

**Is Gender Role Endorsement Related to Preference for Dimorphic versus Androgynous Facial
Features?**

Raeana Mayo¹, Hannah Sanchez, and Rocky Ybarra

Angelo State University

¹Corresponding author
Email: rmayo1@angelo.edu

Abstract

Femininity and masculinity are regularly perceived as two ends of one bipolar spectrum. This unidimensional understanding suggests, especially in the realm of evolutionary work, that sexually dimorphic facial features correspond directly with subjective ratings of femininity and masculinity, which in turn predict perceptions of traits such as attractiveness. For instance, research participants prefer dimorphic features over androgynous features for both sexes (Yang et al., 2015). In the current correlational study, participants responded to a traditional gender role endorsement scale (Bem, 1974, and Rosenfeld & Tomiyama, 2021) and rated male and female faces (DeBruine et al., 2009, and Yang et al., 2015) according to their level of attractiveness. The first picture in each set displayed the most dimorphic features, where the woman had very feminine features and the man had very masculine features. As the pictures continued, they became increasingly more androgynous; the woman's face displaying more masculine features, and the man's face displaying more effeminate features. We predicted that endorsement of traditional gender roles would be associated with preference for more traditionally feminine and masculine facial features when the target photos depicted women and men, respectively. Results of a correlation analysis supported our hypothesis: Gender role endorsement was positively associated with preference for dimorphic features. The stronger someone endorses traditional gender roles/stereotypes, the more inclined they will be to deem dimorphic features more attractive than androgynous features. Future research should aim to add more racial variability and a higher amount of faces to choose from to address if traditional gender role endorsement beliefs also affect the attraction to certain ethnicities.

Keywords: femininity, masculinity, gender, dimorphic, androgynous, attraction, stereotype

Is Gender Role Endorsement Related to Preference for Dimorphic versus Androgynous Facial Features?

Femininity and masculinity are distinct dimensions in personal perception and preference, but does our overall view of gender-typed roles in society dictate which we find most attractive? The purpose of our research was to empirically answer this question. In our current society, traditional gender roles and stereotypes are slowly being drowned out while gender equality is encouraged and praised. Based on this transformational change in society, we tested a hypothesized correlation between traditional gender role endorsement and ratings of physical attractiveness to sexually dimorphic facial features. *Dimorphic* features refer to those typically associated with masculinity (e.g., a wide jaw, heavy brow line, squared-off hairline) or femininity (e.g., a narrow face, large eyes, a rounded forehead; e.g., Gilani et al., 2015; Hughes & Bremme, 2011; Whitehouse et al., 2015). In contrast, *androgynous* features appear neither masculine more feminine, and thus more gender-neutral (e.g., Baudouin & Tiberghien, 2002).

We conducted our research using a traditional gender role endorsement questionnaire (Bem, 1974; Rosenfeld & Tomiyama, 2021) to measure the endorsement of traditional gender roles of each participant. Participants then selected the picture they deemed to be the most attractive out of each gender's picture set. Our research attempted to establish a positive association between traditional gender role endorsement and attraction to dimorphic features. We predicted that participants who strongly endorse traditional gender roles will deem the male face with the most masculine characteristics and the female face with the most feminine features to be the most attractive.

Gender Role Endorsements

Traditional gender role endorsement refers to the extent to which people believe women and men should act in accordance with expectations based on gender (e.g., men should be assertive, women should be sensitive; Bem, 1974). Bem (1974) examined the measures of psychological androgyny,

masculinity, and femininity. Her study examined perceptions of feminine, masculine, and androgynous behaviors using the Bem Sex-Role Inventory (BSRI), which contains masculine, feminine, and neutral descriptions of behaviors. She found that: (1) The dimensions of masculinity and femininity are empirically and logically independent. (2) The concept of psychological androgyny is a reliable one. However, this research did not examine how perceptions of masculine, feminine, and androgynous behaviors might affect other variables such as ratings of physical attractiveness. We used seven questions adapted from the BSRI as a basis for our traditional gender role endorsement questionnaire.

Research related to traditional gender role endorsement remains prevalent. A more recent study examining differences in traditional gender role endorsements before and during the COVID-19 pandemic found that participants endorsed traditional gender roles more strongly during the first COVID-19 lockdown than after it (Rosenfeld & Tomiyama, 2021). Our study adapted traditional gender role endorsement questions using Rosenfeld and Tomiyama's (2021) study as a guide. We used these questions to measure endorsement of traditional gender roles.

