Masks, Gender, and Perceived Trustworthiness: How The COVID-19 Pandemic May Be Changing Social Perception

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Introduction − Literature Review

- **"Beauty and the Mask" (Patel et al., 2020)**
  - Found some significant differences in perceived attraction of masked people versus unmasked people.
- **"Face Attractiveness in Building Trust" (Zhao et al., 2015)**
  - Attractive people appear to be treated more positively in general, and that people tend to trust attractive faces more.
- **"The COVID-19 Pandemic masks the way people perceive faces." (Freud et al., 2020)**
  - This study used the Cambridge Face Memory Test (CFMT) and found that there was a decrease in facial recognition abilities with masked faces.
- **"The effects of facial attractiveness and familiarity on facial expression recognition." (Li et al., 2019)**
  - This empirical article identifies how critical facial expressions are in conveying socially relevant information, such as intentions and emotions.

2 Main Effect Hypotheses:

1. Unmasked individuals will be perceived as more trustworthy than masked individuals

1. Men will be judged as less trustworthy than females (regardless of the condition)
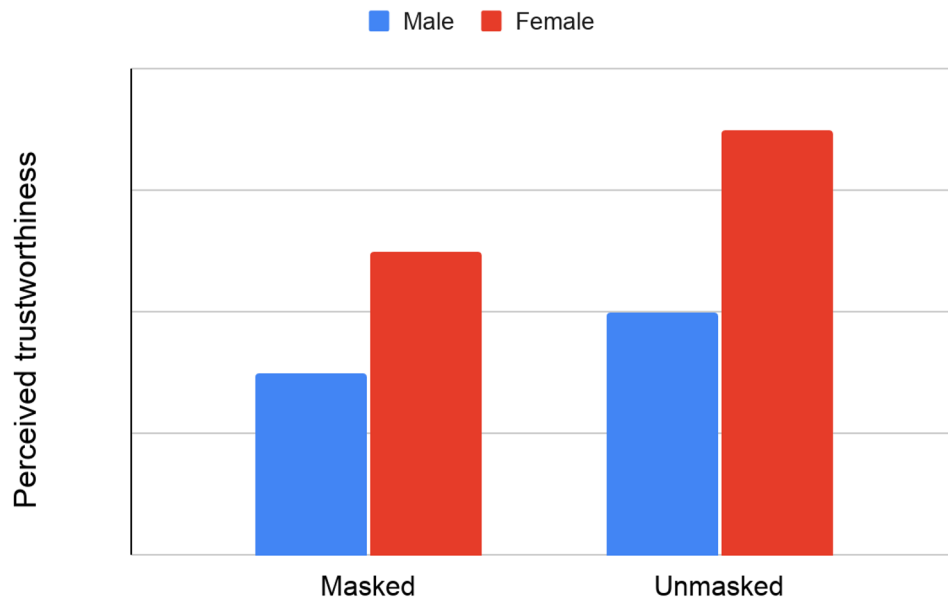
Methods

Participants

Following the protocols of our university's Psychology Research Department, we distributed our study remotely via email to a randomized selection of 52 students taking Psychology 100 and to various organizations at Bucknell like sports teams and Greek organizations. Psychology 100 professors rewarded their students with extra credit for participating in the study. In total, 144 students participated in our survey. This sample population can be expected to accurately reflect the demographics of the larger population (approximately 3,719 students) in terms of ethnicity, gender, and class year/age.

Methods

Design

- Experimental mixed factorial design
- Gender as the within-subjects factor
- Masked vs. Unmasked condition as the between-subjects factor
- Independent variables were masked vs. unmasked condition and the gender of facial stimuli
- Dependent variable was perceived trustworthiness

Methods

| Unmasked Condition: Male & Female Face 1 | Masked Condition: Male & Female Face 1 |
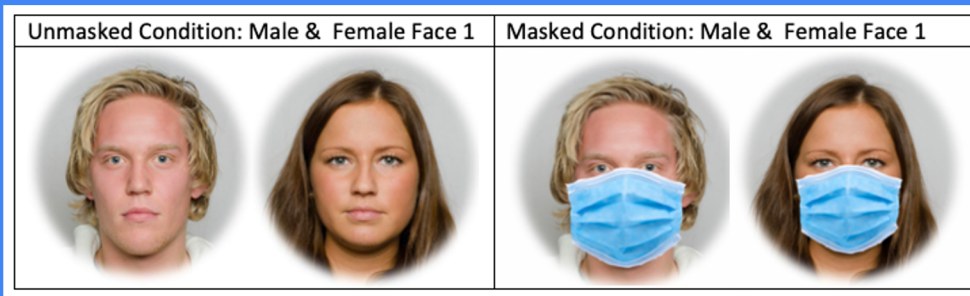
Materials

