

Criminal Perceptions:
The Effects of Facial Features and Attractiveness on Criminality

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Abstract

The current experimental study examined the influences of suspect facial attractiveness and masculinity/femininity on participants' ratings of criminal propensity. Facial features might affect decisions to choose a particular suspect from a lineup, to feel sympathy for a person who commits crime, or to provide a lenient prison sentence. Masculine and feminine facial features are one way that can help determine why these biases happen; attractiveness is another. More masculine facial features tend to be associated with untrustworthiness, criminality, and being cold, whereas more feminine faces are described as more trustworthy, innocent, and warm (Paunonen et al., 1999). The current study examined the relationship between masculine and feminine facial features and criminal perception with attractiveness as the mediating variable. Findings did not reveal a significant mediation effect. However, participants demonstrated a gender bias such that compared to female suspects, male suspects received higher ratings of violent crime (the effect of suspect gender was nonsignificant on non-violent crime). Future research should replicate this study using (1) more attractive faces to remedy the observed floor effect on this variable and (2) a wider variety of criminal acts.

Keywords: attractiveness, masculinity, femininity, violent crimes, nonviolent crimes, criminal perception

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Individuals were astounded that Ted Bundy committed the heinous crimes he was accused of, but the BTK Killer, Dennis Rader, did not evoke the same effect. Most criminals are ordinary people, and look just like your neighbor, mailman or pizza delivery man. When looking at a criminal's face, people can tell the differences between them and those who are criminals (Johnson et al., 2018). Little research has examined how criminals' facial features effect perceptions. Humans form their own impressions about another within the first few moments of meeting someone. An individual's face is the groundwork to someone's impression of them and their behavior and personality help solidify that impression. Being able to tell the likelihood of someone committing a crime just by their face can help the criminal justice system be careful about biases they might hold. The purpose of this study was to determine if masculine or feminine facial features and attractiveness effect criminal perception.

Facial Features

Facial features are a determining factor on whether someone looks trustworthy or not. There has been past research done examining participants making inferences about someone's personality solely based on their appearance. Facial features are the key component to someone's appearance. People tend to treat others based on their first impressions of another. In one study (Paunonen et al., 1999), researchers identified facial features that correlated with specific personality traits. People with larger eyes gave off the impressions of being friendly, honest, likeable, and nurturing, whereas smaller eyes gave off the exact opposite (Paunonen et al., 1999). Participants in this study also stated that with the smaller eyes, they gave off a feeling of masculinity, being harsh and cold, whereas the more feminine faces radiated warmth (Paunonen et al., 1999). A similar study examined the link between trustworthiness and facial features (Todorov et al., 2008). Low inner eyebrows, shallow cheekbones, and thin chins were features of an untrustworthy face. Johnson et al. (2018) concluded that we can

determine if an individual is a criminal or not based on facial features alone. These studies connected facial features to certain personality traits and behavior. Thus, it can be inferred that it is likely that people will be able to apply the same principles of facial features to criminal perception.

Attractiveness

Attractiveness plays a part in the perception of a criminal. Ted Bundy had fan clubs because he was ruggedly handsome, but the Dennis Rader, the BTK killer had no women fawning over him. How attractive an individual perceives someone to be can help solidify their impression of them as a criminal or not. Funk and Todorov (2013) found that attractive, baby-faced criminals were all believed to have the right to a fair trial whereas, criminals who are unattractive and have characteristics such as face tattoos should already be in jail (Funk & Todorov, 2013). The study also stated that jurors were more likely to be lenient with the attractive criminals and not to their unattractive counterparts. These findings demonstrated that physical attractiveness can benefit defendants during trial. Beaver and colleagues (2019) supported this assertion, demonstrating that participants perceived attractive people to be more intelligent and competent and less likely to commit crime. These studies show that physical attractiveness plays a part in the criminal justice system and shows that more attractive individuals will be less likely to be perceived as a criminal than their less attractive counterparts.

Gender Differences in Crime

Male criminals are more likely to commit violent offenses whereas female criminals are more likely to commit nonviolent offenses. Harrison and colleagues (2019) found that male killers are more likely to kill for the sexual gratification that they get from the crime and are more likely to commit physical acts of torture. Female killers are more likely to kill quietly, and people tend to disbelieve that women could commit violent crimes such as murder or arson (Harrison et al., 2019). It has also been shown that female offenders are motivated by financial gain (Harrison et al., 2014). These studies have shown that there are gender stereotypes in the types of crime committed. We predicted that our

participants would be more likely to associate a male suspect with violent crimes, such as murder, compared to a female suspect.

