The Interaction Effect of Facial and Vocal Attraction on Overall Perceived Attractiveness
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ABSTRACT. Physical attractiveness helps people choose mates. Although many individuals have faces and voices considered equally attractive, this is not always true, in that some people have one feature that is perceived as more attractive than the other. Zuckerman and Sinicropi (2011) found that, when the levels of facial and vocal attractiveness are mismatched, participants are more likely to rate the mismatch as less attractive than matched attractiveness due to the dissonance of believing that the unattractive feature does not belong with the attractive feature. Whereas Zuckerman and Sinicropi examined the disappointment people felt and personality traits associated with targets with different levels of physical and vocal attractiveness, the present study sought to determine how overall attractiveness is influenced by having targets with mismatched faces and voices. It also sought to identify differences in perceived facial and vocal attractiveness between sexes. College students (N = 112) were recruited using probability sampling. They viewed 14 face/voice combinations and rated them on overall attractiveness. There was a significant four-way interaction between participant sex, target sex, target facial attractiveness, and target voice attractiveness (p = .018, η²p = .05). Mismatched face/voice combinations were rated more attractive than matched unattractive face/unattractive voice and less attractive than matched attractive face/attractive voice. Attractive face/unattractive voice pairs were rated more attractive than unattractive face/attractive voice pairs. Although women’s ratings were higher than men’s, the degree of difference varied by target. These findings demonstrated that, when evaluating individual attractiveness, faces are given more consideration than voices.
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Attractiveness. This can be attributed to the halo effect where a person who is judged as having an attractive quality is then considered to have other favorable characteristics (Jones et al., 2001; Rhodes, 2006). It is important to consider how the perceived attractiveness of multiple physical aspects of people—both their faces and voices—are weighted by potential mates and competitors.

Previous research has identified which factors are associated with greater perceived physical attractiveness when evaluating people's faces, which differ depending on a person's sex. Men generally report greater attraction to women with more feminine, delicate features and large eyes (Fraccaro et al., 2010; Puts et al., 2012). Tough faces, broad chins, and heavy brows are considered by women to be more attractive features in men (Puts et al., 2012; Saxton et al., 2006). Research has found that perceived facial attractiveness is independent of culture, sex, ethnicity, and age, meaning that men and women of all ethnicities and ages tend to agree on what is considered attractive when evaluating an individual (Gallup & Frederick, 2010).

Past studies have also identified features associated with greater perceived vocal attractiveness; there are differences in what vocal qualities are considered attractive based on sex (Hodges-Simeon, Gaulin, & Puts, 2010). Women generally have higher voice pitch than men (Puts et al., 2012), and women with higher pitched voices are generally rated to be more attractive by men than women with lower pitched voices (Hughes et al., 2010; Röder, Fink, Feinberg, & Neave, 2015). In contrast, women tend to prefer men with lower pitched, deeper sounding voices because this reflects more preferred qualities in a mate such as strength and dominant personality traits (Riding, Longsdale, & Brown, 2006). Men with deeper pitched voices have been found to have greater testosterone levels, which is also associated with having higher sperm count and motility (Weusthoff, Baucom, & Hahlweg, 2013). Attractive voices and faces both provide information about potential mate quality.

Attractive individuals' faces unconsciously transmit nonverbal signals such as hormone levels and reproductive fitness to those around them, which indicate that they are healthier than their unattractive counterparts (Gallup & Fredrick, 2010; O’Connor et al., 2012; Puts et al., 2012; Saxton et al., 2006; Sprecher, Sullivan, & Harfield, 1994; Zhao et al., 2015). More attractive individuals tend to have better disease resistance and live longer, although the mechanism behind this is currently still under study. Furthermore, faces can contain clues suggesting their fertility rates because men with more attractive faces have a higher semen count, sperm motility, and sperm morphology (Gallup & Fredrick, 2010). It is also possible to determine a person's physical strength based on facial features alone (Gallup & Fredrick, 2010). All of this means that the people who are perceived as having an attractive face have underlying biological characteristics that are desirable in a mate. It can be inferred that attraction is meant to foster reproduction for individuals who have healthier genes. Men look for women with a higher reproductive value, which is often shown in women with feminine faces because this is an indicator of higher estrogen levels (Fraccaro et al., 2010; Sprecher et al., 1994). Women find men with a strong jawline to be more attractive because this is a sign of higher testosterone, which can also make a man more dominant and physically strong, increasing his ability to acquire resources (Gallup & Fredrick, 2010; Saxton et al., 2006; Sprecher et al., 1994). Ultimately reproduction rates are what is more important, in reference to sociobiology, people want to maximize the number of genes that they pass on to future generations (Oliver & Hyde, 1995). It has been demonstrated that people with more attractive faces generally have more children, and the children of more attractive individuals are more likely to be healthier and have a higher reproductive fitness, which in turn makes it more likely for those children to pass those traits on to their children (Gallup & Fredrick, 2010; Saxton et al., 2006). Vocal attractiveness has been found to be correlated with physical attractiveness, in that people with attractive voices were found to have more symmetrical features and were therefore considered more physically attractive (Gallup & Fredrick, 2010; Hughes, Farley, & Rhodes, 2010). The correlation between attractive faces and attractive voices in an individual suggests that those who have attractive voices would also have the same underlying health and fertility benefits as those with attractive faces. This also indicates that they have more desirable genetic traits, increasing their overall appeal as possible mates. This further suggests that those with attractive voices would be perceived as more desirable by the other sex.