- The data for our study was collected through a Qualtrics questionnaire that was sent to our sample population via Bucknell email.

- The questionnaire consists of the following parts: an informed consent statement; 12 questions that measure the variables of the study. The variables were a racially heterogeneous set of 6 male and 6 female faces with average attraction and trust ratings scored (4.5-5.5) obtained from the OLSO face database.

- The OLSO Face Database is a set of high-resolution images of subjects' faces aged between 18 and 40 years, which is available to researchers as a free resource by request. The experimental groups' masked faces were altered to simulate the appearance of wearing a surgical mask, using Microsoft Word.

Methods

Procedure

- Participants recruited via email and social media.
- Qualtrics: randomly assigned participants to rate group of masked or unmasked faces
- Presented an equal amount of 6 male faces and 6 female faces in both masked and unmasked condition
- Survey used the Interpersonal Trust Scale (Johnson-George & Swap, 1982) to ask participants to rate their level of agreement with the statements made in the scale
  - Rate agreement between 1 (strongly disagree) and 9 (strongly agree): score of 1 defined low trust, 9 defined high trust
  - Participant rates statement made on the 6 male and 6 female faces in their assigned masked/unmasked group of facial stimuli
- Shortened Trust scale ⇒ 5 specific trust questions to be concise. Found the modified interpersonal trust scale to have excellent internal reliability for both genders; both Chronbach's α > .95
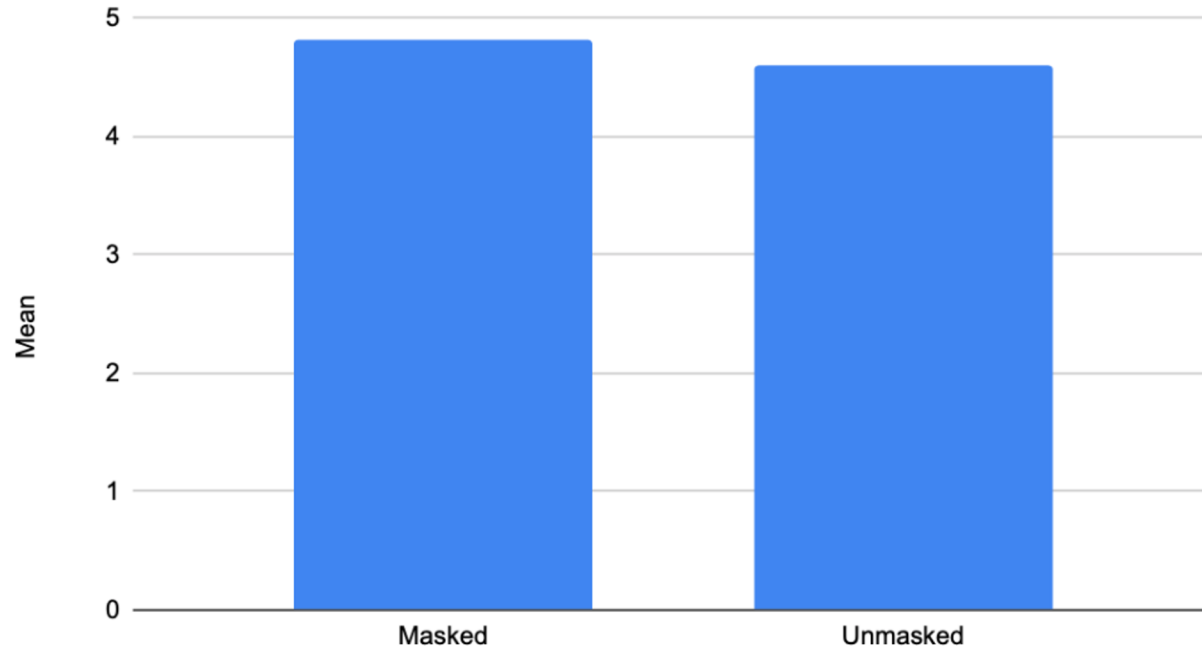 - No individual identifying outlier questions

