Contents lists available at ScienceDirect

Personality and Individual Differences

journal homepage: www.elsevier.com

Sociosexual attitudes differentially predict men and women's preferences for agreeable male faces

Mitch Brown*, Donald F. Sacco, Mary M. Medlin

The University of Southern Mississippi, United States of America

ARTICLE INFO

Article history:
Received 20 December 2018
Received in revised form 15 January 2019
Accepted 16 January 2019
Available online xxx

Keywords:
Face perception
Agreeableness
Sociosexuality
Evolutionary psychology
Intrasexual competition

ABSTRACT

Sensitivity to personality variability through facial structures subsequently elicits inferences of another's behavioral intentions, which could include those pertaining to preferred reproductive strategies. Given the association between agreeableness and interest in long-term mating intentions, we predicted that individuals with a long-term mating orientation would prefer others whose faces communicate higher levels of trait agreeableness. Participants viewed pairs of male and female faces manipulated to connote high and low levels of agreeableness and indicated their preferences among each pair before completing the Sociosexual Orientation Inventory-Revised. Consonant with hypotheses, women espousing restricted sociosexual attitudes marginally preferred agreeable male faces. Furthermore, men espousing unrestricted attitudes preferred agreeable male faces, suggesting an interest in associating with men posing little intrasexual threat. Contrary to predictions, sociosexuality predicted neither men's nor women's preferences for agreeableness in female faces. We frame these results from an evolutionary perspective considering the identification of optimum mates and potential intrasexual rivals.

1. Introduction

Human facial structures are robustly informative social stimuli. Individuals can infer another's personality through various interpersonal channels, including facial structures, serving to inform perceivers about another's relational value (Sacco & Brown, 2018a). Such inferences may prove critical in selecting mates capable of satisfying mating goals. Big Five personality traits predict varying levels of long- (LTM) and short-term mating (STM) interest, with individuals selecting mates whose personalities align with one's reproductive goals. For example, women with heightened STM interest prefer extraverted male faces, a trait associated with promiscuous mating strategies (Brown & Sacco, 2017). Heightened LTM interest may similarly shape preferences for prospective mates whom individuals perceive as utilizing monogamous strategies. Agreeable individuals' heightened LTM interest suggests those utilizing similar mating strategies may adaptively prefer agreeable faces (Schmitt & Shackelford, 2008).

1.1. Sociosexuality, personality, and mate preferences

Considerable variability exists in human reproductive strategies. Whereas some individuals prefer STM strategies involving acquisition of multiple partners, those interested in LTM adopt monogamous strategies emphasizing committed relationships (Buss & Schmitt, 1993). Divergent interests form the basis of individual differences in sociosexuality, with those preferring STM being sociosexually *unrestricted* and those preferring LTM being sociosexually *restricted* (Simpson & Gangestad, 1991). Individual differences in sociosexuality predict different traits individuals prioritize in mates. Given the STM emphasis on good genes (Li & Kenrick, 2006), sociosexually unrestricted individuals prioritize physical attractiveness (Simpson & Gangestad, 1992). Conversely, traits connoting benevolence are prioritized in LTM (Barclay, 2010), forming the basis of restricted individuals' preferences. Restricted individuals further downregulate interest in interpersonal behaviors connoting sexual receptivity, a potential signal of interest in promiscuity (e.g., risqué humor; Medlin, Brown & Sacco, 2018).

Prospective mates' personality subsequently influences mate choices, given certain personalities facilitate specific mating goals. For example, agreeable and extraverted mates are highly desirable (Figueredo, Sefcek, & Jones, 2006). Extraverted individuals are physically attractive, bolstering their STM desirability (Lukaszewski & Roney, 2011), but their proclivity toward promiscuity undermines their LTM desirability (Nettle, 2005). Conversely, agreeable individuals are disinterested in promiscuity, heightening their LTM desirability (Schmitt & Shackelford, 2008). Agreeable men are unlikely to divert resources from mates and offspring, whereas agreeable women would reduce men's concerns of paternal uncertainty. This promiscuity aversion implicates agreeable mates as desirable to sociosexually *restricted* individuals.

