and Assignment Design proposed by @benedictis2019persuading and @knox2019design. Participants are randomly assigned to a free choice treatment condition, a forced exposure treatment condition, or a control group. Participants in the free choice condition are asked to choose whether they want to see a recent breaking news tweet from either FoxNews or MSNBC. After viewing the tweet, which links to a news story focusing on immigrant-owned businesses in the US, participants are asked to read the corresponding article. In the forced exposure condition, participants do not have the option to choose a news organization (FoxNews or MSNBC) but are randomly assigned to one or the other. In either condition, the content of the news article is held constant across sources. Finally, participants who are randomly assigned to the control group skip the tweet and article entirely and move directly from the pre-treatment battery (questions on media usage, stereotyping, and political attitudes/behavior) to the post-treatment battery (questions on attitudes toward immigrantion and trust in different media sources). For more details on the design, see Figure 1 below as well as the full questionnaire including all treatment conditions at the end of this pre-analysis plan.

```
#![Survey Flow](Lab-Graphic.jpg)
```

## 2.4 Outcome measures

Previous research examining the effectiveness of corrective information showed that it does not always lead to attitude change even if misperceptions are reduced [@hopkins2019muted, @thompson2019might]. However, others find that media exposure can persuade people to change their attitudes under certain conditions [e.g., @benedictis2019persuading]. Our study explores how the way people access corrective information influences the likelihood of its success in reducing misperceptions. Building on a framework developed in Gaines et al. (2007), we define the difference between three interrelated terms: beliefs, interpretations, and opinions. We define factual *beliefs* as assessments of the state of the world that are (at least in principle) intersubjectively observable and can therefore either be true or false. *Interpretations* involve taking these beliefs and adding an immediate evaluative component to the underlying belief. For example, the statement "immigrant-owned businesses employed almost 8 million American workers in 2019" is factual belief; whereas, "immigrants improve the U.S. economy by creating additional jobs" is an interpretation of the above belief. Finally, *opinions* are described as an evaluative judgment that is formed about the state of the world, but are not necessarily based on verifiable facts.

In our analysis, we consider 5 separate outcome measure that correspond to our conceptualization of beliefs, interpretations, and opinions related to the economic impact of legal immigration in the US. A full question overview of these 5 outcome variables is listed below.

**Beliefs**

To target factual beliefs, we directly ask for statistics regarding the number of workers employed by immigrant-owned businesses as well as the total amount of sales revenue generated by immigrant-owned business. Both of these questions offer five responses, of which one is correct. The actual answer is mentioned in both the tweet and the extended news story.

**Interpretations**

To measure interpretations, we ask respondents two additional questions about whether they believe that immigrants add to the economy by creating jobs and whether they contribute more by paying taxes than they take out by using social services. These responses are both measured using a standard 11-point scale.

**Opinions**

To measure opinions, we ask respondents' general preference regarding the number of immigrants from foreign countries who are permitted to come to the US. These responses are measured on a 5-point scale which ranges from "increased a lot" to "decreased a lot."

*Insert Table 1 from paper here*

In addition to these main outcome measures, we evaluate four additional outcomes and conduct a simple manipulation check. Note that by the nature of the experimental design, these items can only be measured in the two treatment arms of the experiment and are not included in the control group.

**Engagement with tweet:** As described above, the tweet shown to participants consists of a link to a news article. While the link itself is not active and participants are never explicitly asked to click on it, we can examine whether participants nevertheless try access the article. Whether they attempt to do so is used as an unobstrusive measure of the degree to which participants are interested in further engaging with the content voluntarily.

**Response latencies:** In order to further assess the extent to which respondents are interested in the article and comply with the instructions to read it carefully, we also measure the amount of time that individuals spend viewing the tweet and reading the news story.

**Sharing the article:** After reading the article, participants are asked to report their willingness to share it on social media, discuss it with friends, or whether they would be likely to seek out more information regarding the topic of the tweet and story.