Individuals with more attractive features—both faces and voices—are considered more likeable, kinder, warmer, more trustworthy, and more likely to achieve (Hughes et al., 2010; Zhao et al., 2015); this perception of attractive people having
desirable personality characteristics (i.e., the halo effect; Jones et al., 2001; Rhodes, 2006) may be a deciding factor in choosing to establish nonsexual relationships with others. About judging someone of the same sex, research has suggested that men and women both evaluate others’ attractiveness in terms of mate selection (Puts et al., 2012). Additionally, women often view other women with more attractive faces as more promiscuous and women with voices considered more feminine to be more likely to flirt with men, suggesting that more attractive individuals provide more competition. Researchers have found that same-sex friends have similar levels of physical attractiveness (Bleske-Rechek & Lighthall, 2010). Further research is needed to explore how attractiveness may relate to relationship building beyond romantic relationships, such as how one’s attractiveness influences others’ interest in building a friendship.

There is less research on how vocal attractiveness contributes to perceived attractiveness compared to facial attractiveness, although an individual’s facial and vocal attractiveness are often perceived as equally attractive in their contributions to mate selection (Doll et al., 2014). Voices considered more attractive often belong to people with greater bilateral symmetry, which is partly responsible for how attractive an individual is perceived (Hughes et al., 2010). Nonetheless, there are individuals whose vocal and physical attractiveness are imbalanced. Zuckerman and Sinicropi’s (2011) study found that individuals whose facial and vocal attractiveness differed were perceived less favorably than individuals with similarly attractive faces and voices. However, people with an attractive face could have an unattractive voice and still be considered attractive overall because the attractive feature compensates for the unattractive feature. Nevertheless, it could be that the mismatched face and voice attractiveness causes those around them to feel as if these traits do not belong to the same person (Zuckerman & Sinicropi, 2011). This person may or may not be considered attractive, depending on how vocal and facial attractiveness interact to affect overall perceived attractiveness.

The current study served as an extension of Zuckerman and Sinicropi’s (2011) study, which focused primarily on the disappointment participants felt toward an individual with mismatched faces and voices, where disappointment indicates that their expectations based on the face did not line up with the voice they heard. The current study investigated whether a mismatch in the attractiveness of a target’s face and voice would lead to lower perceived attractiveness, or if the more attractive trait would compensate for the unattractive one. Furthermore, it contributes to the literature on the effects of perceived vocal attractiveness because research on this aspect of attractiveness is limited in comparison to facial attractiveness.

It was hypothesized that an attractive face would compensate more for an unattractive voice than the reverse. This hypothesis extends from research that has highlighted how humans react to visual information faster than auditory information (Jain, Bansal, Kumar, & Singh, 2015); thus, when making judgments based on limited sensory input, faces would be more influential than voices. Previous research has found that women were more likely than men to marry someone whom they did not consider attractive (Sprecher et al., 1994). As such, it was also hypothesized that women would rate targets with a mismatch in facial and vocal attractiveness as more attractive than men, regardless of whether the unattractive quality is face or voice.