* Corresponding author at: Owings-McQuagge Hall 226, School of Psychology, The University of Southern Mississippi, Hattiesburg, MS 39401, United State of America.
Email address: mitchellbrown@usm.edu (M. Brown)

https://doi.org/10.1016/j.paid.2019.01.027
0191-8869/

1.2. Preferences for facially communicated personality

Longstanding reliance on face-to-face interactions has resulted in humans' evolution of heightened acuity toward facial structures connoting personality, from which individuals infer behavioral intentions (Parkinson, 2005). Personality traits can be accurately inferred through facial structures, including agreeableness (Kramer & Ward, 2010). The acuity toward agreeableness is further moderated by perceivers' own personality and capable of influencing preferences for agreeable facial structures. For example, neurotic women prefer agreeable male faces, as agreeable men's disinterest in promiscuity could indicate infidelity as unlikely (Sacco & Brown, 2018b). Such proclivities could implicate agreeable facial structures as reflecting interest in commitment, bolstering desirability among those prioritizing LTM goals.

Dispositional STM interest influences preferences for facial structures connoting personalities with consonant mating interest serving to identify optimal mating opportunities. Sociosexually unrestricted women prefer male facial structures connoting narcissism and extraversion (Brown & Sacco, 2017; Marcinkowska, Helle, & Lyons, 2015). Such preferences would be adaptive, given these individuals' interest in promiscuity (Jonason & Buss, 2012; Schmitt & Shackelford, 2008). Although research typically focuses on how unrestricted sociosexuality heightens preferences for facial features connoting STM desirability, *restricted* sociosexuality may similarly predict preferences for faces connoting LTM desirability. The association between agreeableness and LTM strategies makes it sensible to predict sociosexually restricted individuals would prefer agreeable mates.

1.3. Current study

This study sought to identify how sociosexuality predicted preferences for facially communicated agreeableness. Given the STM disinterest among agreeable individuals (Schmitt & Shackelford, 2008), we predicted sociosexually restricted individuals would prefer agreeable opposite-sex faces. This disinterest in promiscuity would further implicate agreeable same-sex individuals as posing less intrasexual competition among those utilizing STM strategies. Thus, we additionally predicted sociosexually unrestricted individuals would prefer agreeable same-sex faces.

2. Method

2.1. Participants

We recruited 316 undergraduates from a Southeastern U.S. university for course credit. A power analysis indicated 200 participants would sufficiently detect medium-sized effects ($f = 0.20$, $\beta = 0.80$); we deliberately oversampled in a single wave of data collection. We excluded 28 participants from final analyses for reporting being older than 40 years, no heterosexual attraction, or indicating their sex as "Other" (106 Men, 182 Women; $M_{Age} = 19.75$, $SD = 3.19$; 71% White).

2.2. Materials

2.2.1. Agreeableness preference

Participants indicated preferences among 20 male and 20 female face pairs manipulated to communicate high and low levels of agreeableness (Sacco & Brown, 2018b; Fig. 1). Faces were morphed composites of unique identities (all neutrally expressive Caucasian adults between 18 and 40-years-old) that were combined with matched-sex composite face prototypes for high- and low-agreeableness. These original agreeableness composites were comprised of 10 individuals who scored either the highest or lowest on agreeableness using a personality inventory, separately for both sexes, thus suggesting the faces' veracity in connoting differing levels of agreeableness (Holtzman, 2011). Participants viewed each pair in randomized and counterbalanced order (i.e., left-/right-screen position). Participants indicated preferences within each pair by clicking corresponding buttons in a self-paced task. Preferences for agreeableness were coded as "1," whereas antagonism preferences were "0," with higher scores indicating preferences for agreeableness. We calculated agreeableness preferences by summing the frequency of agreeableness selections and dividing it by the total number of trials, separately for male and female faces.

2.2.2. Sociosexuality

Participants indicated dispositional interest in committed versus uncommitted sexual relationships using the Sociosexual Orientation Inventory-Revised (SOI-R; Penke & Asendorpf, 2008) along 3 subscales assessing previous sexual behavior, attitudes about uncommitted sex, and sexual desire (αs > 0.77). Higher scores connote unrestricted sociosexuality, whereas lower scores connote restricted.

Consenting participants indicated preferences for agreeable faces before completing the SOI-R and providing demographic information, followed by debriefing.

3. Results

SOI-R subscales were only moderately correlated and exhibited considerable variability from with each other (see Table 1), suggesting individual components of sociosexuality were distinct in this sample, prompting us to consider each subscale separately (Medlin, Brown, & Sacco, 2018). We submitted our data to a 2 (Participant Sex: Male vs. Female) × 2 (Target Sex: Male vs. Female) custom mixed-model ANCOVA with repeated factors over the latter factor and all three subscales of SOI-R as separate custom covariates to test for interactive effects to control for family-wise error rate.