**Evaluation of the article:** Our final outcome measure consists of a basic evaluation of the article, asking participants to disclose if they found the article fair or unfair, hostile or friendly, bad or good, skewed or balanced, American or un-American, and accurate or inaccurate.

**Manipulation Check:** In order to assess whether the tweet and news article were actually read by participants, we include a brief manipulation check. Specifically, respondents are asked which news organization published the story and what topic was covered by it.

## 2.5 Hypotheses

This conceptualization of beliefs, interpretations, and opinions help us to understand the impact of corrective information and formulate our three main hypotheses below:

- *Hypothesis 1*: Misinformation corrections have stronger effects on people's factual **beliefs** than their related **interpretations** or **opinions**.

In other words, while complete fact avoidance is relatively rare when people encounter corrective information, meaning avoidance and (especially) opinion avoidance is more common. Very few studies have differentiated these types of incomplete updating, meaning the explanations for this lack of updating is not well defined. We propose that the source of corrective information and the ability to choose that source, is the crucial moderator in this context.

- *Hypothesis 2*: Misinformation corrections have stronger effects if people are able to **choose** their information source. These differences are more pronounced for **opinions** and **interpretations** than for beliefs.

In building off of the expected outcomes of our first hypothesis, we expect that meaning avoidance and opinion avoidance will be less common if people have discretion over what information they access. The ability to choose one's media source therefore is the underlying mechanism which may drive corrections to have an effect on updating (or not).

- *Hypothesis 3*: Misinformation corrections have stronger effects if the information source is **consistent** with people's media preferences. These differences are more pronounced for **opinions** and **interpretations** than for beliefs.

This hypothesis represents the classic source credibility argument since people should perceive their preferred information as more trustworthy. In addition, we expect that participants will engage in a biased search process, seeking out information that is more likely to support their preconceptions and avoiding evidence that might

undercut their beliefs [see @Taber2006]. For example, self-placed Republicans and Conservatives should be more likely to seek out Fox News reporting, and subsequently update their beliefs more, than self-placed Democrats and Liberals. This bias in the information search for those in the free choice arm of the experiment lends more evidence to hypothesis 3 as individuals should not only seek out sources they expect to be consistent with their prior position, but should also result in greater updates in their beliefs about immigration in America.

# 3 Previous Results & Estimation strategy

## 3.1 Results from Pilot Study

Due to our use of the outcome measures described above, we are able to differentiate between the possible types of (incomplete) updating as a response to misinformation corrections. In our initial pilot study, we found rather strong evidence to support our expected results from Hypothesis 1:

- Respondents who were in the treatment arm of the experiment, compared with those in the control arm who did not recieve the tweet and story, were able to give correct responses regarding the employment and total value of sales by immigrant owned business by about 20 - 30 percentage points.
- Respondents who read the tweet and story also provided a more favorable assessment of the number of jobs created by immigrants as well as the relative size of their tax contributions.
- Finally, regarding beliefs, the effect of the treatment was significant as well.

*Insert Figure 3 here*

The finding that estimated treatment effects are smaller for interpretations and opinions than for beliefs strongly supports Hypothesis 1. However, only if people are allowed to choose their information source do we observe that they change their opinion about the issue. This does lend some credence to Hypothesis 2; however, it should be noted that the difference between both treatment effects themselves is not statistically significant. Further examination of this phenomenon in our follow-up study should clarify whether the ability to choose has a legitimate impact on the likelihood of misinformation corrections.

In order to test Hypothesis 3, we included a battery of questions regarding respondents' usual media diets. Based on these results, we can distinguish whether participants in the treatment conditions were exposed to an information source that was consistent or inconsistent with their usual media preferences or if the information source is neutral. The results below repeats our analysis from above, but differentiates participants in the forced exposure and free choice conditions by source consistency:

*Insert Figure 4 here*

These results show a slightly larger treatment effect on beliefs and interpretations as outcomes for participants who were exposed to an information source that is consistent with their usual media diet. In three out of four analyses, the information treatment had no statistically significant effect on people's interpretations regarding the economic benefits of legal immigration if it came from an inconsistent news source, whereas consistent exposure was always associated with more favorable interpretations. These results are largely consistent with our expectations outlined in Hypothesis 3.