Violent vs Nonviolent Crimes

Previous research examining false confessions showed that there is a difference between falsely confessing to a violent or nonviolent crime (Cutler et al., 2013). Suspects were more likely to falsely confess to a nonviolent crime than they are the violent crime. This difference persists in the context of expert testimony on eyewitness identification: Expert testimony has a greater effect on legal decisions about violent versus non-violent crimes (Loftus, 1980). Given that legal decision-makers perceive violent and non-violent crimes differently, we examined participants' ratings of both types of crime to test for associations between crime type, suspect attractiveness, and suspect masculinity/femininity.

Previous research has been done on the overall facial features that people deem criminal. However, there is little to no research on the comparison of masculine or feminine facial features to violent or nonviolent crimes. While people can pick a criminal out of a line up based on facial features, there has been no research to determine if they could pick if the criminal committed murder or petty theft. The current study addressed this gap in the research literature.

Method

This study utilized a 2 (suspect gender: man vs. woman) x 2 (suspect facial features: masculine vs. feminine) between-participants design to measure the relationships between masculine and feminine facial features, attractiveness, and criminal perception. We hypothesized that masculine faces would be associated with violent crime and feminine faces with nonviolent crimes. We also hypothesized that this relationship would be explained by suspect attractiveness such that more masculine faces would be rated as less attractive, and lower attractiveness would predict greater perceived likelihood of committing violent crimes.

Participants

A sample size calculation demonstrated that 88 participants were necessary to test the current hypotheses given a small-to-medium anticipated effect size of $f^2 = 0.15$, an error probability of $\alpha = .05$, and desired power to detect an effect of 0.90. We recruited a convenience sample of 105 university student participants. This research design did not necessitate criteria for participant inclusion or exclusion. The mean age of the participants was 19.7 ($SD = 3.29$). Females made up 74% of the participants, males made 23% and nonbinary participants made up less than 1%. Forty-five participants identified as White, 45 as Hispanic or Latino, 10 as Black or African American, 6 as Asian, 1 as American Indian or Alaskan Native, and 1 as “other.”

Materials and Procedure

Participants voluntarily enrolled in the online study, which was advertised on the SONA system. Each participant completed the study online in their preferred location and at a time that was convenient to them. After enrolling in the study in exchange for 0.5 research credits, participants indicated their informed consent and commitment and proceeded through the survey in the order described below. Upon completion of the study, participants were redirected to the SONA website to receive their research credit.

Measure of Masculine and Feminine Features

After the consent and commitment, participants were randomly assigned to one of four faces. Fifty-three participants were randomly assigned to view a masculine face, and 52 participants were randomly assigned to view a feminine face. These faces came from the Chicago Face Database (Ma et al., 2015) and appear in the Appendix (Figures 1-4). They were asked to rate the face on how masculine or feminine they perceive the face to be. The scale was displayed as a 7-point scale with 1 being most feminine to 7 being the most masculine. With the four faces, the mean for this scale was 4.32 ($SD = 1.70$).

Measure of Attractiveness

Participants rated the attractiveness of the face they received. This measure used the face condition that they were assigned at the beginning of the survey. We used a 7-point scale with 1 being not at all attractive and 7 being very attractive. The mean of this scale was 2.65 ($SD = 1.56$), so overall participants did not find any of these faces to be very attractive.

Violent and Nonviolent Crime Scale

The participants were asked to rate how likely the face would be to commit three violent crimes and three nonviolent crimes. The three violent crimes used were murder, arson, and sexual assault; the three non-violent crimes used were petty theft, embezzlement, and drug use. This scale was a 7-point scale with 1 being not at all likely to 7 being very likely. The mean for the violent crimes was 2.91, meaning that participants did not think that any of these faces would be likely to commit violent crimes. The mean for the nonviolent crimes was 3.73 ($SD = 1.23$). This shows that participants rated the faces more likely to commit the nonviolent crimes.