**Method**

**Participants**

A sample of 112 participants was recruited from the Department of Psychology’s Subject Pool. Participants were invited to participate via e-mail using simple random sampling. The list of students was made for all psychology class rosters using the subject pool (N = 466) with removal of duplicates when students were enrolled in more than one course using the pool (n = 52) and removal of students who were familiar with the study’s purpose and methodology and/or had participated in the pilot study (n = 14). The final list contained 400 students (275 = women, 125 = men). A total of 100 female students and 100 male students were randomly selected and sent e-mail invitations to participate. To be eligible to participate, individuals were required to self-identify as heterosexual and have no visual or auditory impairments. Participants received course credit as compensation for participation. Approval for this study was obtained from Stetson University’s institutional review board.

Participants ranged in age from 17 to 30 (M = 19.56, SD = 1.77). There were equal numbers of men (n = 56, 50%) and women (n = 56, 50%). Eighty-seven participants self-identified as White (77.7%), 8 as Black (7.1%), 13 as Hispanic (11.6%), and 4 as Asian (3.6%). Half the sample (n = 57,
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from two individuals had to be thrown out because of 48 participants completed the pilot study. Data in their physics class for their participation. A total of eligible to participate, individuals were required to be age 18 or older and to have no visual or auditory impairments. They were offered extra credit for their participation. A total of 14 condition sequences using block randomization. The dependent variables included the attractiveness ratings of each face/voice combination.

Materials
A pilot study was conducted to determine which photos and voices to use. Thirty-nine color photographs (20 men, 19 women) were acquired from Radboud Faces Database (Langner et al., 2010). The photographs all displayed White individuals wearing black shirts from the neck up with the person facing forward with a happy expression. Eighty voice clips (40 male, 40 female) were obtained via Amazon Mechanical Turk. Voice clips were 10 seconds in length and consisted of individuals reading this script: “The restaurant is on the corner of 1st and 8th street. To get there from here, you turn right onto 3rd street and take a left at the first stoplight. The restaurant is two blocks down the road on your right.” Voice clips were screened for clarity/sound quality and to ensure that the script was followed, resulting in 80 voice clips being selected from the 142 submitted.

Pilot study participants were recruited from the university’s Physics Department using convenience sampling via announcements in the classroom. To be eligible to participate, individuals were required to be age 18 or older and to have no visual or auditory impairments. They were offered extra credit in their physics class for their participation. A total of 48 participants completed the pilot study. Data from two individuals had to be thrown out because they circled the same number for all questions, resulting in a final pilot sample of 46 participants. They ranged in age from 18 to 33 (M = 20.8, SD = 2.2). Approximately half were men (n = 24, 52.2%) and 47.8% (n = 22) were women. Thirty-eight self-identified as White (82.6%), 2 as Black (4.4%), 3 as Hispanic (6.5%), and 3 as Asian (6.5%). Nearly all (n = 45, 97.8%) identified as heterosexual, with one bisexual (n = 1, 2.2%). Eighteen (39.1%) were single, 3 (6.5%) were casually dating, and 25 (54.3%) were in a serious relationship.

Participants completed the study privately in a classroom to minimize distractions. Participants first completed a demographics survey before rating the stimuli on a computer while wearing headphones; voice clips could be replayed if necessary. The order in which the faces and voices were experienced was partially counterbalanced using a 4 x 4 balanced Latin square to determine the order of reviewing male faces, female faces, male voices, and female voices. Within each grouping, photographs and voice clips were randomly ordered. After each face or voice was presented, participants rated the face or voice’s perceived attractiveness on a 9-point Likert-type scale from 1 (not at all attractive) to 9 (extremely attractive), with 5 representing average attractiveness. Completion of the study took approximately 20 minutes.

We obtained z scores for each picture and voice clip. All data points more than two standard deviations away from the mean were removed for only that face or voice in order to remove outliers to create a more accurate majority rating of subjects. Next, the mean scores of faces and voices were calculated separately by sex, and then z scores of the means were found to identify the extremes. Attractive faces and voices were chosen from those receiving a z score of 1.0 or higher, and unattractive faces and voices were chosen from those receiving a z score of -1.0 or below. The extremes of the pilot study were used to create the face/voice combinations; to create the mismatched attractiveness groups, the most attractive faces were paired with the least attractive voices and vice versa. See Table 1 for z score pairings. After calculating the extremes in the pilot study, an imbalance of male and female targets was discovered. Four men were identified on both the attractive and unattractive extremes for facial and vocal features. However, there were only three women on both the unattractive and attractive side for both facial and vocal features; the gap between the extremes and the next possible choice for the extremes was too large to reasonably
consider using four women clusters. This is why the study design was altered to include only six female targets instead of eight. A decision then had to be made on whether to cut the male targets down to six also; it was decided to retain eight because the extremes were so close and to strengthen the male findings.

