

Abstract

This study examined how quickly people recognize happy, angry, or neutral emotional expressions on faces that varied in gender presentation and femininity/masculinity of facial features. Facial features influenced judgments of emotion more on women than men. Neutral expressions were more likely seen as angry on a woman's face and happy on a man's face.

Background

The extent to which females and males make, or are believed to make, different expressions has been the topic of much research (e.g., Garrido & Prada, 2017; Plant et al., 2000). Women typically smile more than men (LaFrance, Hecht & Levy., 2003), and men typically express anger more (Fabes & Martin, 1991) than women. Perhaps this pairing of emotion and gender results in **faster cognitive processing for expected emotions**. Studies confirm that we are faster and more accurate at identifying happiness in female faces and that we respond faster and more accurately to anger in male faces (Garrido & Prada, 2017).

Researchers have proposed that the tendency to perceive happiness more quickly in women and anger more quickly in men is based primarily on differences in the physical structure of facial features (Becker, Kenrick, Neuberg, Blackwell & Smith, 2007). This study (see also Palladino, 2019) manipulated both facial features and gender presentation of faces to test how they independently and interactively influenced perceptions of emotion. We predicted that gender presentation would have a greater effect on gender bias than facial features.

What happens when expressions do not match gender norms?

A novel aspect of this study was inclusion of neutral expressions that participants had to judge quickly as either happy or angry. We predicted that a woman with a neutral expression would be seen as angry more than a man – consistent with a **gender bias in the "resting bitch face"** phenomenon that has been discussed in popular media https://en.wikipedia.org/wiki/Resting_bitch_face.

Method & Participants

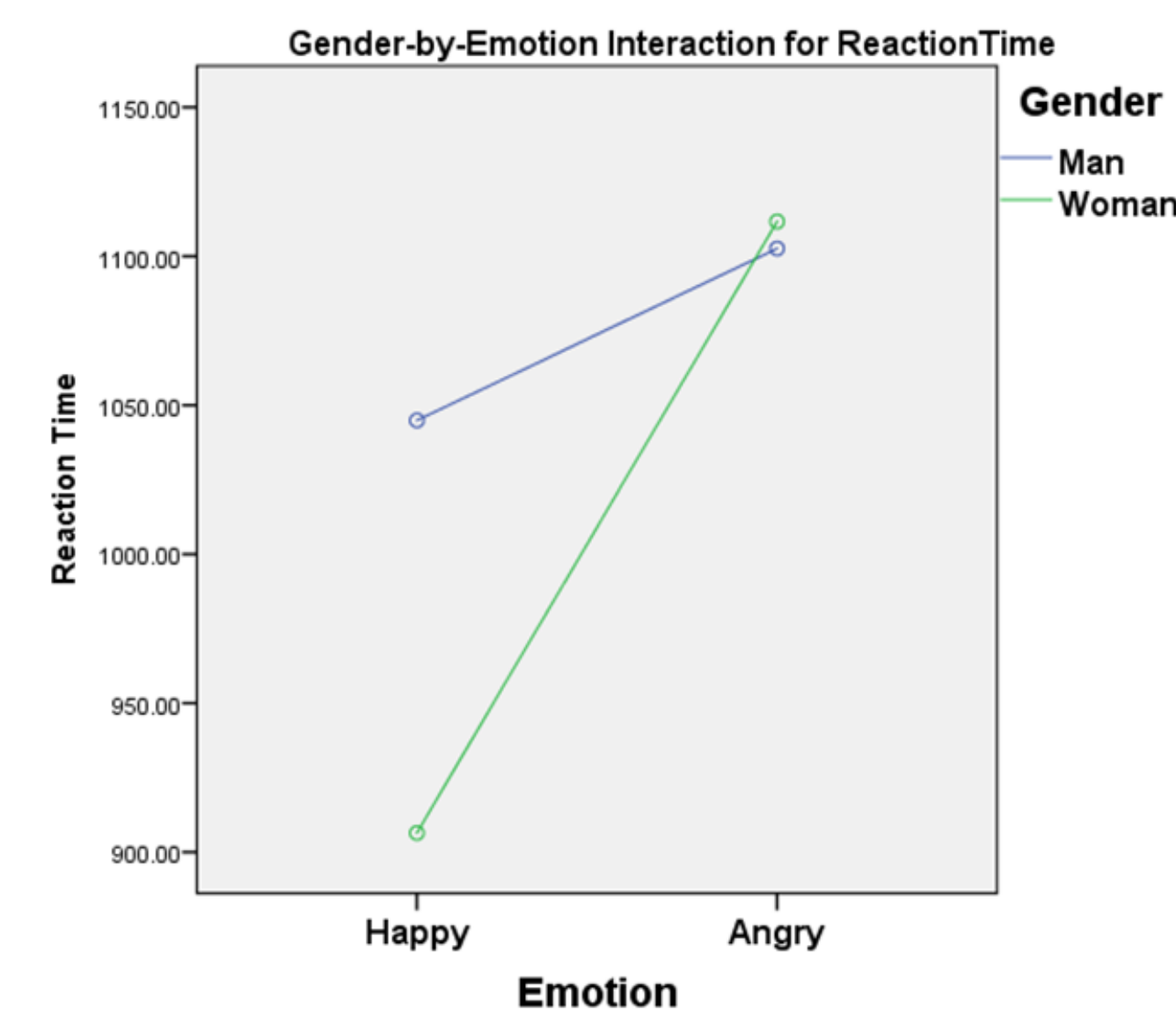
This reaction-time (RT) study was conducted in-person using ePrime software. It was a repeated-measures design with 3 factors: facial features (feminine, masculine), gender presentation (woman, man), and emotional expression (happy, angry, neutral). The same faces were presented once as a woman and once as a man, based on varying hair style and clothing.