A Target Sex main effect indicated participants preferred agreeableness in female faces ($M = 0.54$, $SD = 0.13$) more than in male faces ($M = 0.51$, $SD = 0.14$), $F(1, 278) = 4.30$, $p = 0.04$, $\eta^2_p = 0.01$. One-sample *t*-tests weighted against a score of 0.50, a score reflecting no preference, indicated participants categorically preferred agreeable female faces, $t(315) = 6.01$, $p < 0.01$, $d = 0.37$, and marginally preferred agreeable male faces, $t(315) = 1.93$, $p = 0.054$, $d = 0.21$; such findings align with previous findings indicating preferences for agreeable faces (Sacco & Brown, 2018b).

Effects were superordinately qualified by both a Target Sex × Participant Sex × Behavior and a Target Sex × Participant Sex × Attitudes interaction, Fs > 6.25, ps < 0.02, η^2_ps > 0.01. Neither the Participant Sex main effect nor 3-way interaction with Desire emerged, Fs < 0.50, ps > 0.49.

We decomposed the 3-way interactions by conducting two separate one-way ANCOVAs, one for male and female faces, with attitudes as a moderator and another two for behaviors, affording us the opportunity to identify how different facets of sociosexuality predict men and women's preferences for male and female faces separately. A 2-way interaction emerged for male faces with attitudes, $F(1, 283) = 6.96$, $p < 0.01$, $\eta^2_p = 0.02$ (Fig. 2). We individually correlated attitudes with agreeableness preferences for men and women. Consistent with predictions, a positive correlation emerged for men; men

Fig. 1. Example male and female faces connoting high (left) and low levels of agreeableness.

Table 1
Descriptive statistics and correlations for the three SOI-R subscales. **Note**. Correlations are significant at $p < 0.01$.

Subscale	Mean (*SD*)	Behavior	Desire
Attitudes	3.50 (*2.28*)	0.57	0.46
Behavior	2.03 (*1.47*)	–	0.41
Desire	2.92 (*2.09*)	–	–

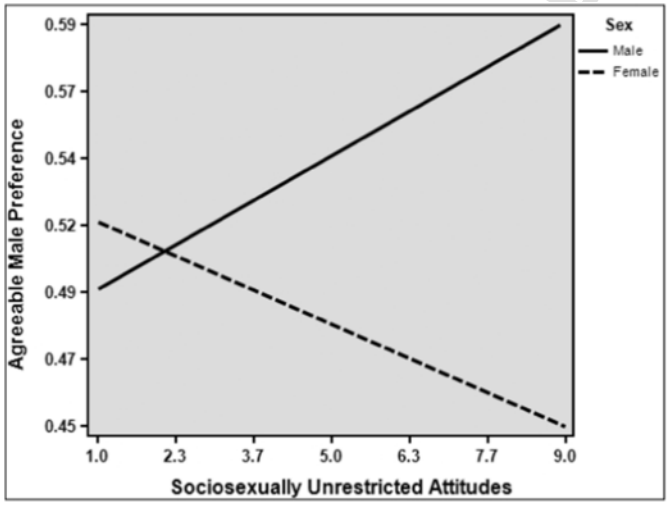

Fig. 2. Men and women's preferences for agreeable male faces as a function of unrestricted attitudes.

with unrestricted sociosexual attitudes preferred agreeable male faces, $r(104) = 0.20$, $p = 0.04$. Conversely, and also supporting hypotheses, a marginal negative correlation emerged for women indicating women with restricted attitudes marginally preferred agreeable male faces, $r(179) = -0.12$, $p = 0.09$. Correlations were directionally different, $Z = 2.65$, $p < 0.01$.

Contrary to predictions, no interaction emerged for female faces, suggesting sociosexuality does not moderate perceptions of female faces, $F(1, 283) = 0.09$, $p = 0.76$, $\eta^2_p = 0.00$. For behaviors, we similarly decomposed the superordinate interaction. However, neither male nor female faces elicited significant 2-way interactions, which were considered no further, Fs < 0.40, ps > 0.52.[1]

4. Discussion

Partially supporting hypotheses, results indicated sociosexual attitudes predicted male facial agreeableness preferences. Whereas men reporting unrestricted attitudes preferred agreeable male faces, restricted women similarly preferred male agreeableness. Men's preference could reflect interest in affiliating with monogamous men (Schmitt & Shackelford, 2008), thereby reducing intrasexual threat concerns. Although men adopting LTM strategies would be similarly interested in mitigating intrasexual competition, the physical costs of intrasexual competition could be greater for those adopting STM strategies, necessitating an especially heightened preference for the latter strategy. Whereas sociosexually restricted men typically signal benevolence as a competitive strategy, unrestricted men utilize direct

[1] When conducting separate mixed-model ANCOVAs for attitudes and behaviors, the 3-way interaction remains significant for attitudes ($p = 0.03$), but not behavior ($p = 0.42$), suggesting greater stability in the attitudes interaction.

physical conflict (Ainsworth & Maner, 2014; Simpson, Gangestad, Christensen, & Leck, 1999). Engaging antagonistic rivals physically could heighten unrestricted men's risk of injury, given that such rivals' heightened interpersonal dominance gives them advantages in combat (Cheng, Tracy, & Henrich, 2010). It would thus be adaptive for men interested in STM to be especially interested in affiliating with men who pose a reduced physical threat whom they could easily defeat.

