

Pilot Study Results and Code

Sexuality, Cultural Similarity, and Immigrant Deservingness

```
knitr::opts_chunk$set(echo = T, warning = F, message = F, cache = T,
                      dpi = 300)
library(here)

## here() starts at /Users/nathan/My Drive/Projects/2020 Same-Sex Immigrant Couples/ssimm

library(huxtable)
library(haven)
library(patchwork)
library(cregg)
library(rdss)
library(DeclareDesign)

## Loading required package: randomizr
## Warning: package 'randomizr' was built under R version 4.0.5
## Loading required package: fabricatr
## Loading required package: estimatr

library(tidyverse)

## -- Attaching packages ----- tidyverse 1.3.2 --
## v ggplot2 3.3.6      v purrr  0.3.4
## v tibble  3.1.8      v dplyr  1.0.9
## v tidyr   1.2.0      v stringr 1.4.1
## v readr   2.1.2      v forcats 0.5.1
## Warning: package 'tidyr' was built under R version 4.0.5
## Warning: package 'readr' was built under R version 4.0.5
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::add_rownames() masks huxtable::add_rownames()
## x dplyr::filter()       masks stats::filter()
## x dplyr::lag()          masks stats::lag()
## x ggplot2::theme_grey() masks huxtable::theme_grey()

options("yaml.eval.expr" = TRUE)

theme_set(theme_classic(base_family = 'Palatino') +
  theme(legend.title=element_blank(),
        panel.grid.major.y = element_line('grey80'),
        legend.background = element_rect(fill = "transparent")))
ggplot <- function(...) ggplot2::ggplot(...) + scale_color_brewer(palette="Dark2") +
  scale_fill_brewer(palette="Dark2")
```

Pilot Study Results

We conducted a pilot study of 100 respondents using Prolific Academic, showing each respondent two sets of profiles. For LG profiles, we see an AMCE effect size of 0.032 in the expected direction (Figure 1); respondents are 3.2 percent more likely to choose a gay or lesbian immigrant for admission to the U.S. Furthermore, there is evidence of an interaction between sexuality and reason for departure: LG profiles fleeing persecution are more likely to be chosen than straight ones fleeing persecution (Figure 2). Subgroup analyses show that respondents without a bachelor's degree, Republicans, Christians, and straight respondents see LG migrants as less deserving (Figure 3).

```
prolific_demo <- read_csv(here('survey', 'prolific_demo.csv'))
pilot_raw <- read_csv(here('survey', 'pilot.csv')) %>%
  mutate(StartDate = lubridate::mdy_hm(StartDate)) %>%
  filter(prolific_pid %in% prolific_demo$`Participant id`) %>%
  filter(str_detect(tolower(attention_color_5_TEXT), 'green') &
    str_detect(as.character(attention_number_6_TEXT), '9'))

pilot <- pilot_raw %>%
  #mutate(choice1 = Q3, choice2 = Q3, choice3 = Q13, choice4 = Q13) %>%
  pivot_longer(c(gender1:reason4, rating1:value2, rating3:value4),
    names_to = c('.value', 'number'), names_pattern = '(.*)(\\d+)') %>%
  filter(!is.na(gender)) %>%
  mutate(chosen = case_when(
    choice_a == 'Immigrant 1' & number == 1 ~ 1,
    choice_a == 'Immigrant 2' & number == 2 ~ 1,
    choice_b == 'Immigrant 3' & number == 3 ~ 1,
    choice_b == 'Immigrant 4' & number == 4 ~ 1,
    T ~ 0),
    sexuality = factor(ifelse(sexuality %in% c('lesbian', 'gay'), 'lesbian or gay', 'straight'),
      levels = c('straight', 'lesbian or gay')),
    across(c(gender, sexuality, gdp, skill, lang, religion, reason), function(x) factor(x)),
    across(c(rating, value), function(x) as.numeric(substr(x, 1,1)))) %>%
  mutate(skill = recode(skill,
    'has a high school degree, and works as a restaurant manager' =
      'high school',
    'has a primary school education, and works as a cleaner' =
      'primary school',
    'has an MD, and works as a cardiologist' = 'MD'),
    reason = recode(reason, 'could not find work due to high unemployment' =
      'could not find work'),
    resp_religion = factor(case_when(
      resp_religion %in% c('Other Christian', '
        Protestant (Baptist, Methodist, Non-denominational, Lutheran, Presbyterian,
        Roman Catholic (Catholic)) ~ 'Christian',
      resp_religion %in% c('Agnostic (not sure if there is a God)',
        'Atheist (do not believe in God)',
        'Nothing in particular') ~ 'Atheist/not religious',
      T ~ 'Other')),
    resp_politics = factor(ifelse(
      resp_politics %in% c('Independent', 'None of these'), 'other',
      resp_politics)),
    resp_sexuality = factor(case_when(
      resp_sexuality %in% c("I don't know the answer", 'Something else') ~ 'Other',
      resp_sexuality %in% c('Bisexual', 'Lesbian or gay') ~ 'Lesbian/gay/bisexual',
```

```

    resp_sexuality == 'Straight (that is, not gay or lesbian)' ~ 'Straight'
  )),
  resp_education = factor(resp_education)
)

# pilot <- pilot %>% slice(rep(row_number(), each = 10)) %>%
#   mutate(prolific_pid = 1:n())

(plot(mm(pilot, chosen ~ sexuality,
  id = ~prolific_pid)) + geom_vline(xintercept = 0.5, size = .2)) +
plot(cj(pilot, chosen ~ sexuality,
  id = ~prolific_pid)) &
  theme()

