**Preregistration**

**1. Study information**

*Title (required)*

How does binary thinking influence face adaptation to gender?

*Authors (required)*

*Description (optional)*

In encounters with others, people tend to ascribe social categories to them (Bodenhausen et al., 2012). The process and consequence of social categorization, and particularly categorization of gender, has been extensively investigated by social psychologists. Recently, these experimental insights have begun to be informed and problematized by insights from post-structuralism and queer theory (e.g. Morgenroth et al., 2020; Hyde et al., 2018). According to post-structural thinkers like Focault and Butler, gender is socially constructed and continually re-created in social interactions. This suggests that when researchers measure perception of gender of faces, how they allow participants to respond have the potential to communicate ideas about gender. In other words, experiments where participants judge gender could be seen as so many instances where gender is recreated. Here, we use queer theory as a starting point to examine the research on gender categorization, leading to a proposal of two studies to investigate 1) what gender categorization might look like when responses are not restricted to a gender binary and 2) how such responses might themselves shape participants categorization of gender.

*Hypotheses (required)*

**Study 1**

Study 1 is exploratory and descriptive. As such, no specific hypotheses are made

**Study 2**

Inledande mening (lägg mer av början här)

H1: participants are more likely to categorize a somewhat feminine face as a woman when given the response options woman - man than when the options are woman – man/other/don’t know

H2:participants are more likely to categorize aa somewhat feminine face as a woman when given the response options woman - man than when the options are woman – other/don’t know

H3: Participants are more likely to categorize a a somewhat feminine face as a woman when given the response options woman - man than when the options are woman – man/other/don’t know

## **Design Plan**

*Study design\**

**Study 1**

Study 1 is mainly descriptive and investigates categorical perception using a number of outcome measures. Participants are shown 70 faces and asked to categorize each in terms of gender. A number of different types of response options will be given (see measured variables). The various outcome measures are varied on a between-subjects basis, participants are randomly assigned into one of the four conditions.

*Material*

The 70 faces will consist of morphs of women and men. Ten 7-step morphs will be made from the faces of the most 10 masculine men and the 10 most feminine women from the London face database. The rationale behind using this number and composition of faces is to be able to see construct categorical perception curves. Furthermore, we pretest the faces to ensure that the endpoints are viewed as similarly masculine and feminine to avoid randomly creating midpoint faces which differ from the others.

**Study 2**

Study 2 investigates whether binary responses options to faces increases categorial perception. Categorical perception will be tested using a categorization task with three response options conditions (binary/feminine focus/multiplicity). Participants are shown a number of faces and asked to categorize them according to gender. In the *binary* condition, participants are given the options “woman” and “man”. In the *feminine focus* condition, participants are given the options “woman” and “other/I don’t know”. In the *multiplicity* condition participants participants are given the options “woman” and “other/man/I don’t know”

make this pretest

*Material*

The 40 faces will consist of morphs of women and men drawn from the London face database. Of those, 20 will be 70/30 morphs, i.e. consisting of 70% a woman’s face and 30% a man’s and 20 will be 30/70 morphs, i.e. consisting of 30% a woman’s face and 70% a man’s. The root faces will be selected based on pre-testing procedures where the 40 most feminine and 40 most masculine faces will be paired randomly with each other. The 70/30 split is selected because previous studies on categorical perception of gender suggest that is where the largest difference would occur if categorical perception happened.

## **Sampling Plan**

**Check**Registration prior to creation of data

*Data collection procedures\**

**Study 1**

Study one will a laboratory experiment where participants are shown a series of faces and asked to rate them in terms of gender. Participants are randomly assigned one of three response options conditions. Based on available funding, 100 participants will be tested for study 1.

**Study 2**

Study one will a laboratory experiment where participants are shown a series of faces and asked to rate them in terms of gender. Participants are randomly assigned one of three response options conditions.Based on available funding (and maybe a power analysis??) 100 (?) participants will be tested for study 2.

## **Variables**

*Manipulated variables*

**Study 1**

The main manipulated variable will be the scale used to measure for gender categorization/rating of faces. The following response options will be used (with a justification given for each).

- Woman/Man. These are the typical response options when measuring gender categorization

“typical woman” – “typical man” on the same sliding scale. This is a typical scale used in social psychology.

- Femininity and masculinity on separate scales – These scales are appropriate because they do not imply that femininity and masculinity are opposites.

- Woman/Man/Other/I don’t know – These scales are appropriate because they give participants more options. These response options are appropriate because they do not imply that women and men are the only gender identities.

- Free text response

**Study 2**

The main manipulated variable will be the response options given for gender categorization/rating of faces. The following response options will be used (with justification given for each).

Woman – Man. These are the typical response options when measuring gender categorization

Woman – Other/I don’t know. This is a queer response options in that it is a vague category that could include a number of identities or non-identities. It furthermore decenters masculinity.

Woman – Man/Other/I don’t know. This is also queer, but includes masculinity. What’s the justification behind this? We might expect the very presence of “man” to be a reinforcer of the binary.

*Measured variables*

**Study 1**

The main measured variables are participants categorizations/ratings of faces. Because study 1 uses four different scales, there will be four outcomes, one for each scale. These are all presented descriptively.

**Study 2**

Number of faces categorized as women per participant.

**Analysis Plan**

*Statistical models\**

**Study 1**

No inferential tests are run for study 1. Instead, only descriptive statistics are presented, summarizing the central tendencies and the variances.

Vilka resultat används till studie 2

**Study 2**

Study 2 tests the outcome variable “number of faces categorized as women” and involves three comparisons, to match the thee hypotheses. These are:

1. Binary condition v feminine focus condition.

2. Binary condition v multiplicity condition.

3. Feminine focus condition v feminine focus condition.

A number of possible models are possible to conduct these tests. We could run fit an ANOVA (i.e. a frequentist regression model). This would be simplest in terms of the mechanics of running a model and fitting data.

But what I would *like* to do is run a multilevel regression which takes as much variance as possible into account. So, this includes things like, people reacting differently to each face, each face being perceived differently in each condition. Then, I can do three bayes factors and calculate the savage-dickey density ratios of each.

*Transformations*

*Inference criteria*

*Data exclusion*

Worth thinking about. Maybe if someone answers the same on x number of trials, they’ll be excluded. I can’t think of any other reason to exclude participants.

*Exploratory analysis*