In the end, these results indicate at least some suggestive evidence that discretion over information sources facilitates opinion change in response to corrective information. In order to further substantiate these findings, we will be running the follow-up study outlined in this document using a larger sample size.

## 3.2 Statistical significance

Throughout this study, we will use two-sided tests with an $\alpha$-value of 0.05 as the cutoff for statistical significance. In our graphical displays we will additionally plot 90% intervals to signal statistical significance at $p < 0.10$.

## 3.3 Missing data

Respondents who report "don't know" on the outcome measures (if applicable) or who skipped the question will be treated as missing and excluded from the respective analysis (basic listwise deletion). While we are going to use the manipulation checks to evaluate whether respondents read the information provided to them, we decided not to drop respondents who failed to pass the manipulation checks in the subsequent analyses [see for example @aronow2018note].

## 3.4 Main analyses

To test our hypotheses, we will rely on simple differences-in-means and OLS estimators to compare the outcome measures between each treatment and the control group, respectively. The main analyses will focus on the average treatment effects relative to the control as well as the difference between both treatment conditions themselves. The power analyses reported below shows that given our sample size of 600, we have 85% power to detect a 0.3 standard deviation effect between the treatment and control group. Howver, we can only detect a 0.2 standard deviation effect between both treatment conditions with 53% power. We will also consider heterogeneous treatment effects by pre-treatment covariates (stereotypes towards immigrants, whether immigration is seen as a major issue, and basic political predispositions) and we will explore average choice-specific treatment effects (ACTE) following @knox2019design. Unfortunately, our power analysis below suggests that our sample size is too small to reliably detect these conditional treatment effects.

### 3.4.1 Power analysis: basic 3-arm design (ATE w/o differentiating sources)

```
N <- 600
outcome_means <- c(0, .1, .3)
sd_i <- 1

population <- declare_population(
  N = N, u = rnorm(N, sd = sd_i))

potential_outcomes <- declare_potential_outcomes(
  formula = Y ~ outcome_means[1] * (Z == "0") +
    outcome_means[2] * (Z == "1") +
    outcome_means[3] * (Z == "2") + u,
  conditions = c("0", "1", "2"),
  assignment_variables = Z)

estimand <- declare_estimands(
  ate_Y_1_0 = mean(Y_Z_1 - Y_Z_0),
  ate_Y_2_0 = mean(Y_Z_2 - Y_Z_0),
  ate_Y_2_1 = mean(Y_Z_2 - Y_Z_1))

assignment <- declare_assignment(
  num_arms = 3,
  conditions = c("0", "1", "2"),
  assignment_variable = Z)

reveal_Y <- declare_reveal(
  assignment_variables = Z)

estimator <- declare_estimator(
  handler = function(data) {
    estimates <- rbind.data.frame(
      ate_Y_1_0 = difference_in_means(formula = Y ~ Z, data = data,
```

```
                                      condition1 = "0", condition2 = "1"),
      ate_Y_2_0 = difference_in_means(formula = Y ~ Z, data = data,
                                      condition1 = "0", condition2 = "2"),
      ate_Y_2_1 = difference_in_means(formula = Y ~ Z, data = data,
                                      condition1 = "1", condition2 = "2"))
    names(estimates)[names(estimates) == "N"] <- "N_DIM"
    estimates$estimator_label <- c("DIM (Z_1 - Z_0)", "DIM (Z_2 - Z_0)",
                                   "DID (Z_2 - Z_1)")
    estimates$estimand_label <- rownames(estimates)
    estimates$estimate <- estimates$coefficients
    estimates$term <- NULL
    return(estimates)
  })

multi_arm_design <- population + potential_outcomes +
  assignment + reveal_Y + estimand + estimator

# diagnose design based on 500 simulations
diagnose_design(multi_arm_design, diagnosands = declare_diagnosands(
  select = c("power", "bias")))
```

```
##
## Research design diagnosis based on 500 simulations. Diagnosand estimates with bootstrapped standard e
##
##      Design Label Estimand Label Estimator Label N Sims  Power   Bias
##  multi_arm_design      ate_Y_1_0 DIM (Z_1 - Z_0)    500   0.16   0.00
##                                                          (0.02) (0.00)
##  multi_arm_design      ate_Y_2_0 DIM (Z_2 - Z_0)    500   0.88   0.01
##                                                          (0.02) (0.00)
##  multi_arm_design      ate_Y_2_1 DID (Z_2 - Z_1)    500   0.52   0.00
##                                                          (0.02) (0.00)
```