Results

Mean Scores for Gender
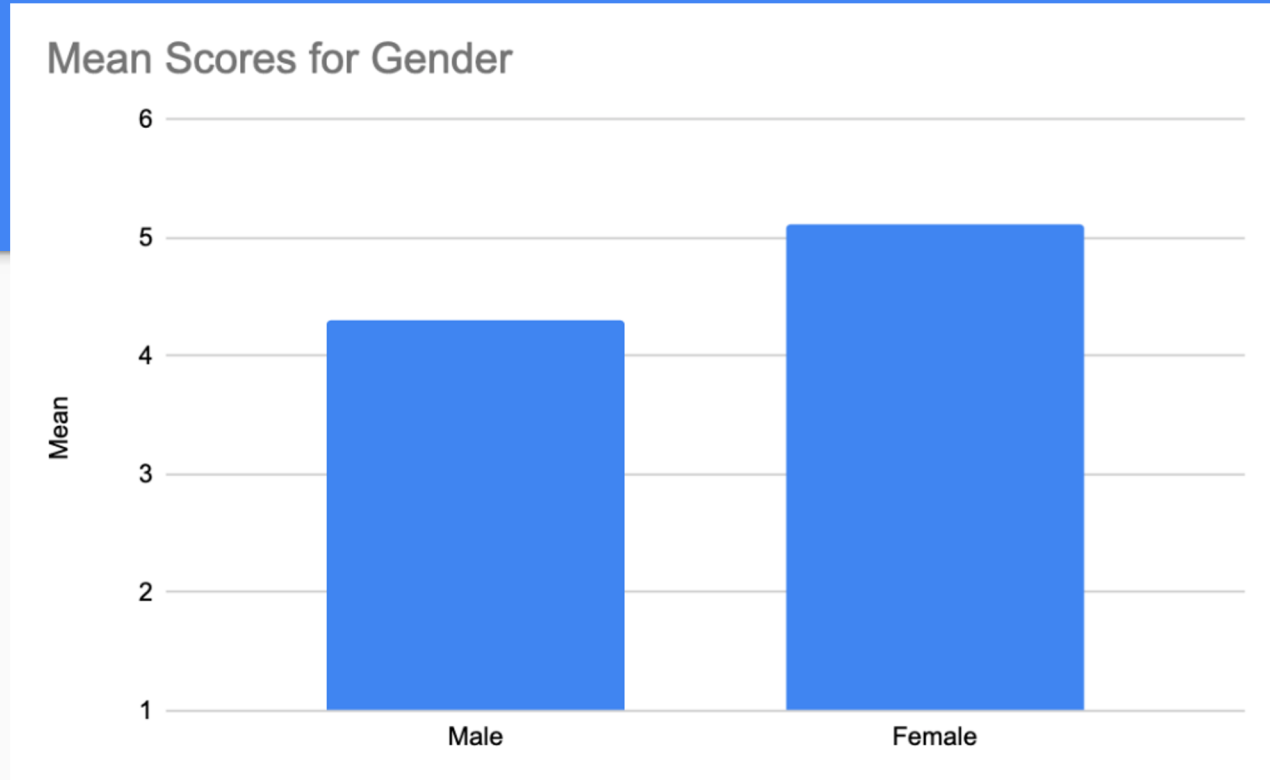
1. **Large gender effect (F(1,142) = 86.86, p<.001)**
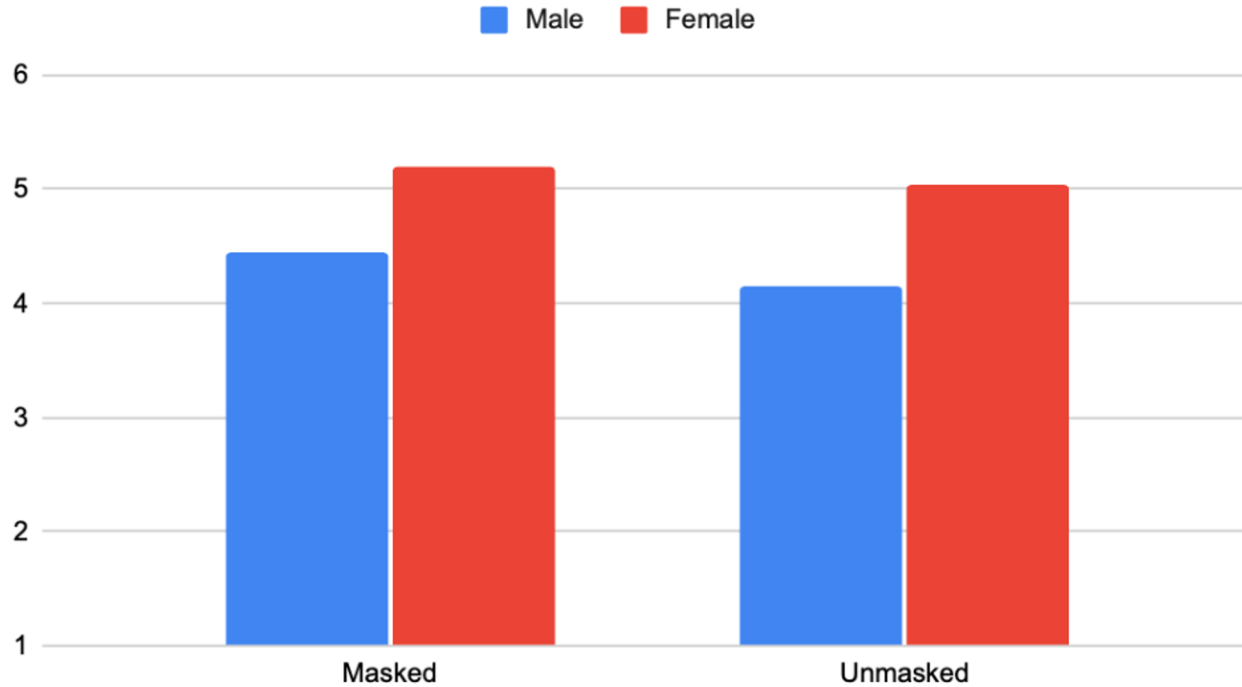   a. Females were judged to be more trustworthy than males regardless of the condition