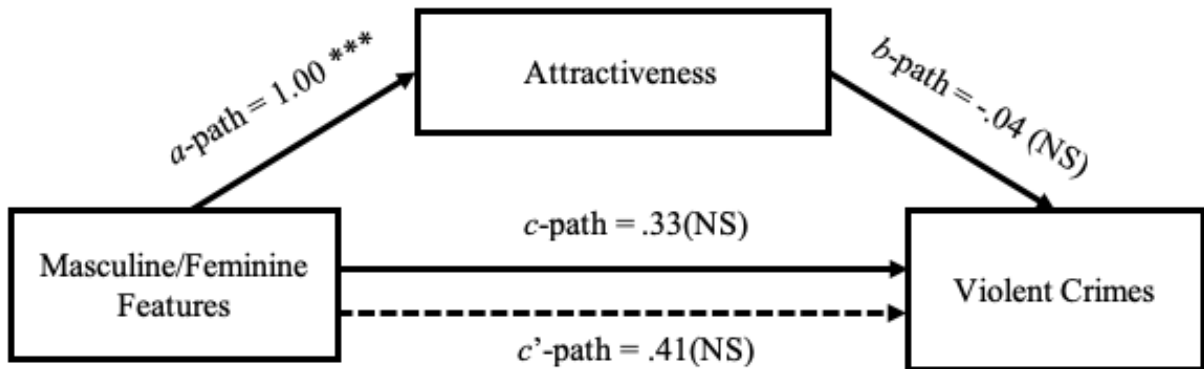
Demographics

Lastly after answering all the scales above, participants indicated their gender, age, ethnicity, and class ranking. Responses for the gender item included *male*, *female*, and *nonbinary*. They were then asked to input their age in number only. Responses for the ethnicity item included *American Indian or Alaskan Native*, *Asian*, *Black or African American*, *Hispanic or Latino/a*, *Native Hawaiian or Other Pacific Islander*, *White or Other*. Participants who selected other could specify their race in an open text box. The class rank item included *1st year/freshman*, *2nd year/sophomore*, *3rd year/junior*, *4th year/senior*, *5th year or beyond/super senior*, *graduate student*, and *other*. Participants who selected other could specify their class ranking in an open text box.

Results

The Baron and Kenny (1986) mediation approach was used to test these four regression models. See Figure 5 for the mediation model.

Figure 5. Mediation Model depicting the association between masculine/feminine facial features and violent crime ratings mediated by ratings of facial attractiveness.



Hypothesis 1

Results of model 1 did not support the first hypothesis that masculine or feminine facial features would predict violent crime (c-path). Going from feminine features (coded as 1) to masculine features

C-Path

Model Coefficients - ViolentScale (DV)

Predictor	Estimate	SE	t	p
Intercept *	2.748	0.193	14.23	< .001
MasFemCond:				
2 - 1	0.328	0.274	1.20	0.234

(coded as 2) was associated with a 0.328-unit increase in violent crimes ($b = 0.328, p > .05$).

Hypothesis 2

Results of model 2 supported the second hypothesis that masculine or feminine facial features would predict attractiveness (a-path). Going from feminine features (coded as 1) to masculine features (coded as 2) was associated with a 1.00 -unit increase in attractiveness ($b = 1.00, p < .001$).

A-Path

Model Coefficients - Attractiveness (M)

Predictor	Estimate	SE	t	p
Intercept *	2.15	0.203	10.58	< .001
MasFemCond:				
2 - 1	1.00	0.289	3.47	< .001

Hypothesis 3

Results of model 3 did not support the third hypothesis that attractiveness would predict violent crime (b-path). Going from not at all attractive (coded as 1) to very attractive (coded as 2) was associated with a -.04 -unit decrease in violent crimes ($b = -0.04, p > .05$)

B-Path
Model Coefficients - ViolentScale (DV)

Predictor	Estimate	SE	t	p
Intercept	3.0192	0.2734	11.045	< .001
Attractiveness (M)	-0.0408	0.0891	-0.458	0.648

Hypothesis 4

Results of model 4 did not support the fourth hypothesis that attractiveness would explain the relationship between masculine or feminine facial features and violent crimes. The effect of facial features on violent crimes was still significant when controlling for attractiveness ($p > .05$), providing evidence that attractiveness did not mediate the relationship between facial features and violent crimes. Together, masculine, and feminine facial features and attractiveness explained 2% of the variance in violent crimes.

C'-Path
Model Coefficients - ViolentScale (DV)

Predictor	Estimate	SE	t	p
Intercept *	2.9290	0.2793	10.486	< .001
Attractiveness (M)	-0.0840	0.0937	-0.896	0.372
MasFemCond:				
2 - 1	0.4127	0.2904	1.421	0.158

* Represents reference level

Supplemental analyses

While masculine or feminine facial features did not affect the violent crime outcome, gender did. Results of model 5 did support the supplementary hypothesis that gender would predict violent crimes. Going from female (coded as 1) to male (coded as 2) was associated with a -1.31 -unit decrease in violent crimes ($b = -1.31, p < .001$). Results supported the idea that gender did not predict nonviolent

crimes. Going from female (coded as 1) to male (coded as 2) was a -.03 unit decrease in nonviolent crimes ($b = -0.03, p > .05$).

Model Coefficients - ViolentScale (DV)

Predictor	Estimate	SE	t	p
Intercept *	3.56	0.172	20.70	<.001
GenderCond:				
2 - 1	-1.31	0.244	-5.36	<.001

* Represents reference level

Model Coefficients - NonViolentScale

Predictor	Estimate	SE	t	p
Intercept *	3.7484	0.170	22.034	<.001
GenderCond:				
2 - 1	-0.0369	0.242	-0.153	0.879

* Represents reference level

Discussion

The purpose of this study was to determine if masculine or feminine facial features and attractiveness effect criminal perception. We did not find that facial features predicted criminality. We did find that more feminine faces were rated more attractive than masculine faces. We also found that gender affected violent and nonviolent crimes. It was found that men were more likely to commit violent crimes, and men and women were equally likely to commit nonviolent crimes. Further research should replicate these findings with more attractive faces to see if attractiveness does play a role on criminal perception.