### 3.4.2 Power analysis: conditional effects depending on media preference (ACTE following Knox)

```
Nforced <- round(N/3)
Sfox_Afox <- .2 # note: S = preferred treatment, A = actual treatment
Sfox_Amsnbc <- .0
Smsnbc_Afox <- .3
Smsnbc_Amsnbc <- .4
sd_i <- 1

population <- declare_population(
  N = Nforced, u = rnorm(Nforced, sd = sd_i))

potential_outcomes <- declare_potential_outcomes(
  formula = Y ~ 0 +
    Sfox_Afox * (Z == "1") +
    Sfox_Amsnbc * (Z == "2") +
    Smsnbc_Afox * (Z == "3") +
    Smsnbc_Amsnbc * (Z == "4") + u,
  conditions = c("1", "2", "3","4"),
  assignment_variables = Z)
```

```r
estimand <- declare_estimands(
  acte_Y_fox = mean(Y_Z_1 - Y_Z_2),
  acte_Y_msnbc = mean(Y_Z_4 - Y_Z_3))

assignment <- declare_assignment(
  num_arms = 4,
  conditions = c("1", "2", "3", "4"),
  assignment_variable = Z)

reveal_Y <- declare_reveal(
  assignment_variables = Z)

estimator <- declare_estimator(
  handler = function(data) {
    estimates <- rbind.data.frame(
      acte_Y_fox = difference_in_means(formula = Y ~ Z, data = data,
                                       condition1 = "2", condition2 = "1"),
      acte_Y_msnbc = difference_in_means(formula = Y ~ Z, data = data,
                                         condition1 = "3", condition2 = "4"))
    names(estimates)[names(estimates) == "N"] <- "N_DIM"
    estimates$estimator_label <- c("DIM (Z_1 - Z_2)", "DIM (Z_4 - Z_3)")
    estimates$estimand_label <- rownames(estimates)
    estimates$estimate <- estimates$coefficients
    estimates$term <- NULL
    return(estimates)
  })

multi_arm_design <- population + potential_outcomes +
  assignment + reveal_Y + estimand + estimator

# diagnose design based on 500 simulations
diagnose_design(multi_arm_design, diagnosands = declare_diagnosands(
  select = c("power", "bias")))
```

```
##
## Research design diagnosis based on 500 simulations. Diagnosand estimates with bootstrapped standard e
##
##      Design Label Estimand Label Estimator Label N Sims  Power   Bias
##  multi_arm_design     acte_Y_fox DIM (Z_1 - Z_2)    500   0.18   0.01
##                                                          (0.02) (0.01)
##  multi_arm_design   acte_Y_msnbc DIM (Z_4 - Z_3)    500   0.07  -0.02
##                                                          (0.01) (0.01)
```

# 4 Full Questionnaire

## 4.1 Survey Flow Overview

- Pre-treatment measures:
  - Media usage
  - Stereotype battery
  - Political attitudes & participation
- Experimental manipulation:
  - Tweets

  - Full story
  - Attention checks & article evaluation
- Post-treatment measures:
  - Attitudes towards immigration
  - Trust in news sources
  - Sociodemographics

## 4.2 Pre-treatment measures

### 4.2.1 Block 1: Media usage

First, we want to ask a few questions about your current media diet.