Participants (n = 65) were 30 college students and 35 community volunteers. Age ranged from 18 to 65 (M=31); 34 were women and 31 were men. Racial identification was: 49% White, 12% Asian, 9% Latinx, 3% Arab, 2% Black, and 7% mixed/other. Most were born in the USA (83%) and had always lived in USA (77%).

Gender of participant had no significant effects on predicted outcomes thus all analyses here include both men and women.

Results – Effects of Gender Presentation on RT

Hypothesis 1: Happiness will be recognized more quickly on a female face, and anger more quickly on a male face, regardless of the specific facial features. Thus, a gender-by-emotion interaction was predicted.



For faces presented as women, ANOVA indicated a significant interaction between features and emotion $F(1,64) = 14.54, p < .001$ with significantly longer reaction times for feminine features expressing anger than for feminine features expressing happiness $F(1,64) = 7.16, p > .001$. No significant emotion-by-features interaction was found in analyses using only the men's faces.

Results – Effects of Facial Features on RT

Hypothesis 2: Feminine features produce faster responses to happiness and masculine features produce faster responses to anger, regardless of the target's gender presentation.

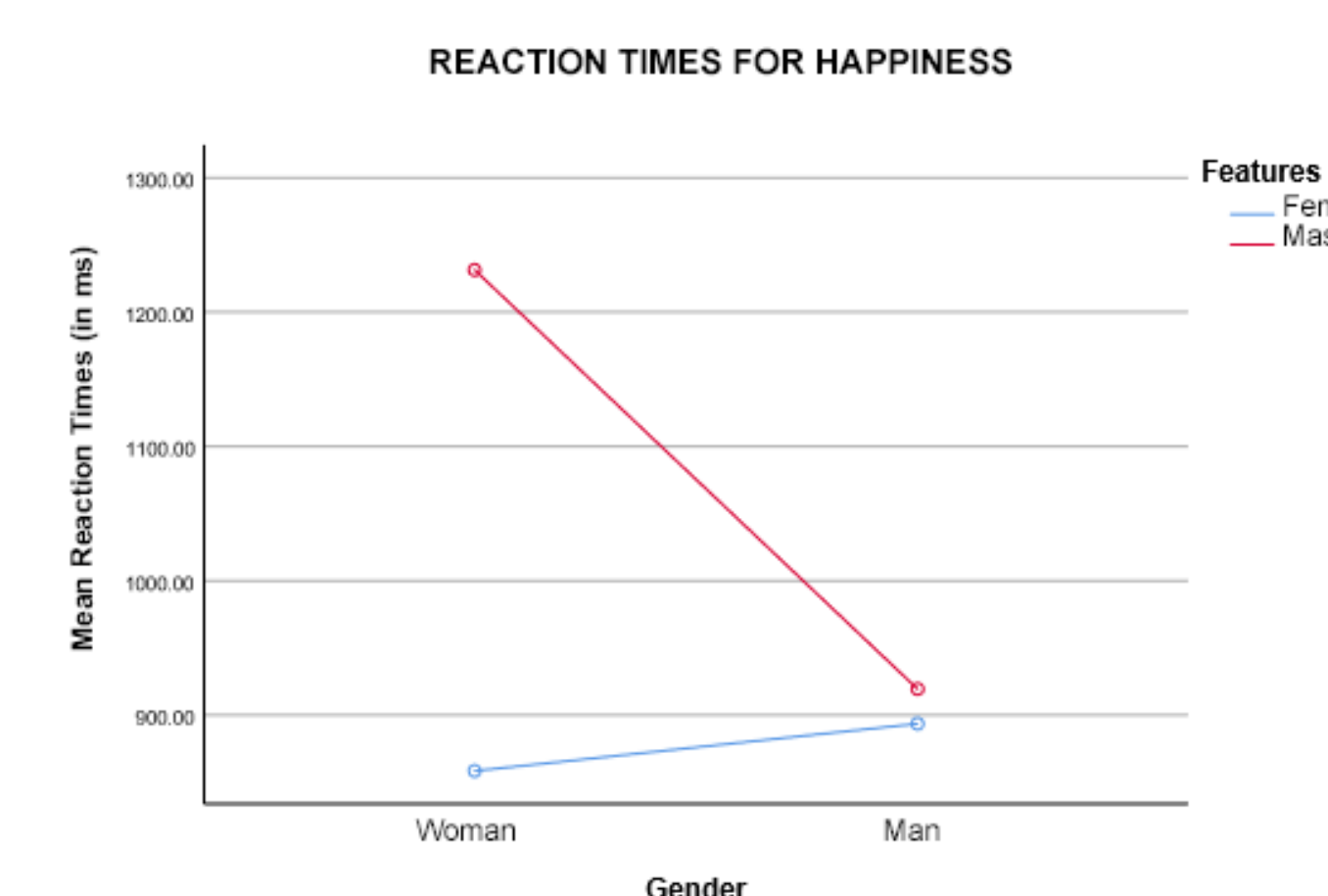


Figure 2. For happiness, effects of features depended on gender [$F(1, 64) = 24.85, p < .001$]. Masculine features on a happy women yielded a significantly longer response time than any of the other three conditions.