For women with *restricted* attitudes, this preference reflects interest in mates capable of satisfying LTM goals, ensuring mates' continued resource provision and parental investment (Kenrick, Groth, Trost, & Sadalla, 1993). It should be noted that women's preferences were marginally associated with sociosexual attitudes with a small effect size. Women exhibit an overall preference for benevolent mates, regardless of context (Li, Bailey, Kenrick, & Linsenmeier, 2002), potentially reflecting superordinate preferences for agreeable men, thus muting a difference in agreeableness preferences as a function of sociosexuality. Along with agreeable men's benevolence is disinterest in promiscuity, which would be prioritized among those interested in LTM but not STM. This additional LTM benefit would thus position agreeable men to be slightly more desirable among women with restricted attitudes than those with unrestricted attitudes to ensure access to mates with consonant mating strategies.

Unexpectedly, preferences for agreeable female faces were unrelated to sociosexuality. Findings may reflect men's prioritization of different physical features in mates as a function of desired context. Whereas women focus on male facial features connoting good genes in STM, men prioritize female body features connoting fertility for STM (Confer, Perilloux, & Buss, 2010). This prioritization could reduce perceptual acuity toward facial structures connoting women's mate value in favor of acuity toward other reproductively relevant cues. Women's lack of preferences in female faces could also reflect perceptions of conflicting interpersonal cues. Although agreeable women would pose less intrasexual threat, agreeable women may nonetheless be perceived as especially friendly, implicating them as desirable across either mating context. This is consonant with previous research indicating neurotic women's aversion to agreeable female faces (Sacco & Brown, 2018b), suggesting women may perceive agreeable female faces as intrasexually threatening and making moderation by sociosexuality unlikely.

4.1. Limitations future directions

Although our results are theoretically sensible, the current study presents several limitations. First, this study did not assess the basis of participants' preferences for male faces. Future research would benefit from identifying the explicit social affordances of agreeable male faces while determining the extent to which such affordances elicit preferences. Agreeable male facial structures may veridically connote such men as posing both little intrasexual threat and disinterest in promiscuity (Schmitt & Shackelford, 2008). A future study could assess the extent to which men perceive agreeable and antagonistic male faces as intrasexually threatening, which could be predictive of subsequent affiliative decisions. Furthermore, if antagonistic men are perceived as more intrasexually threatening, another study could assess aggression or mate-guarding tendencies from agreeable and antagonistic men (Ainsworth & Maner, 2014).

The preference for agreeable men among women with restricted attitudes could reflect identification of men disinterested in infidelity. Future research could task women to indicate whether agreeable or antagonistic faces appear more prone to infidelity, which could predict restricted women's preference for agreeableness. It could also be possible that low levels of facial agreeableness connote an interest in adornment to enhance one's physical appearance (Holtzman & Strube, 2013). This recognition could be the basis of restricted women's relative aversion, as they could recognize such adornment as indicative of STM intent, given that adornment is typical of other personality traits associated with STM (e.g., Dark Triad traits). Nonetheless, women's preference was only marginal, which could suggest limits to our task. Subsequent studies could explicitly specify context for which either face would be preferable (Marcinkowska et al., 2015) or have women indicate the desirability of agreeable and antagonistic faces in LTM and STM (Brown & Sacco, 2018), affording the opportunity to understand domain-specificity of women's preferences. Agreeable men's behavioral repertoire makes it seem sensible to predict agreeable facial structures' LTM desirability.

5. Conclusion

Human faces connote information regarding individuals' relationship intentions. The current study demonstrated male faces connoting agreeableness are especially informative for women's mate choices and men's identification of potential intrasexual threats. Whereas interest in promiscuity predicted men's preference for agreeable men, who are less promiscuous, *disinterest* in promiscuity predicted preferences for agreeableness.