**[smedia]** *(show same response options for each, randomize order)* On average, how often do you use the following social media platforms?

- YouTube
- Facebook
- Instagram
- Twitter
- Tumblr

1. Several times a day
2. About once a day
3. 3 to 6 days a week
4. 1 to 2 days a week
5. Every few weeks
6. Less often
7. Never
8. Don't Know

**[tv]** *(show same response options for each, randomize order)* On average, how often do you watch *political* news on the following TV channels (including online content)?

- Fox News
- MSNBC
- CNN
- NBC
- CBS

1. Several times a day
2. About once a day
3. 3 to 6 days a week
4. 1 to 2 days a week
5. Every few weeks
6. Less often
7. Never
8. Don't Know

**[print]** *(show same response options for each, randomize order)* And how often do you read about articles about *politics* in the following newspapers (online or offline)?

- New York Times
- Washington Post
- Wall Street Journal
- USA Today
- New York Post

1. Several times a day

2. About once a day
3. 3 to 6 days a week
4. 1 to 2 days a week
5. Every few weeks
6. Less often
7. Never
8. Don't Know

#### 4.2.2 Block 2: Stereotype battery

Next are some questions about different groups in our society.

**[st_job]** *(show same response options for each, randomize order)* Do you think that people in the following groups tend to be "intelligent" or "unintelligent"?

- Farmers
- Teachers
- Lawyers
- Politicians

(1) Intelligent - (7) Unintelligent, (8) DK

**[st_race]** *(show same response options for each, randomize order)* And do you think that people in the following groups are "hard-working" or "lazy"?

- Whites
- Blacks
- Hispanic-Americans
- Asian-Americans

(1) Hard-working - (7) Lazy, (8) DK

**[st_age]** *(show same response options for each)* And do you think that people in the following groups are "generous" or "selfish"?

- Silent Generation (born 1945 and before)
- Baby Boomers (born 1946-1964)
- Generation X (born 1965-1976)
- Millennials (born 1977-1995)

(1) Generous - (7) Selfish, (8) DK

#### 4.2.3 Block 3: Political attitudes & ambivalence

Next, we would like you to answer a few questions about your political viewpoints.

**[polint]** How often do you pay attention to what's going on in government and politics?

1. Always
2. Most of the time
3. Sometimes
4. Hardly at all
5. Never

**[problem]** *(randomize order)* What do you think are the most important problems facing this country? Please rank the following issues from the most important to the least important.

1. Economy
2. Terrorism
3. Immigration
4. Health Care

5. Environment

**[conflict1]** *(randomize order)* How conflicted do you feel when you think about the following issues?

1. Immigration
2. Health Care
3. Environment

(1) Not conflicted at all - (7) Very conflicted, (9) Not sure

**[conflict2]** *(randomize order)* To what extent is your opinion on the following issues one-sided or mixed?

1. Immigration
2. Health Care
3. Environment

(1) Completely one-sided - (7) Completely mixed, (9) Not sure

**[ideol]** Thinking about politics these days, how would you describe your own political viewpoint?

1. Very liberal
2. Liberal
3. Slightly liberal
4. Moderate
5. Slightly conservative
6. Conservative
7. Very conservative
8. Not sure

**[pid]** Generally speaking, do you think of yourself as a Republican, a Democrat, an independent, or other?

1. Republican
2. Democrat
3. Independent
4. Other

**[pid_lean]** *(if [pid] == other | independent)* Do you think of yourself as CLOSER to the Republican party or to the Democratic party?

1. Republican party
2. Democratic party
3. Neither party

**[pid_rep/pid_dem]** *(if [pid] == Republican | Democrat)* Would you consider yourself a strong Republican/Democrat or a not very strong Republican/Democrat?