Mean Scores Masked vs. Unmasked

2. No main effect for the masked vs. unmasked groups (F (1,142) = 1.00, p = .319)

- Whether the person was masked did not make a difference on their perception of trustworthiness.

Gender by Condition

3. No interaction effect in the masked condition by gender (F (1,142) = .73, p = .40)

    a.   There was a difference between genders regardless of whether the faces had a mask or not did not make a difference

Discussion

- **Strengths**:
  - External validity… to an extent
    - Sample size
    - Bucknell/University students
  - Internal reliability – SPSS pre-analysis
- **Weaknesses**:
  - External validity
    - Sample size + demographic ⇒ all general citizens?
- **Significant** result: male trustworthiness < female trustworthiness ($p < .001$)
- **Insignificant** result: masked trustworthiness > unmasked trustworthiness ($p = .319 > .05$)

Discussion

Future directions for related research

- Limitation for us: solely white target faces
  - Target face race: potential third variable
- Potential extension of this research: perceptions of attractiveness ⇒ perceptions of trustworthiness? Masked condition ⇒ perceived attractiveness itself?
- Full face coverings: mask + sunglasses ⇒ perceived trust? Unmasked ⇒ perceived trust? Trust in COVID-conscious person vs. mistrust of masked face?

Sources

- Patel, V. BS; Mazzaferro, D. M. MD; Sarwer, D. B. PhD; Bartlett, S. P. MD (2020). "Beauty and the Mask." Plastic and Reconstructive Surgery - Global Open: August 2020, 8(8), p e3048. http://dx.doi.org/10.1097/GOX.0000000000003048.
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- Freud, E., Stajduhar, A., Rosenbaum, R. S., Avidan, G., & Ganel, T. (2020). The COVID-19 Pandemic masks the way people perceive faces. *Nature Research,* 1-8.
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