Attraction to Feminine and Masculine Facial Characteristics

People usually find sexually dimorphic facial features more attractive than androgynous features, with notable exceptions (Hoss et al., 2005; Thornhill & Gangestad, 1999). Yang and colleagues (2015) showed two sets of faces to participants: four male faces and four female faces. The first two pictures in each set possessed dimorphic features; the second two faces possessed androgynous features. Participants indicated which face they found most attractive out of each gender set's four pictures. Overall, participants rated feminine female faces and masculine male faces as most attractive. This pattern indicated that, overall, androgynous faces appear less attractive compared to dimorphic faces. Related research explored participants' preferences for dimorphic features and the overall appearance of health in the faces (DeBruine et al., 2008). Participants were attracted to both healthy and unhealthy, masculine male faces and both healthy and unhealthy, feminine female faces over

healthy and unhealthy androgynous faces. We aimed to extend these findings to determine whether traditional gender role endorsement is associated with preference for facial

Method

Our study utilized a correlational design to measure the relationship between traditional gender role endorsement and attraction to faces that contained dimorphic features versus androgynous features. We hypothesized a positive linear association between these variables such that higher traditional gender role endorsement would be associated with greater attraction to dimorphic features.

Participants

We recruited a convenience sample of Angelo State University student participants ($N = 110$). The research design did not necessitate criteria for participant inclusion or exclusion.

Materials and Procedure

Participants voluntarily enrolled in the online study, which was advertised on the SONA system at a mid-sized southwestern university. Each participant completed the study online in their preferred location. After enrolling in the study in exchange for research credit, participants indicated their informed consent to continue and proceeded through the survey in the order described below. Upon completion of the study, participants returned to the SONA website and applied their research credit to the course of their choosing.

Demographics

After enrolling and agreeing to the informed consent to participate, participants indicated their age, gender, and sexual orientation. Responses for the gender item included *male*, *female*, and *other*. Participants who selected *other* could specify their gender in an open text box. The sexual orientation item (Kinsey et al., 1948) asked participants to indicate their sexual orientation on a scale of 1 (*exclusively heterosexual*) to 7 (*exclusively homosexual*). The religiosity item asked participants to indicate their religiosity on a scale of 1 (*very religious*) to 7 (*not religious at all*).

Measure of Gender Role Endorsement

After the demographics, participants responded to a traditional gender role endorsement scale adapted from prior research (Bem, 1974; Rosenfeld & Tomiyama, 2021). The scale displayed a set of 7 items regarding traditional gender roles for men and women. Items on the questionnaire included questions such as “Compared to men, women are more *sensitive/sympathetic/soft-spoken*” and “Compared to women, men are more *assertive/courageous/self-reliant*.” Participants responded to each item on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*). We combined these items into one composite score of gender role endorsement. The measure was highly reliable (Cronbach’s $\alpha = 0.88$).

Measure of Attraction to Facial Features

Participants then rated the physical attractiveness of faces adapted from DeBruine and colleagues (2009). The measure consisted of two sets of four faces, one set depicting men and one set depicting women (see Appendix). In both photo sets, the left-most photo was most dimorphic; the rightmost photo was most androgenous. Thus, the scale presented a continuum displaying a dimorphic face gradually transitioning to an androgynous face. Participants then indicated which face they found the most attractive by selecting one of the four faces. The set of faces shown first was randomized: half of the participants rated the women’s faces first; half rated the men’s faces first. We combined scores of attractiveness for the male and female faces into one composite score, but this measure was not reliable (Cronbach’s $\alpha = 0.222$). Perhaps dimorphic features are more strongly associated with attractiveness for female versus male faces (Hoss et al., 2005; Thornhill & Gangestad, 1999).

Results

After examining descriptive statistics, we used a Pearson’s r test and regression analyses to examine associations between traditional gender role endorsement and attraction to dimorphic facial features.

Participant Demographics

The mean age of our sample was 20.1 years ($SD = 2.55$ years). Our sample consisted of 78 women (71%), 30 men (27%), and 2 participants who chose “other” requiring them to type their gender (2%). Data from our sexual orientation measure revealed that most participants identified as “exclusively heterosexual” ($n = 82$; 74%) followed by “predominantly heterosexual, only incidentally homosexual” ($n = 14$; 13%), “Equally heterosexual and homosexual” ($n = 8$; 7%), “Predominantly heterosexual, but more than incidentally homosexual” ($n = 5$; 5%), “Predominantly heterosexual, but more than incidentally homosexual” ($n = 1$, 1%), with “Predominantly homosexual, but only incidentally heterosexual” and “Exclusively homosexual” cultivating zero responses.

