



Understanding Emotion: How Gender Plays an Important Role

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BACKGROUND

- Communicating with others is important to our survival. Humans use both verbal and nonverbal communication in our interactions with others. One of the most important nonverbal cues is facial expression. But are facial expressions interpreted differently based on the gender of the model?
- Past research has explored recognition of facial expressions in terms of our understanding of others' emotions, focusing on the gender of the model.
 - Plant, Kling, and Smith (2004) studied whether the interpretation of facial expressions was influenced by gender and social roles.
 - Findings: When people encountered a facial expression that they are uncertain how to interpret, they will use the gender and stereotypes of gender as a means of figuring their emotions.
 - Hess, Adams, and Kleck (2004) used gender-blended images and forced gender onto neutral expressions of both white and Japanese faces, and then asked participants to indicate the emotion being expressed.
 - Findings: Female neutral faces were seen as more intense and angrier than male neutral faces.
 - Zebrowitz, Kikuchi, and Fellous (2010) hypothesized that ethnicity would play a role in how emotion is perceived in a face.
 - A computer categorized Asian and black faces after having been primed with white neutral faces.
 - Findings: Female faces of both ethnicities were categorized as 'surprised'.
 - Males were more often categorized as 'angry'.
 - White faces were more likely to be placed in the angry category, while black faces were more likely to be placed under surprised or happy.
 - Calvo and Nummenmaa (2008) explored how quickly and completely participants would identify differing emotions utilizing key features of the face, such as eyes, cheeks, and mouth.
 - Findings: happy faces were responded to most quickly, except when mouth was removed. When mouth removed, response times increased for all emotions, except for sorrow.

PURPOSE

Continued research on differences in the interpretation of facial expressions of emotion based on gender is needed to further understand the biases in perceptions of males' and females' expressions.

- We focused on how gender and expression affect the perceived approachability of a person, and the perceived intensity of emotions.

HYPOTHESES

- Males will be perceived as being happier than females
- Females will be perceived as having more intense facial expressions than males
- Smiling faces will be perceived as having more intense emotional values than neutral faces
- Smiling faces will be perceived as more approachable than neutral faces

MATERIALS AND METHODS

PARTICIPANTS

- 71 participants
- 26 males and 45 females
- Ages ranged from 18-45 ($M = 22.5$)
- Predominantly Hispanic from Mt. San Antonio College

MATERIALS AND PROCEDURE

- 2 (gender: male, female) X 2 (facial expression: smiling, neutral) independent groups experiment.
- Participants rated the mood, the intensity of the mood, as well as of the approachability of the target stimulus
 - Male and female target stimuli were chosen because their similarity in appearance.
- Participants were told to imagine that the person in the photo sits next to them in one of their classes and were asked to complete a 15-item survey, rating the target stimulus on various traits, using a 5-point Likert scale
 - Sample perception of mood item: 'Jane/Josh seems happy'.
 - Sample approachability item: 'Jane/Josh seems friendly'.



Figure 1. Male stimulus neutral facial expression



Figure 2. Male stimulus smiling facial expression



Figure 3. Female stimulus neutral facial expression



Figure 4. Female stimulus smiling facial expression

RESULTS

Main effects

- Males were seen as more fearful ($M = 2.467$) than females ($M = 1.937$), $F(1, 66) = 4.301, p = 0.042$.
- Males were seen as more sad ($M = 3.008$) than females ($M = 1.781$), $F(1,67) = 24.79, p = 0.000$.
- Males were seen as having a worse day ($M = 3.040$) than females ($M = 2.375$), $F(1,67) = 6.902, p = 0.011$.
- Females were perceived as happier ($M = 3.613$) than males ($M = 2.837$), $F(1,66) = 16.55, p = .000$.
- Females were seen as more friendly ($M = 4.031$) than males ($M = 3.504$), $F(1,67) = 6.094, p = 0.016$.
- Females were seen as nicer ($M = 4.125$) than males ($M = 3.508$), $F(1,67) = 11.78, p = 0.001$.
- Males were seen as more worried ($M = 3.5$) than females ($M = 2.38$), $F(1, 67) = 22.69, p = 0.000$.
- Males were seen as more anxious ($M = 3.397$) than females ($M = 2.25$), $F(1,66) = 22.002, p = 0.000$.
- Smiling faces were seen as more sad ($M = 2.67$) than neutral faces ($M = 2.118$), $F(1,67) = 5.041, p = 0.028$

RESULTS Continued

Interactions

- A male who was smiling was perceived as more sad than a male with a neutral expression, while a female with a neutral expression was perceived as more than a female who was smiling, $F(1, 67) = 25.36, p = .000$.
- A male with a neutral expression was seen as happier than a male who was smiling, while a female who was smiling was seen as happier than a female with a neutral expression, $F(1, 66) = 134.03, p = 0.000$.
- A male who was smiling was perceived as having a worse day than a male with a neutral expression, while a female with a neutral expression was perceived as having a worse day than a female who was smiling, $F(1,67) = 38.38, p = .000$.
- A male with a neutral expression was seen as more friendly than a male who was smiling, while a female who was smiling was seen as more friendly than a female with a neutral expression, $F(1,67) = 28.75, p = .000$.
- A male with a neutral expression was seen as nicer than a male who was smiling, while a female who was smiling was seen as nicer than a female with a neutral expression, $F(1,67) = 25.942, p = .000$.
- Males who were smiling were perceived as being more fearful than males with a neutral expression, whereas females with a neutral expression were perceived as more fearful than females who were smiling, $F(1,66) = 5.005, p = .029$.
- Males who were smiling were perceived as being more worried than males with a neutral expression, whereas females with a neutral expression were perceived as more worried than females who were smiling, $F(1,67) = 17.93, p = .000$.
- Males who were smiling were perceived as being more moody than males with a neutral expression, whereas females with a neutral expression were perceived as more moody than females who were smiling, $F(1,67) = 6.201, p = .015$.

CONCLUSIONS

- Within the female stimuli, hypotheses were supported.
 - When the woman was smiling, she was perceived as happier and as having a better day than when she had a neutral expression.
- However, within the male stimuli, hypotheses were not supported.
 - When the man was smiling, he was perceived as sadder than a man with a neutral expression.
 - And overall, the male face was perceived as sadder than the female face.
- Findings are both similar and contrary to previous research. E.g., consistent with Plant et al. (2004) in associating the smiling male face and the neutral female face with negative emotions; however, the smiling male face was perceived as more sad and fearful than angry.

Possible limitations include:

- Stimulus photos were problematic. E.g., the male smiling face and male neutral face did not clearly convey a happy versus neutral emotion. His emotion was difficult to determine by participants.
- Using two different people, although similar in appearance, poses a confound as well.

Suggestions for future research

- Use either composite photos or pre-test the photos to ensure desired emotions are being expressed.

REFERENCES

- Calvo, M. G., & Nummenmaa, L. (2008). Detection of emotional faces: Salient physical features guide effective visual search. *Journal of Experimental Psychology: General*, 137(3), 471-494.
- Hess, U., Adams, R. B., Jr., & Kleck, R. E. (2004). Facial appearance, gender, and emotion expression. *Emotion*, 4(4), 378-388.
- Plant, E. A., Kling, K. C., & Smith, G. L. (2004). The influence of gender and social role on the interpretation of facial expressions. *Sex Roles*, 51, 187-196.
- Zebrowitz, L. A., Kikuchi, M., & Fellous, J. (2010). Facial resemblance to emotions: Group differences, impression effects and race stereotypes. *Journal of Personality and Social Psychology*, 98(2), 175-189.