**Measures**
Participants completed two items from the Perceived Attractiveness Scale (Elliot et al., 2010), which assessed information about perceived attractiveness of each target. Items were rated on a 9-point Likert-type scale from 1 (not at all attractive) to 9 (extremely attractive) using two items from the Perceived Attractiveness Scale: “How pleasant is this person to look at?” to evaluate facial attractiveness, and “How attractive do you think this person is?” An additional item was developed to evaluate vocal attractiveness: “How pleasant is this person to listen to?” with another general attractiveness item added to evaluate consistency in responding. The Perceived Attractiveness Scale is a 3-item scale; one item on the scale that asked about interest in meeting the person was not included in this study. Responses were averaged together; higher scores indicated greater perceived attractiveness. The Perceived Attractiveness Scale had an average $\alpha$ of .83 (max $\alpha = .88$, min $\alpha = .76$) across targets. A fifth question was asked that differed depending on whether the participant was the same sex as the face/voice combination; participants were asked to rate how much they would like to be friends with the target if they were the same sex, and asked how much they would like to date the target if they were the opposite sex. Participants also completed demographic questions regarding their age, sex, race, and relationship status.

In addition, participants responded to a question assessing whether they felt their relationship status affected their ability to evaluate the attractiveness of other people. This was an exploratory analysis due to the fact that no existing research had investigated whether relationship status might relate to ratings of perceived attractiveness. Mixed-design multivariate analyses of variance performed separately by sex for male participants’ attractiveness ratings of female targets and female participants’ attractiveness ratings of male targets found no significant relationship between their relationship status or whether they perceived that their relationship would affect their ratings of attractiveness. As such, these variables were not included in the main study analyses, and all participants were retained for analyses.

**Procedure**
Participants completed the study individually in a classroom to minimize distractions. Participants first provided informed consent and then completed the demographics survey. They viewed the 14 targets one at a time on a computer for 30 seconds; the 10-second voice clip was replayed three times through headphones while the photograph was displayed. After each combination was presented, participants rated the target’s perceived attractiveness on a paper-and-pencil survey. Participation took approximately 10 minutes.

**Data Analysis**
Data was analyzed with IBM SPSS software version 24. Given that the faces and voices were chosen in the pilot to represent the extremes of attractive and unattractive, there was the possibility that regression to the mean would be a threat to validity. Dependent $t$ tests were performed comparing pilot and main study mean ratings for faces and voices. There were no significant differences for women’s faces, $t(5) = 0.007, p = .99$, Cohen’s $d = 0.001$; women’s voices, $t(5) = 0.611, p = .57$, Cohen’s $d = 0.24$; and men’s faces, $t(7) = -0.361, p = .73$, Cohen’s $d = 0.03$. There was a significant difference for men’s voices, $t(7) = -2.53, p = .04$, with slightly higher ratings in

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<th>TABLE 1</th>
<th>Pilot Study Face and Voice z-Score Pairings for Targets</th>
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<td><strong>Male Conditions</strong></td>
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<td>Face-Attractive, Voice-Attractive</td>
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<td>Face-Attractive, Voice-Unattractive</td>
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<td>Face-Unattractive, Voice-Attractive</td>
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<td>Face-Unattractive, Voice-Unattractive</td>
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| Female Conditions | | |
| Face-Attractive, Voice-Attractive | 1.53 | 1.25 |
| Face-Attractive, Voice-Unattractive | 1.93 | -2.86 |
| Face-Unattractive, Voice-Attractive | 1.60 | -2.23 |
| Face-Unattractive, Voice-Unattractive | -1.57 | 1.59 |

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the main study ($M = 4.75, SD = 1.39$) compared to the pilot study ($M = 4.46, SD = 1.61$). However, this represented a small effect, Cohen’s $d = 0.14$. This suggests that regression to the mean was likely not a threat in this study.

The hypotheses were tested using a mixed-design multivariate analysis of variance; target sex, attractiveness of the face, and attractiveness of the voice were entered as within-subjects factors, and participant sex was entered as a between-subjects factor. Four repeated measures analyses of variance using the same independent variables were performed for men rating male combinations for friendship, men rating female combinations as potential dating partners, women rating female combinations for friendship, and women rating male combinations as potential dating partners.