Contrary to prior work which demonstrates a relationship between facial features and criminality (Johnson et al., 2018), the current research found no such association. There was no connection at all between facial features and criminal perception. This discrepancy with past research could have been due to the lack of explanation of crimes. Participants might have been more willing to say a face committed a crime if they had more of an explanation of the nature of the crimes. Future research should replicate the study, but add descriptions of the crimes, both violent and nonviolent.

Researchers have disputed the idea of what makes a face attractive. They have found that masculine features make men more attractive (Rennels et al., 2008), the current research shows no association. We found that more feminine faces were rated more attractive than the masculine faces.

This discrepancy with past research could have been due to the lack of attractive faces in the current study. The faces that were picked for this study were not rated as attractive according to participant responses. Future research should find more attractive faces with both masculine and feminine features and repeat the study.

Previous research showed that there is an effect on criminal attractiveness and juror decision making (Taylor et al., 2018). Our research showed no such connection between attractiveness and criminal perception. Attractiveness was unrelated to the outcome variable. This discrepancy with past research could have been due to the lack attractiveness in the faces in the current study. Future research should use more attractive faces when replicating the study.

This study is the first to try and find a connection between facial features and criminal perception with attractiveness as a mediator. While the study did not find a connection, it still contributes to the legal system when it comes to gender bias, attractiveness bias and criminal perception. It will allow for those who work in the legal system to be aware of these biases when they are practicing law. The study also contributes to informing prisons, police, and other criminal based fields. This study should be replicated with more attractive faces and descriptions of the crimes committed. With these changes, the results could support our hypothesis and be the first study to find the connection between masculine and feminine facial features, attractiveness, and criminal perception.

Our supplementary analysis findings are similar to those of Dunham (2017) in that gender bias affects criminality. Dunham (2017) found that members of the legal profession such as jurors, and lawyers create their own gender bias when working in a court room. Our results from this analysis show that there is a gender bias when it comes to who participants perceived to commit a violent crime. Our findings showed that men were more likely to commit violent crimes, and both men and women were equally likely to commit nonviolent crimes.

Intellectual Merit and Broader Impact

The present findings encourage further exploration of the extent of gender and facial features on criminal perception. Our findings provide more evidence of the gender bias and attractiveness bias of criminals and provide insight to why jurors decided a certain verdict. Future research should conduct a two part study to have participants rate the attractiveness of 10 individuals and of those 10 choose a highly rated face, two average faces and a low rated face to provide variability of attractiveness in the study. This study attempted to capture the degree to which participants perceive others to be a criminal. When it comes to attractiveness, our study is a steppingstone in the right direction to analyzing legal verdicts of criminals who committed the same crime but given different verdicts. Elizabeth Holmes (2022) stated at her hearing “they don’t put pretty people like me in jail”. With our data being a building block on the structure that is attractiveness bias, researchers can dive deeper into this bias and attempt to disprove her statement.

Limitations and Future Directions

Future research should consider more intently analyzing the mediating relationship of attractiveness between facial features and criminal perception. One limitation with this study was a lack of variability in the results. We found a floor effect when it came to attractiveness. Participants rated the faces as unattractive across the board, so they may not accurately reflect the connection between criminal perception and attractiveness. Future research should address this issue by using more attractive faces, both masculine and feminine features to reflect a more accurate continuum of attractiveness and criminal perception. Another limitation is the sample used. The sample of university students were mostly young and disproportionately female. Compared to the population at large, this could influence the results. However, research in this domain indicates that college students provide similar responses as the general public (Hanel & Vione, 2016). With the supplementary analysis, it raised the question of why there is a gender bias in the criminal justice system. Future research should study this connection and have participants describe their bias when it comes to picking which gender

committed what crime. Future research should also follow up on the study but using masculine or feminine features as the mediator, gender as the input variable and criminal perception still as the outcome variable.

Conclusion

The idea of attractiveness being a mediating factor between facial features and criminal perception had not been studied prior to the current research. Our study showed that there is no connection between these three variables. According to our results, a relationship exists between feminine features and attractiveness. There is also a relationship between gender and violent crimes. These findings should encourage future research to examine attractiveness as a mediator between gender and criminal perception. It suggests broader implications for the criminal justice system and the gender bias that is found within the system.

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Appendix



Figure 1



Figure 2



Figure 3



Figure 4