1. Strong
2. Not very strong

## 4.3 Experimental manipulation

### 4.3.1 Instructions for participants

- **If treatment condition = choice**
  - In the following section, we are going to show you a random tweet drawn from the accounts of two large news organizations. You can choose from which Twitter account the random tweet will be drawn. Afterwards, we are going to ask you some questions about the content of the news story.
  - **[choice]** *(randomize order)* From which Twitter account would you like to view a random tweet?
    1. Fox News
    2. MSNBC
- **If treatment condition = assigned**

- In the following section, we are going to show you a random tweet drawn from the accounts of several large news organizations. Afterwards, we are going to ask you some questions about the content of the news story.
- **[assigned]** *(assignment to account invisible to participant)*
  1. Fox News
  2. MSNBC

#### 4.3.2 Tweets


Figure 1: Fox News


Figure 2: MSNBC

#### 4.3.3 Introduction for full story

Next, we will show you the content of the article linked in the previous tweet. **Please read the story carefully.** Keep in mind that we will ask you questions about the content of the article afterwards.

*There will be a brief pause on the next screen so you can read the story.* At the end of the pause, an arrow will appear at the bottom of the screen. Once the arrow appears, you may move on to the next screen of the survey by clicking on the arrow.

#### 4.3.4 Full Story: Immigrant-owned Businesses on the Rise

William Hall | [Fox News/MSNBC]

A recent report released using U.S. Census Bureau data states that immigrant-owned businesses employed over 8 million workers in fiscal year 2019, up from 2018 totals. These businesses also experienced an increase in the total amount of sales revenue, which rose to almost $1.3 trillion during the same period.

These statistics are borne out of hundreds of success stories across many different sectors of the economy, especially the service industry.

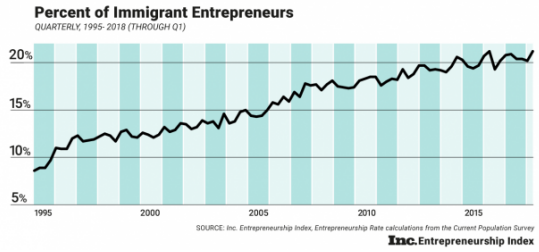


Figure 3: Percent of Immigrant Entrepreneurs

Eduardo Rodriguez, a 62 year old immigrant living in the Little Village neighborhood of Chicago, is a perfect example of this success. In an area of the city that has an unemployment rate of 13 percent and an annual median income of $30,000–less than half of the national average–the Little Village community faces considerable economic challenges. However, these conditions have not stopped Rodriguez. He currently owns and operates four Dulcelandia stores in Little Village, each one packed with over 1,000 types of delicious candies from his home country of Mexico.

After immigrating here in 1966, Rodriguez opened his first store and it became an instant gathering spot in the neighborhood. "People seem to really like what we are doing, and I'm grateful that I had the opportunity to do this in the United States. It takes a lot of work and sacrifice – we're fulfilling a niche market that people really want to buy from."

Following in her father's footsteps, Rodriguez's daughter, Eve Rodriguez Montoya, has also opened up a handful of shops that specialize in healthy frozen yogurts with some Mexican-inspired flavors.

"Our community is very strong and hard-working – resilient and resourceful," she said. "I'd say come to our community, get to know our people. Shop at our locations and see for yourself – Little Village is full of people who came to this country to achieve the American Dream."

The Rodriguez's story is just one of many. As more immigrants look to open their own businesses and employ more workers, many markets, both broad and niche, will continue to expand and provide more fuel to an already strong economy.

*William Hall is a Business Reporter for [Fox News/MSNBC].*

#### 4.3.5 Attention checks & article evaluation

Please answer the following questions about the tweet as well as the article you just read.

**[source]** *(randomize order)* Which Twitter account / news organization published the story?

1. Fox News
2. MSNBC
3. New York Times
4. Wall Street Journal
5. Other
6. Don't know

**[about]** *(randomize order)* Broadly speaking, what was the news story about?

1. Immigrant-owned businesses
2. Stock market development
3. Innovation in the automotive industry
4. Young entrepreneurs in Silicon Valley
5. Don't know

**[actions]** Thinking about the news article you just read, how likely would you be to:

- Discuss the story with a friend
- Forward the story to a friend or colleague via email
- Post a link to the story on a social networking site, such as Facebook or Twitter
- Seek out additional information from another source on the topic featured in the story

(1) Very likely - (4) Not likely, (7) Not sure

**[wordpairs]** *(randomize order)* Below, you will find a list of pairs of words. Please rate the news article you just read on each of the pairs of words.