```

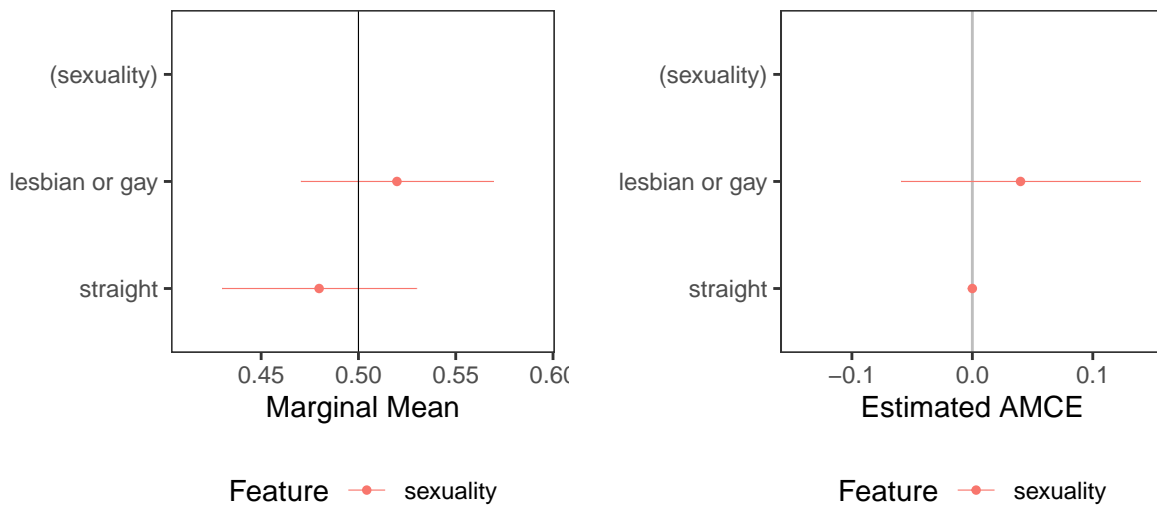


Figure 1: Estimated marginal means and AMCEs for Prolific Academic pilot study of 100 respondents each shown 2 sets of profiles. Standard errors are clustered within respondent.

```

int_cj <- cj(pilot, chosen ~ sexuality, id = ~prolific_pid, estimate = 'mm',
  by = ~reason)
int_cj_dif <- cj(pilot, chosen ~ sexuality, id = ~prolific_pid, estimate = 'mm_diff',
  by = ~reason)
rbind(int_cj, int_cj_dif) %>%
  mutate(BY = recode(BY, 'could not find work' = 'work',
    'feared government persecution' = 'persecution',
    'feared government persecution - could not find work' =
      'persecution - work')) %>%

  plot() +
  ggplot2::facet_wrap(~BY, ncol = 3) +
  # geom_vline(xintercept = 0.5, size = .2)
  geom_vline(aes(xintercept = ifelse(statistic == 'mm', 0.5, 0)), size = .2)

