

## Immigrant Face-ism (#6966)

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### 1) Have any data been collected for this study already?

No, no data have been collected for this study yet.

### 2) What's the main question being asked or hypothesis being tested in this study?

Study 1:

Reverse-correlated faces (RCFs) of undocumented and documented immigrants will be distinct from faces superimposed with random noise. A RCF is an approximation of the mental representations that people have about those individuals' faces, acquired using a random-noise-adding reverse-correlation technique.

RCFs of undocumented immigrants will be distinct from documented immigrants or U.S. citizens. Specifically, this will be indicated by two indices.

Ratings of RCFs on social traits will adhere to current nationalist sentiments such that undocumented immigrants (and to a lesser extent) documented immigrants will look more threatening and less trustworthy than the RCFs of U.S. citizens.

Similarity judgments of RCFs will be consistent with the rating results. RCFs of undocumented (and to a lesser extent) documented immigrants will be judged as different from the RCFs of U.S. citizens.

Study 2:

RCF of undocumented immigrants will look more like the RCF of Latino immigrants than of Black, White, Asian immigrants and the RCF of White immigrants will match the RCF of U.S. citizens.

RCF for undocumented vs. documented will be more differentiated for people of color (Black, Latino, Asian) than White immigrants and may be affected by meritocratic cues such that immigrants who are described as contributing more may look more White and if they are on welfare will look more stereotypic of their ethnicity/race or darker skinned.

Ratings of the RCF should be consistent with current sentiment and stereotypes towards different immigrant groups (e.g., minority or less contributing immigrants should be deemed as less trustworthy, more threatening, more foreign/ethnic). Similarities of RCFs will corroborate this results.

### 3) Describe the key dependent variable(s) specifying how they will be measured.

The key dependent variables will be composite images created from reverse correlation techniques, specifically their infoVal (which measures if the images hold meaningful signal beyond noise). Other dependent variables will include ratings of the faces on social dimensions (e.g., trustworthy, foreign, competent, dangerous; 1-not at all, 9 - extremely) and their correlations across pictures. Finally, other dependent variables will include the level of similarities between the RCF images (distance on a spatial arrangement task in which participants arrange 45 RCFs (15 RCF from each condition) on the screen using the mouse respective of the similarities across them).

### 4) How many and which conditions will participants be assigned to?

Study 1: random assignment to either of 3 conditions: U.S. Citizen, Undocumented immigrant, Documented immigrant.

Study 2: random assignment to either of 16 conditions: 2 Immigrant types [Undocumented, documented immigrant] x 4 Ethnicities/nationalities [Latino (Mexico), Asian (China), Black (Nigeria), White (Ireland)] x 2 Meritocracy types [Contributes, Welfare].

### 5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

Studies 1 and 2:

We will conduct maximal mixed effect linear regressions that allow random slopes and intercepts per participant, and if possible stimuli, for social evaluative ratings and for secondary analyses on infoVal scores.

We will calculate and present matrices representing similarity judgments of RCFs and/or a two-dimensional space of similarity judgments with RCFs plotted across will be used as descriptive visualization. Similarity judgments from the spatial arrangement task will be converted into distance matrices to examine the representational similarity between immigration conditions.

### 6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

Studies 1 and 2:

Reversal correlation phase:

Data of the participants who responded unreliably (those with infoVal  $\leq$  1.56) will be screened out. Additional participants will be recruited so that we have 40 participants for each condition.

Rating judgment phase:

Data of participants who responded unreliably (those with test-retest reliability  $\leq 0$ ; estimated by correlational analysis between repeated image pair) will be screened out. Additional participants will be recruited so that we have 40 participants for each evaluation-domain condition.

**7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.**

Study 1:

Reversal correlation phase:

120 participants. 40 participants for each condition [the documented immigrant condition, the undocumented immigrant condition, the US citizen condition]. Prior research (Dotsch et al. 2008; Dotsch & Todorov, 2012; Imhoff & Dotsch, 2013; Imhoff et al., 2011) reveals that 20 - 30 participants are needed per cell to produce consistent RCF when effect sizes are large.

Rating and Similarity judgment phase:

Necessary sample size was calculated using Monte Carlo sampling on simulated data from mixed effect linear models with hypothesized results for the dangerous evaluation. We aimed for an effect size of immigrant condition of  $f^2 = .77$  as previously used in Kuntz 2017. The results stated that as low as 20 participants would provide us with 100% power. Given that this is a large effect size, we'll collect 40 per evaluation domain to account for incorrect assumptions in our simulated results model (total  $n = 160$ ). However, for the similarity judgments, we aim to collect around 200 participants in order to obtain a large enough sample for each face pair ( $n = \sim 28$ ).

Study 2: We will conduct the same as Study 1: 40 participants per immigrant cell for reverse correlation task (16 condition, total  $n = 640$ ) and 30 per rating ( $n = 120$ ) and 200 for similarity task)

**8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)**

The infoVal of the composite image may be dependent on the amount of contact each participant has with immigrants, such that more contact may lead to better infoVal scores or less stereotyped/prejudiced images. Moreover, some social categories may be harder to visualize, so we'll compute infoVal differences across conditions. The social dimensions may be reduced to factors using factor analysis or PCA.