- [fair] (1) Fair - (5) Unfair
- [hostile] (1) Hostile - (5) Friendly
- [bad] (1) Bad - (5) Good
- [skewed] (1) Skewed - (5) balanced
- [american] (1) American - (5) Un-American
- [accurate] (1) Accurate - (5) Inaccurate

## 4.4 Post-treatment measures

### 4.4.1 Block 1: Attitudes towards immigration

*(only show this message in the control condition)* In this section, we want to ask you a few questions about immigration.

**[employ]** Across the United States, how many workers – immigrant and US-born – do you think are employed by immigrant-owned businesses?

1. Less than 500,000
2. 500,000 - 1 million
3. 1 million - 5 million
4. 5 million - 10 million
5. More than 10 million

**[sales]** Taking your best guess, what was the total amount of sales revenue of immigrant-owned businesses in the last year?

1. Less than $500 billion
2. $500 billion - $1 trillion
3. $1 trillion - $1.5 trillion
4. $1.5 trillion - $2 trillion
5. More than $2 trillion

*(only show this message in the treatment conditions)* In this section, we want to ask you a few questions about immigration in general.

**[immig]** Do you think the number of immigrants from foreign countries who are permitted to come to the United States to live should be. . . ?

1. Increased a lot
2. Increased a little
3. Left the same
4. Decreased a little
5. Decreased a lot

*(randomize order of remaining questions)*

**[taxes]** Most people who come to live in the U.S. work and pay taxes. They also use health and social services. On balance, do you think people who come here take out more than they put in or put in more than they take out?

- 0 (Generally take out more) - 10 (Generally put in more)

**[taxes_oe]** Please explain your answer to the previous question in a few short sentences.

- *TEXTBOX*

**[jobs]** On average, would you say that people who come to live here from other countries will take jobs away from people already here or add to the economy by creating additional jobs?

- 0 (Take jobs away) - 10 (Create additional jobs)

**[jobs_oe]** Please explain your answer to the previous question in a few short sentences.

- *TEXTBOX*

#### 4.4.2 Block 2: Trust in news sources

Let's briefly return to the different media sources mentioned at the beginning of the survey.

**[tv_trust]** *(show same response options for each, randomize order)* Overall, how often can you trust the following TV channels that their political news reporting is accurate?

- Fox News
- MSNBC
- CNN
- NBC
- CBS

1. Always
2. Most of the time
3. About half the time
4. Sometimes
5. Never
6. Don't Know

**[print_trust]** *(show same response options for each, randomize order)* And how often can you trust the following newspapers that their political reporting is accurate?

- New York Times
- Washington Post
- Wall Street Journal
- USA Today
- New York Post

1. Always
2. Most of the time
3. About half the time
4. Sometimes
5. Never
6. Don't Know

### 4.5 Block 3: Sociodemographics

This almost completes our survey, we only need some additional information about your background.

[usborn] Were you born in the United States?

1. Yes
2. No

[usborn_year] (only ask if [usborn]==0) When did you first arrive to live in the US?

TEXTBOX

[church] Not counting weddings and funerals, how often do you attend religious services?

1. Never
2. Less than once a year
3. Once a year
4. Several times a year
5. Once a month
6. Two to three times a month
7. Nearly every week
8. Every week
9. More than once per week

[comments] Thank you for answering our survey. Do you have any comments for us?

TEXTBOX

[debriefing] (do not show in control condition) Note: The news article you read was written specifically for the purpose of this study. While the information provided in the article is accurate, it was not originally published in this format. If you have any questions or concerns, please contact the principal investigator Dr. Patrick Kraft (kraftp@uwm.edu).

# 5 References