```

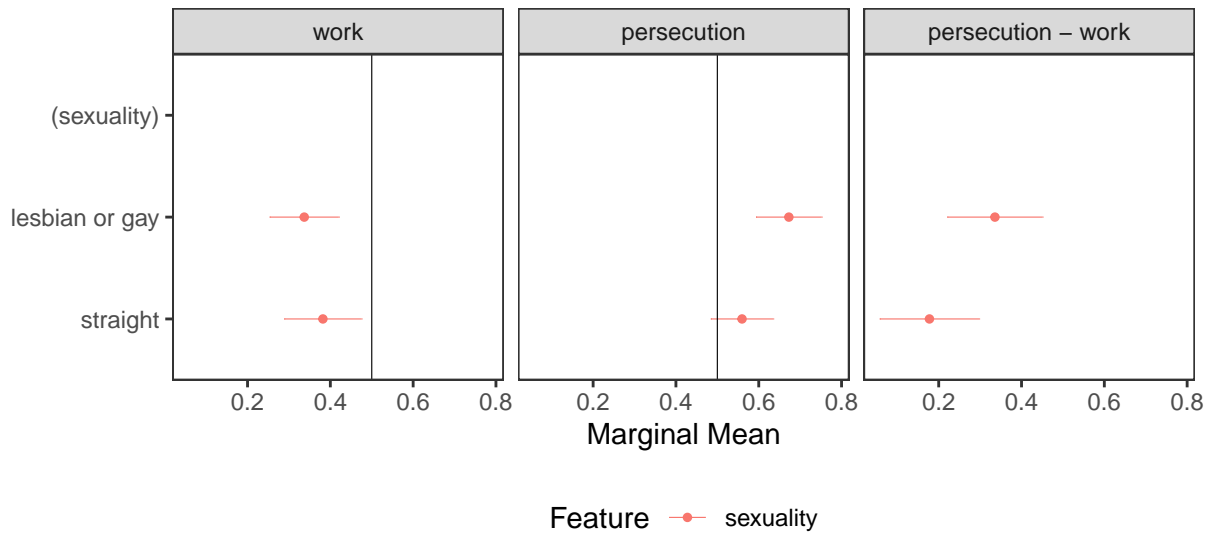


Figure 2: Marginal means of the interaction between sexuality and the reason for migration

```
pilot <- pilot %>%
  mutate(BA = factor(case_when(
    resp_education == "Bachelor's degree or higher" ~ 'BA',
    resp_education != "Bachelor's degree or higher" ~ 'no BA',
  )))

(plot(cj(pilot, chosen ~ sexuality, estimate = 'mm',
  id = ~prolific_pid, by = ~ BA),
  group = 'BA') +
  geom_vline(xintercept = .5, size = .2) +
  theme(legend.position = 'right')) /
(plot(cj(pilot, chosen ~ sexuality, estimate = 'mm',
  id = ~prolific_pid, by = ~ resp_politics),
  group = 'resp_politics') +
  geom_vline(xintercept = .5, size = .2) +
  theme(legend.position = 'right')) /
(plot(cj(pilot, chosen ~ sexuality, estimate = 'mm',
  id = ~prolific_pid, by = ~ resp_religion),
  group = 'resp_religion') +
  geom_vline(xintercept = .5, size = .2) +
  theme(legend.position = 'right')) /
(plot(cj(pilot, chosen ~ sexuality, estimate = 'mm',
  id = ~prolific_pid, by = ~ resp_sexuality),
  group = 'resp_sexuality') +
  geom_vline(xintercept = .5, size = .2) +
  theme(legend.position = 'right'))
```