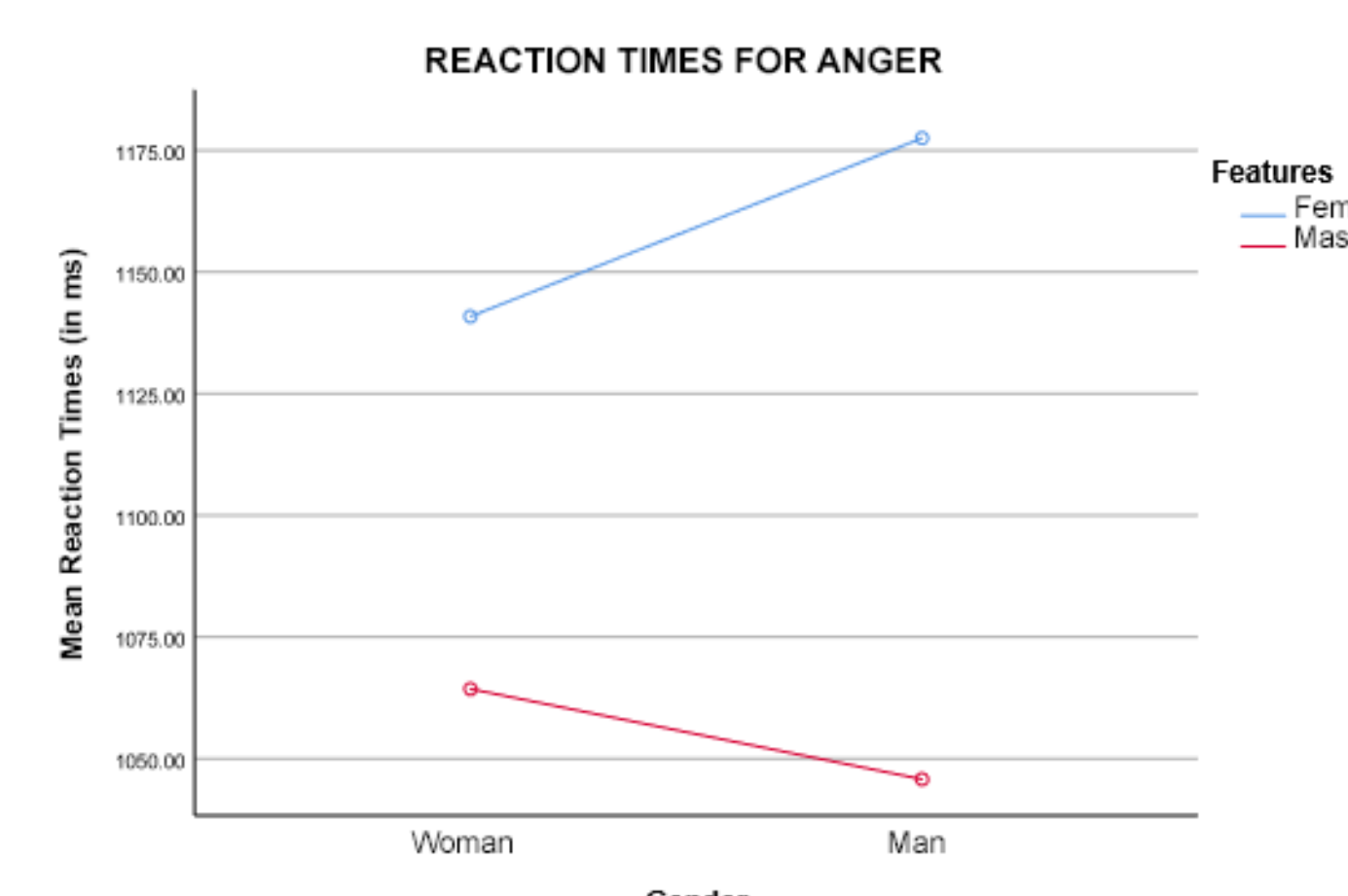


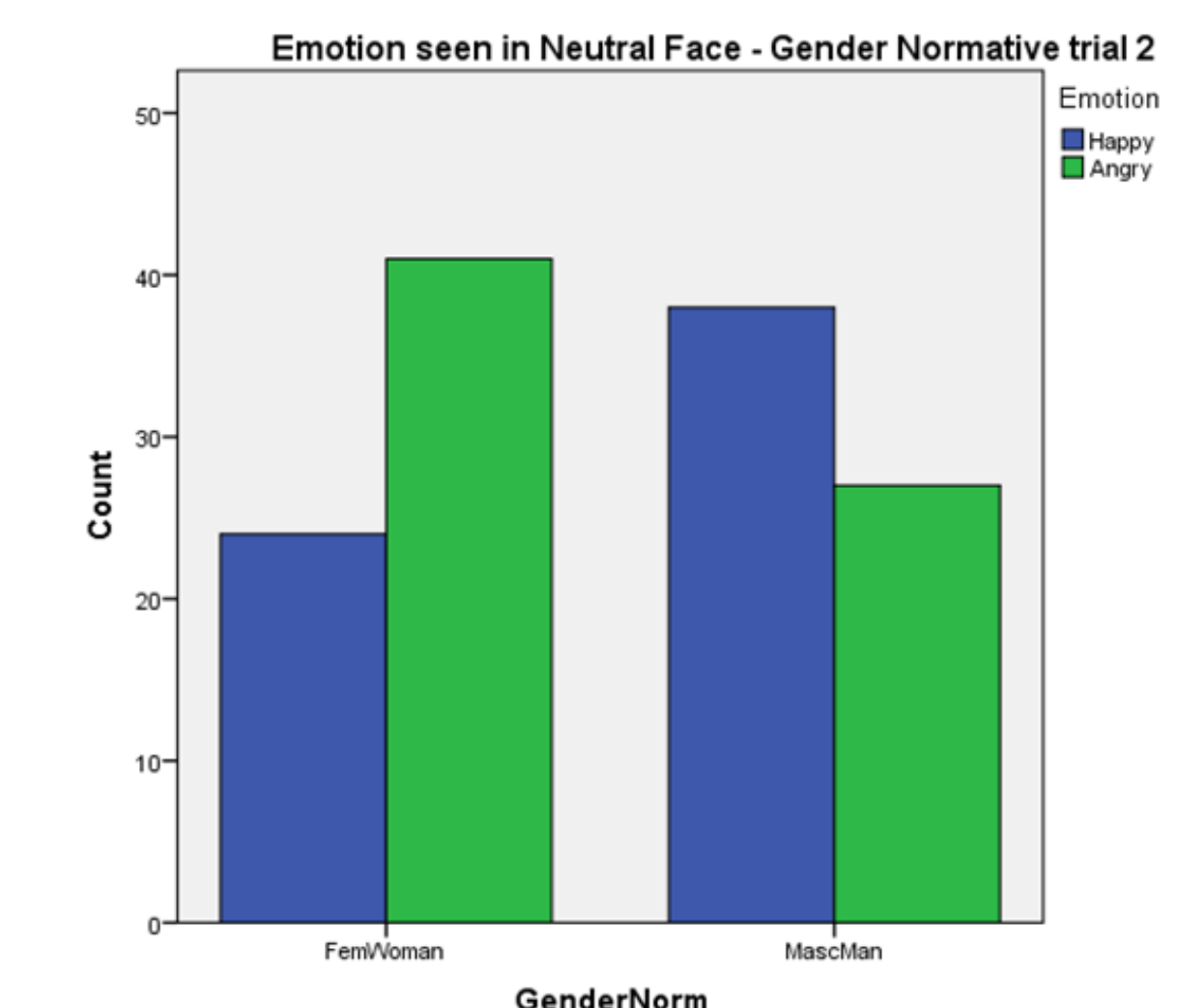
Figure 3. For anger, there was a marginally significant ($p = .08$) tendency for feminine features to yield longer response times to anger (M=1159) than masculine features (M=1055), as predicted.

Results – Neutral Expressions

Hypothesis 3: Neutral expressions will be more likely to be judged as anger in women and as happiness in men.

Overall, including all trials, chi-square tests revealed a significant Gender-by-Emotion difference consistent with predictions when features were feminine $\chi^2 = 5.56, p = .018$, but not when features were masculine $\chi^2 = 0.14, p > .05$.

When comparing gender-normative faces (female face with feminine features vs. male face with masculine features) a significant chi-square for independence was found $\chi^2(1, N = 6.04, p = .014)$. As predicted, feminine women with a neutral expression were more likely to be labelled as angry (63%), compared with masculine men who were most often seen as happy (59%).



Identical Neutral expressions were more likely viewed as angry on a female face and happy on a male face.

Conclusion

Our RT results show that happiness was recognized more quickly than anger on women's faces. However, no significant differences were found between emotions using men's faces. It is not clear whether this is primarily due to facial features or to gender presentation but the unusual combination of a happy women with masculine features took longer to process.

Our forced-choice data using neutral faces provides evidence of a gender double-standard in perceptions that have been termed "resting bitch face". A flat, neutral expression was more likely to be seen as angry on a woman's face, than on a man's face, when the faces were gender normative (features & presentation matched).

We conclude that both findings are driven by gender expectations that women should be happy and smile more than men, who are expected to be angry more often than women. Thus, participants reacted more quickly to expressions consistent with gender norms. But when a woman's expression was neutral, this deviation from expectations may explain why she was viewed more negatively.

Key References

- Becker, D. V., Kenrick, D. T., Neuberg, S. L., Blackwell, K. C., & Smith, D. M. (2007). The confounded nature of angry men and happy women. *Journal Of Personality And Social Psychology*, 92(2), 179-190.
- Palladino, L. (2019, August). Judging Facial Expressions of Emotion: Effects of Gender. Master's thesis, Hunter College. CUNY Academic Works. https://academicworks.cuny.edu/hc_sas_etds/515