### Results

Box’s Test of Equality of Covariance Matrices was insignificant, indicating no issues across groups, $F(36, 40714.7) = 1.01, p = .46$. Mauchly’s test indicated that the assumption of sphericity was not violated ($\varepsilon = 1.0$). There was a significant main effect of target facial attractiveness, $F(1, 110) = 497.92, p < .001, \eta^2_p = .82$; those with attractive faces

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<th>TABLE 2</th>
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<td>Overall Attractiveness Ratings for Target Conditions</td>
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<td>Male Targets</td>
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<td>Face Attractive/Voice Attractive</td>
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<th>TABLE 3</th>
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<td>Dating and Friendship Desirability Target Ratings</td>
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<td>(Dating Ratings for Other-Sex Targets, Friendship Ratings for Same-Sex Targets)</td>
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Note: * indicates significant difference between groups
Given the number of interaction effects, only significant interactions are reported. There was a significant interaction between target sex and target voice attractiveness, \( F(1, 110) = 14.70, p < .001, \eta^2_p = .12 \); attractive female voices \( M = 5.14, SD = 1.20 \) were rated more attractive than attractive male voices \( M = 4.83, SD = 1.20 \), and unattractive female voices \( M = 4.67, SD = 1.15 \) were rated significantly more attractive than unattractive male voices \( M = 4.00, SD = 1.30 \). There was a significant interaction between participant sex, target sex, and target facial attractiveness, \( F(1, 110) = 11.35, p = .001, \eta^2_p = .09 \); female targets with attractive faces were rated similarly by men \( M = 5.64, SD = 1.20 \) and women \( M = 5.84, SD = 1.06 \). However, women rated male targets with attractive faces \( M = 5.50, SD = 0.98 \), male targets with unattractive faces \( M = 3.82, SD = 1.15 \), and female targets with unattractive faces \( M = 4.36, SD = 1.16 \) more highly than men rated male targets with attractive faces \( M = 4.90, SD = 1.42 \), male targets with unattractive faces \( M = 3.46, SD = 1.32 \), or female targets with unattractive faces \( M = 3.79, SD = 1.19 \). There was a significant interaction between target sex, target facial attractiveness, and target voice attractiveness, \( F(1, 110) = 44.37, p < .001, \eta^2_p = .29 \); male and female mismatched targets with unattractive faces/attractive voices were rated the same level of attractiveness by the overall sample, but for all other face/voice combinations, female targets were rated higher than male targets; means and standard deviations are displayed in Table 2 in Total column.

There was a significant interaction between participant sex, target sex, target facial attractiveness, and target voice attractiveness, \( F(1, 110) = 5.79, p = .018, \eta^2_p = .05 \); Target 2 displays mean target ratings by sex. Although women’s ratings of every target were higher than the men’s, the degree of difference varied. Ratings were most similar for female mismatched targets with attractive face/unattractive voice and least similar for male targets with attractive face/ unattractive voice. Figure 1 displays the four-way interaction.

Table 3 displays means and standard deviations for male and female participants’ ratings of target groups’ dating desirability (for other-sex targets) and friendship desirability (for same-sex targets). Mauchly’s test indicated that the assumption of sphericity was not violated \( (\varepsilon = 1.0) \) for any of these
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analyses. There was a significant main effect of target facial attractiveness, $F(1, 55) = 96.35, p < .001$, $\eta^2_p = .64$, for dating desirability of female targets. Female targets with attractive faces were rated as more desirable dating partners than those with unattractive faces. There was no significant main effect of target voice attractiveness, $F(1, 55) = .85$, $p = .36$, $\eta^2_p = .02$, or interaction between face and voice attractiveness for female target dating desirability, $F(1, 55) = 3.31, p = .07$, $\eta^2_p = .06$.

There was a significant main effect of target facial attractiveness, $F(1, 55) = 150.84, p < .001$, $\eta^2_p = .73$, and target voice attractiveness, $F(1, 55) = 16.33, p < .001$, $\eta^2_p = .23$, for dating desirability of male targets. Male targets with attractive faces and voices were rated as more desirable dating partners than those with unattractive faces and voices. There was no significant interaction between face and voice attractiveness for male target dating desirability, $F(1, 55) = 1.45, p = .25$, $\eta^2_p = .03$.