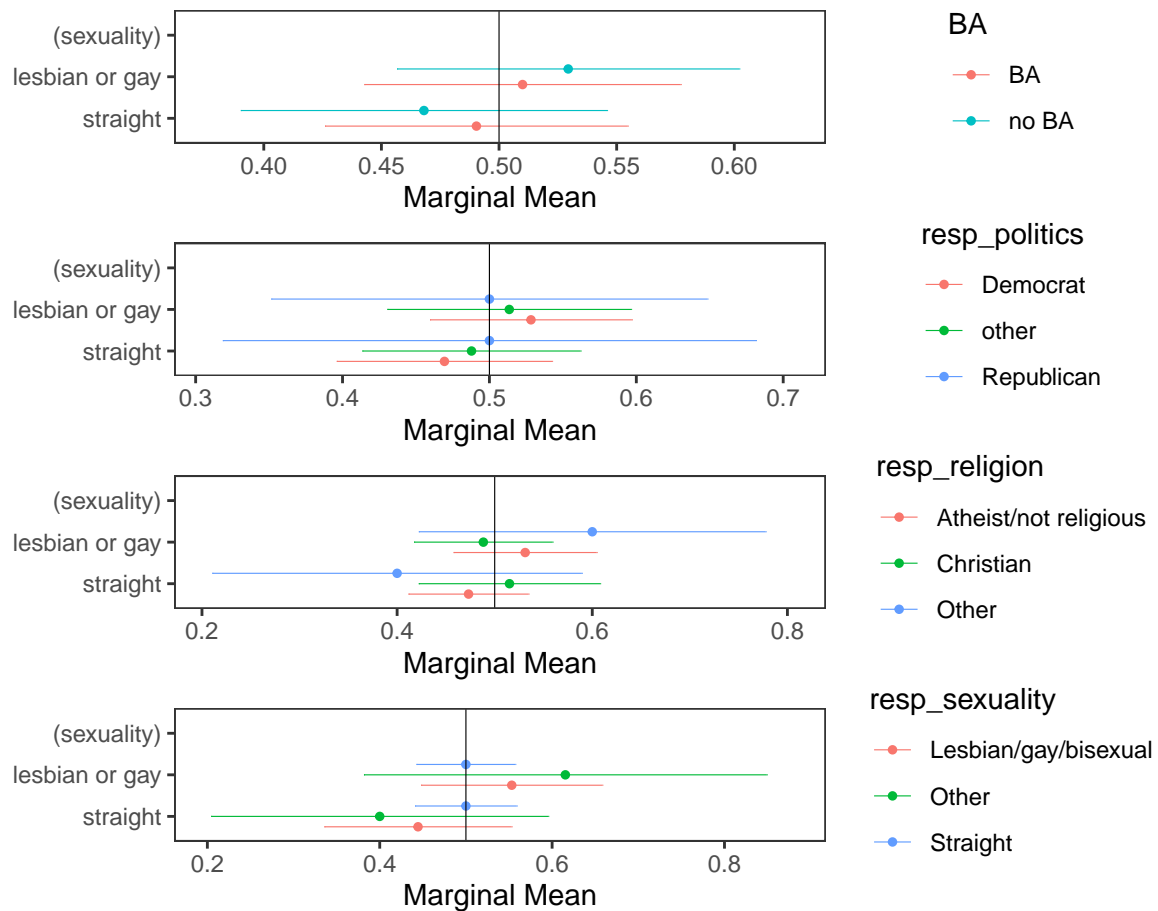


Figure 3: Marginal means for subgroups

Power analysis

We perform a power analysis using the Shiny App Power Analysis Tool created by Stefanelli and Lukac (2020). With 1,650 respondents, 4 tasks, and an effect size of 0.032 (as estimated in the pilot study) for an attribute with two levels, the power analysis suggests that the predicted statistical power is 93 percent.

Conjoint Experiments: Power Analysis Tool

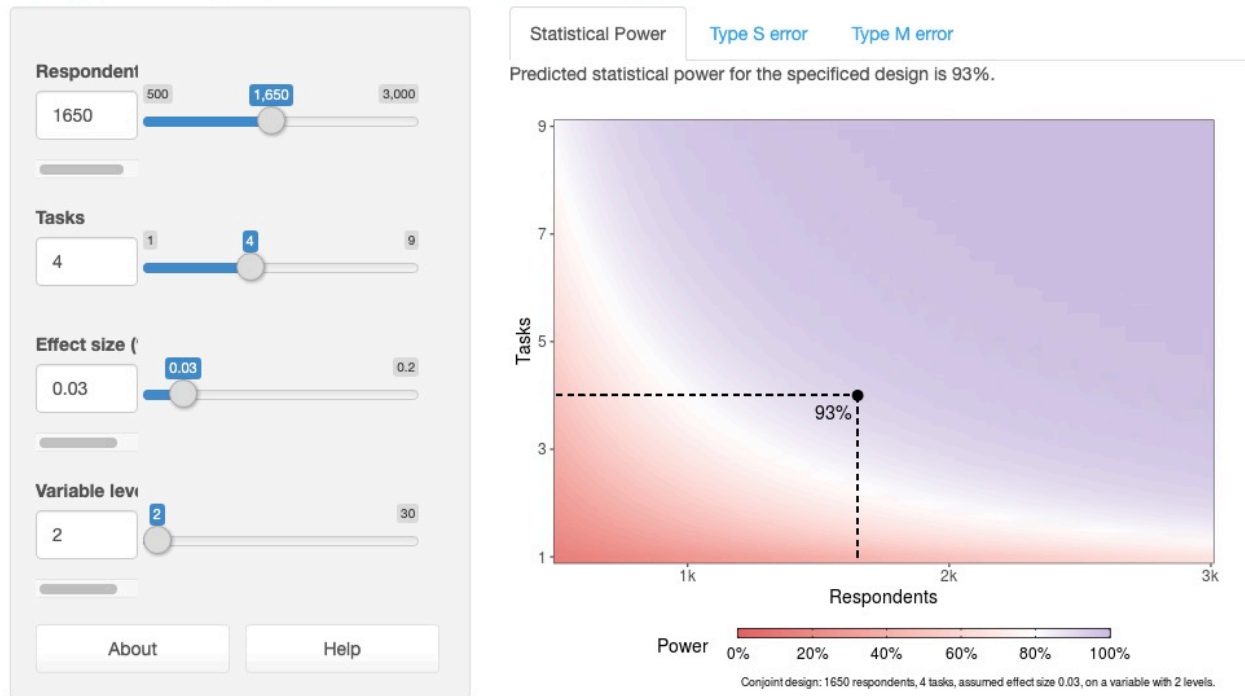


Figure 4: Power analysis, using the Shiny App created by Lucac and Stefanelli

Stefanelli, Alberto, and Martin Lukac. 2020. "Subjects, Trials, and Levels: Statistical Power in Conjoint Experiments." SocArXiv. <https://doi.org/10.31235/osf.io/spkcy>.