Facial Attractiveness

Participants reported high attraction to dimorphic features of females ($M = 1.05$, $SD = 0.21$) and males ($M = 1.45$, $SD = 0.69$) contributing to a combined mean of 1.25 ($SD = 0.35$) on the facial attractiveness scale. Lower scores indicated that participants found the dimorphic face more attractive, as the most dimorphic face was scored as “1” and the most androgenous face was scored as “4.” Thus, participants generally tended to prefer more dimorphic versus androgynous faces.

Gender Endorsement

Participants generally endorsed both female ($M = 5.17$, $SD = 1.12$) and male ($M = 4.46$, $SD = 1.19$) gender roles, contributing to a combined mean of ($M = 5.16$, $SD = 1.10$) on the traditional gender endorsement scale.

Hypothesis Test

We predicted a positive correlation between traditional gender role endorsement and attraction to dimorphic features. A Pearson's r test examining the association between traditional gender role endorsement and attraction to dimorphic features supported this hypothesis ($r(108) = -0.19$, $p = 0.04$). Greater endorsement of traditional gender roles was associated with preference for more dimorphic facial features on both women and men.

Post-hoc Power Analysis

Although we found the hypothesized effect, we did not achieve our intended statistical power of .80 to detect an effect. Given an error probability of $p = .05$, our sample size of $N = 110$, and our Pearson's r of -0.19 , we achieved statistical power of .65 to detect an effect. Future research investigating correlations between similar variables should aim to recruit a larger sample size to increase statistical power from .65 to .80.

Discussion

Considering the general notion that faces exhibiting clear, traditionally gendered features that align with their sex are considered more attractive than faces exhibiting androgynous features (DeBruine et al., 2009; Yang et al., 2015), we designed this study with the goal of exploring the nuance in attraction to faces which are androgynous over faces with primarily dimorphic features. As suggested by the results of our primary analysis, a positive correlation exists between how strongly an individual endorses gender roles and how attracted they are to sexually dimorphic faces. Perhaps a third variable influences both attraction and gender role endorsement. Further research should replicate and extend these findings by investigating potentially causal relationships between similar variables.

The present findings can help researchers identify factors that influence preferences for facial features in terms of attraction. These findings should encourage further exploration of the extent of the effect of gender roles on attraction to facial preferences. Our findings provide an advance to the field of psychology by providing a small puzzle piece to the overall puzzle of what dictates our perception of attraction to others. This study illustrated how traditional gender role endorsements relate to attraction. We all analyze others' attractiveness, especially when considering prospective mates. It appears that beliefs regarding gender roles are associated with perceptions of physical attractiveness. Those perceptions of attractiveness might affect friendship and dating behavior; thus, gender role

endorsement might influence meaningful outcomes for social interaction. This study was correlational in nature; future research should further investigate a potential causal link between these variables.

There has been prior research conducted which investigates the interplay between social norms and attraction and how this connection can influence behavior (Andersen & Bem, 1981). This study attempted to capture the degree to which participants endorse social norms, whereas the previous study assumes degree of endorsement, and this study relates endorsement of social norms to, not necessarily a behavior, but a more unconscious preference or desire. Given that an observed correlation between traditional gender role endorsement and attraction to dimorphic features, questions arise regarding the degree to which this relationship is causal. If further research does suggest causality, then an implication may be that attraction can be manipulated by ideological beliefs. The present study corroborated the findings of previous research which found that more dimorphic faces are broadly considered more attractive than androgynous faces (DeBruine et al., 2009; Yang et al., 2015). The participants of our study also broadly endorsed gender roles to a relatively strong degree, which may explain the strong attraction to dimorphic faces.

Theorizing implications of a significant correlation between gender endorsement and attraction to androgynous features is difficult without knowing whether this relationship could be causal. Causality could insinuate that attraction is strongly driven by social factors rather than biological dispositions. On the other hand, this correlation being primarily informed by a third variable suggests that attraction and ideology spawn from a similar unknown source such as genetic predisposition, values instilled during upbringing, or a variety of interacting factors. Outside of a research environment, this finding ultimately underscores the phenomenon that androgyny in appearance is not necessarily revered as a beauty ideal. Although how strongly an individual endorses gender roles is related to their attraction for androgynous features, our results still displayed that, regarding attractiveness, college students overwhelmingly preferred more dimorphic faces to androgynous faces. This pattern may place naturally or willfully

androgynous-presenting people at odds with general beauty standards. Such an outcome might result in a more negative self-image or difficulty in pursuing friendships and romantic relationships.