There was a significant main effect of target facial attractiveness, $F(1, 55) = 24.23, p < .001$, $\eta^2_p = .31$, and target voice attractiveness, $F(1, 55) = 22.49, p < .001$, $\eta^2_p = .29$, for friendship desirability of male targets. Male targets with attractive faces and voices were rated as more desirable friends than those with unattractive faces and voices. There was no significant interaction between face and voice attractiveness for male target friendship desirability, $F(1, 55) = 0.52, p = .47$, $\eta^2_p = .01$.

There was a significant main effect of target facial attractiveness, $F(1, 55) = 15.84, p < .001$, $\eta^2_p = .22$, and target voice attractiveness, $F(1, 55) = 5.08, p = .03$, $\eta^2_p = .09$, for friendship desirability of female targets. Female targets with attractive faces and voices were rated as more desirable friends than those with unattractive faces and voices. There was also a significant interaction between face and voice attractiveness for female target friendship desirability, $F(1, 55) = 14.83, p < .001$, $\eta^2_p = .21$; the female matched attractiveness target received the highest ratings overall, while the mismatched targets with unattractive face/attractive voice received the lowest friendship rating.

**Discussion**

This study expanded on the work of Zuckerman and Sinicropi (2011), which found targets whose facial and vocal attractiveness differed were perceived less favorably than individuals with similarly attractive faces and voices. The current study explored how targets with mismatched facial and vocal attractiveness compared to those who have similarly attractive or unattractive features. It was found that mismatched targets were still perceived as more attractive than those with two unattractive features, but were perceived as less attractive than those with two matched attractive features. The hypothesis that an attractive face would be more likely to compensate for an unattractive voice, as opposed to an attractive voice compensating for an unattractive face, was supported. Additionally, when evaluating targets’ dating potential, both men and women assigned higher ratings to targets with attractive faces than those with unattractive faces, for both those with attractive and unattractive voices. Participants spent 30 seconds making their decision about the attractiveness of each target; these ratings were made based on a very brief evaluation period, a quick “first impression.” Men generally focus on the physical reproductive potential of a mate first (March & Grieve, 2014), meaning men may rate women more harshly based on just their first impressions of them. Future studies could determine whether exposure for a longer period of time results in differences in perceived attractiveness.

It is particularly interesting to note that the matched attractiveness targets received the highest ratings of attractiveness despite those faces and voices not having the highest attractiveness $z$ scores in the pilot study. The most attractive faces were paired with the least attractive voices (and vice versa) based on $z$ scores. This suggests that, although the more attractive trait may significantly compensate for the unattractive one, having an unattractive feature does significantly decrease one’s perceived attractiveness compared to someone who has two attractive features. It may be that the unattractive feature indicates poorer gene quality (Gallup & Frederick, 2010) or is associated with undesirable personality traits (Zhao et al., 2015; Zuckerman & Sinicropi, 2011). Another possible explanation may be that individuals could have perceived that some faces and voices did not belong together, which would be consistent with Zuckerman and Sinicropi (2011). Participants might have perceived that features came from different people and might therefore have been disappointed, or that incongruence might have resulted in lower attractiveness ratings. A future replication of this study could include open-ended questions asking participants to explain why they found one target more or less attractive compared to another to explore their conscious decision-making process and whether incongruence is an explanation for attractiveness.
ratings. Alternatively, a future study could alternate stimuli exposure—exploring whether attractiveness ratings are different if participants first hear targets’ voices, and then see their faces and vice versa—to determine whether this is associated with different ratings or greater incongruence.

The hypothesis that women would rate mismatched targets higher than men was supported. Female participants always rated the targets as more attractive than men, regardless of target sex. This is a phenomenon that has not been explored much in the literature. It may be associated with gender differences in that women are socialized to be nicer than men or that men are more critical in evaluating physical attractiveness. However, it could also be because women did actually find all targets—even those considered less attractive in the pilot study—to be more attractive. Women may find a greater variety of features to be appealing. In terms of mate selection, men place more importance on good looks than women (Eastwick & Finkel, 2008; March & Grieve, 2014). The focus on visual attractiveness is supported by the finding that, although both face and voice attractiveness were significant in female participants’ ratings of male targets’ dating desirability, facial attractiveness was the only significant effect for men’s ratings of female targets’ dating desirability. Other research has also found that women have a different preference in male attractiveness during different stages of their menstrual cycle (Bossio, Suschinsky, Puts, & Chivers, 2013). During peak fertility in a woman’s cycle, the woman tends to favor more masculine characteristics. This should be explored in further research; moreover, asking participants for explanations on why they consider an individual to be attractive or unattractive in order to help identify qualitative differences in how men and women judge attractiveness.