References

Ainsworth, S.E., Maner, J.K., 2014. Assailing the competition: Sexual selection, proximate mating motives, and aggressive behavior in men. Personality and Social Psychology Bulletin 40, 1648–1658.
Barclay, P., 2010. Altruism as a courtship display: Some effects of third-party generosity on audience perceptions. British Journal of Psychology 101, 123–135.
Brown, M., Sacco, D.F., 2017. Unrestricted sociosexuality predicts preferences for extraverted male faces. Personality and Individual Differences 108, 123–127.
Brown, M., Sacco, D.F., 2018. Put a (limbal) ring on it: Women perceive men's limbal rings as a health cue in short-term mating domains. Personality and Social Psychology Bulletin 44, 80–91.
Buss, D.M., Schmitt, D.P., 1993. Sexual strategies theory: An evolutionary perspective on human mating. Psychological Review 100, 204–232.
Cheng, J.T., Tracy, J.L., Henrich, J., 2010. Pride, personality, and the evolutionary foundations of human social status. Evolution and Human Behavior 31, 334–347.
Confer, J.C., Perilloux, C., Buss, D.M., 2010. More than just a pretty face: Men's priority shifts toward bodily attractiveness in short-term versus long-term mating contexts. Evolution and Human Behavior 31, 348–353.
Figueredo, A.J., Sefcek, J.A., Jones, D.N., 2006. The ideal romantic partner personality. Personality and Individual Differences 41, 431–441.
Holtzman, N.S., 2011. Facing a psychopath: Detecting the dark triad from emotionally-neutral faces, using prototypes from the personality Faceaurus. Journal of Research in Personality 45, 648–654.
Holtzman, N.S., Strube, M.J., 2013. People with dark personalities tend to create a physically attractive veneer. Social Psychological and Personality Science 4, 461–467.
Jonason, P.K., Buss, D.M., 2012. Avoiding entangling commitments: Tactics for implementing a short-term mating strategy. Personality and Individual Differences 52, 606–610.
Kenrick, D.T., Groth, G.E., Trost, M.R., Sadalla, E.K., 1993. Integrating evolutionary and social exchange perspectives on relationships: Effects of gender, self-appraisal, and involvement level on mate selection criteria. Journal of Personality and Social Psychology 64, 951–969.
Kramer, R.S., Ward, R., 2010. Internal facial features are signals of personality and health. Quarterly Journal of Experimental Psychology 63, 2273–2287.
Li, N.P., Bailey, J.M., Kenrick, D.T., Linsenmeier, J.A., 2002. The necessities and luxuries of mate preferences: Testing the tradeoffs. Journal of Personality and Social Psychology 82, 947–955.
Li, N.P., Kenrick, D.T., 2006. Sex similarities and differences in preferences for short-term mates: What, whether, and why. Journal of Personality and Social Psychology 90, 468–489.
Lukaszewski, A.W., Roney, J.R., 2011. The origins of extraversion: Joint effects of facultative calibration and genetic polymorphism. Personality and Social Psychology Bulletin 37, 409–421.

Marcinkowska, U.M., Helle, S., Lyons, M.T., 2015. Dark traits: Sometimes hot, and sometimes not? Female preferences for Dark Triad faces depend on sociosexuality and contraceptive use. Personality and Individual Differences 86, 369–373.

Medlin, M.M., Brown, M., Sacco, D.F., 2018. That's what she said! Perceived mate value of clean and dirty humor displays. Personality and Individual Differences 135, 192–200.

Nettle, D., 2005. An evolutionary approach to the extraversion continuum. Evolution and Human Behavior 26, 363–373.

Parkinson, B., 2005. Do facial movements express emotions or communicate motives?. Personality and Social Psychology Review 9, 278–311.

Penke, L., Asendorpf, J.B., 2008. Beyond global sociosexual orientations: A more differentiated look at sociosexuality and its effects courtship and romantic relationships. Journal of Personality and Social Psychology 95, 1113–1135.

Sacco, D.F., Brown, M., 2018. The face of personality: Adaptive inferences from facial cues are moderated by perceiver personality and motives. Social and Personality Psychology Compass 12, e12410.

Sacco, D.F., Brown, M., 2018. Preferences for facially communicated big five personality traits and their relation to self-reported big five personality. Personality and Individual Differences 134, 195–200.

Simpson, J.A., Gangestad, S.W., 1991. Individual differences in sociosexuality: Evidence for convergent and discriminant validity. Journal of Personality and Social Psychology 60, 870–883.

Simpson, J.A., Gangestad, S.W., 1992. Sociosexuality and romantic partner choice. Journal of Personality 60, 31–51.

Simpson, J.A., Gangestad, S.W., Christensen, P.N., Leck, K., 1999. Fluctuating asymmetry, sociosexuality, and intrasexual competitive tactics. Journal of Personality and Social Psychology 76, 159–172.