Future Directions and Limitations

Future research should consider more intently analyzing the relationship between gender role endorsement and attraction to sexual dimorphism versus androgyny. Such research could consist of relating aesthetic facial preferences to another ideological or social construct or seeking to reveal the degree to which this relationship is causal. One of the limitations of this study was that the eight faces used in the social desirability scale were created with the primary intent to analyze the relationship between apparent health and attraction (DeBruine et al., 2009), so they may not accurately reflect a continuum of faces varying from traditionally dimorphic to androgynous. The sets of faces used were not noted as being controlled for attractiveness, so they may vary in how objectively attractive they are considered, which would reduce the validity of our study. Future research should address this issue by utilizing or creating images that do reflect an accurate continuum of attractiveness and are controlled for objective attractiveness (e.g., the Chicago Face Database; Ma et al., 2015). Another limitation was that there was a limited range of responses from participants in the female facial attractiveness evaluations, as only five participants selected a face other than 'A,' which may have made our analyses less accurate than they could have been. Future research should seek to use a larger sample or utilize a redesigned set of faces to ensure a greater range of responses. Future research should also aim to add more racial variability and a higher amount of faces to choose from to address if traditional gender role endorsement beliefs also affect the attraction to certain ethnicities.

Conclusion

The extent to which androgyny is conflated with a departure from attractiveness has been addressed by numerous past studies. Our results corroborated what prior research has suggested, such as the idea that, generally, dimorphic faces are considered more attractive than androgynous faces

(DeBruine et al., 2009; Yang et al., 2015). According to our results, a relationship exists between gender role endorsement and attraction to androgyny. This finding should encourage future research to examine this relationship more closely as it suggests broader implications for general attraction and calls into question the potential influence of societal norms and ideological beliefs on attraction.

References

- Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*(2), 155–162. <https://doi-org.easydb.angelo.edu/10.1037/h0036215>
- Baudouin, J. Y., & Tiberghien, G. (2002). Gender is a dimension of face recognition. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 28*(2), 362–365. <https://doi.org/10.1037/0278-7393.28.2.362>
- DeBruine, L. M., Jones, B. C., Little, A. C., & Smith, F. G. (2009). Interactions between masculinity and femininity and apparent health in face preferences. *Behavioral Ecology, 20*(2), 441–445. <https://doi-org.easydb.angelo.edu/10.1093/beheco/arn141>
- Hoss, R. A., Ramsey, J. L., Griffin, A. M., & Langlois, J. H. (2005). The role of facial attractiveness and facial masculinity/femininity in sex classification of faces. *Perception, 34*(12), 1459-1474. <https://doi.org/10.1068/p5154>
- Hughes, S. M., & Bremme, R. (2011). The effects of facial symmetry and sexually-dimorphic facial proportions on assessments of sexual orientation. *Journal of Social, Evolutionary, and Cultural Psychology, 5*(4), 214-230. <http://dx.doi.org/10.1037/h0099261>
- Kinsey, A. C., Pomeroy, W. B., & Martin, C. E. (1948). *Sexual behavior in the human male*. W. B. Saunders.
- Ma, D. S., Correll, J., & Wittenbrink, B. (2015). The Chicago face database: A free stimulus set of faces and norming data. *Behavior Research Methods, 47*(4), 1122-1135.
- Rosenfeld, D. L., & Tomiyama, A. J. (2021). Can a pandemic make people more socially conservative? Political ideology, gender roles, and the case of COVID-19. *Journal of Applied Social Psychology, 51*(4), 425–433. <https://doi-org.easydb.angelo.edu/10.1111/jasp.12745>
- Thornhill, R., & Gangestad, S. W. (1999). Facial attractiveness. *Trends in Cognitive Sciences, 3*(12), 452-460. [https://doi.org/10.1016/S1364-6613\(99\)01403-5](https://doi.org/10.1016/S1364-6613(99)01403-5)

Whitehouse, A. J., Gilani, S. Z., Shafait, F., Mian, A., Tan, D. W., Maybery, M. T., Keelan, J. A., Hart, R.,

Handelsman, D. J., Goonawardene, M., & Eastwood, P. (2015). Prenatal testosterone exposure is related to sexually dimorphic facial morphology in adulthood. *Biological Sciences*, 282, 1-9.

<http://dx.doi.org/10.1098/rspb.2015.1351>

Yang, T., Chen, H., Hu, Y., Zheng, Y., & Wang, W. (2015). Preferences for sexual dimorphism on

attractiveness levels: An eye-tracking study. *Personality and Individual Differences*, 77, 179–185.

<https://doi-org.easydb.angelo.edu/10.1016/j.paid.2014.12.005>

Appendix

We used these photos to measure participants' preferences in facial features (DeBruine et al., 2009). In both photo sets, the leftmost photo was most dimorphic; the rightmost photo was most androgynous. Thus, the scale presented a continuum displaying a dimorphic face gradually transitioning to an androgynous face. Participants then indicated which face they found the most attractive by selecting one of the four male faces and one of the four female faces.