Lastly, this study sought to explore how perceived attractiveness affected same-sex ratings in terms of how individuals may be evaluated as potential friends. Both men and women rated the friendship desirability of same-sex targets significantly different based on their perceived attractiveness; targets with attractive faces and attractive voices were rated as more desirable friends. Men saw more friendship potential in the matched attractive targets and the least friendship potential in the matched unattractive targets, which is consistent with previous research findings that more attractive individuals are considered kinder, warmer, and more trustworthy (Zhao et al., 2015). However, there was a significant interaction effect of face and voice attractiveness for female participants; it was the female face unattractive/voice attractive targets that received the lowest friendship ratings, rather than the female matched unattractive target. This may be a result of the degree of facial unattractiveness. In the pilot study, the female face assigned to the matched unattractive target was ranked as less unattractive than the faces assigned to the mismatched targets with unattractive faces, which would remain consistent with Zhao et al. (2015). Other research found that same-sex friends normally have the same level of physical attractiveness (Bleske-Rechek & Lighthall, 2010), so participants in the present study might have indicated a preference to be friends with someone who they considered to be of similar attractiveness as themselves. Participants’ own perceived attractiveness was not evaluated in this study; future research should take that into account, whether participants’ perceptions of their own facial and vocal attractiveness (and whether they see these qualities as matched in terms of their appeal) are related to their perceptions of others’ attractiveness.

Limitations
This study significantly contributed to the literature on perceived attractiveness, but it is not without limitations. Participants in the pilot study were obtained using convenience sampling from the physics department and thus were not representative of the university as a whole. Although participants in the main study were randomly sampled, they were obtained from the department of psychology’s subject pool. It is not as diverse a group as the general student population because all students in the subject pool are currently enrolled in at least one psychology course. This could affect generalizability of the findings.

An equal number of men and women were recruited, but the sample was largely White (78%). This could actually be a strength of the study because all the photographs presented in the study depicted White men and women, meaning that most participants were of the same race as the visual subjects. However, 22% of participants were not White; although previous research has found that men and women of all ethnicities tend to agree on perceived attractiveness, but it is not without limitations. Participants in the main study were randomly sampled, they were obtained from the department of psychology’s subject pool. It is not as diverse a group as the general student population because all students in the subject pool are currently enrolled in at least one psychology course. This could affect generalizability of the findings.

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Participants were required to have identified as heterosexual in this study so that they would only consider the other sex as a potential mate and consider the same sex as a potential friend. This decision was made to enhance validity of the data, but it means that findings are only applicable to heterosexual women and men. Future research should determine whether the same pattern of findings in responses to matched and mismatched attractive targets is found with samples of bisexual, gay, and lesbian individuals.

Lastly, a methodological limitation is that there were only six female targets included in this study as opposed to the eight male targets. In conducting the pilot study, fewer female faces and voices were considered less attractive as denoted by a z score below minus one. It was decided to maintain two targets in each condition for the male analyses rather than reduce to match the reduced female targets to strengthen those findings. This does mean that two of the female target conditions are based on a single target and not the average of two targets, possibly making the findings less reliable. However, because the hypotheses were primarily interested in the mismatched conditions, having only one female target in each matched condition is less of a weakness than if the mismatched conditions only had one target. Future research should endeavor to have an equal number of male and female subjects, as well as more targets in each combination category. This is particularly important given that, in some cases, one target in the same category was rated significantly differently from the other individual in that category; the two male matched unattractive targets were rated the two most unattractive male targets, but one received a significantly higher rating than the other.

Conclusion
This study found significant differences in the attractiveness ratings of targets with matched features and mismatched features. Targets with an unattractive feature (face or voice) and an attractive feature were considered less attractive than targets with two attractive features, but more attractive than targets with two unattractive features. Targets with an attractive face and unattractive voice were rated as more attractive than subjects with an unattractive face and an attractive voice, indicating the visual stimulus may be more influential in making initial attractiveness assessments. Furthermore, women’s ratings of both male and female targets were higher than men’s, which was consistent for matched and mismatched subjects. These findings are meaningful in understanding how men and women evaluate the attractiveness of both potential mates as well as potential friends.

References


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