The effect of sexual orientation on preferences for altruism in human mate choice

Abstract

The role of altruism in mate choice is a well-researched area in evolutionary psychology. Same-Sex Sexual Attraction (SSSA) is an under-researched area and is not covered in research exploring the role of altruism in mate choice. To begin addressing this gap, we explored the effect of sexual orientation on preferences for altruism in mate choice. We recruited heterosexual and homosexual participants (*N*=321) to complete two scales assessing attractiveness of a potential partner who completed altruistic actions and secondly, participants were asked to rate how altruistic they are on an individual basis. There was no significant effect of sexual orientation on the desirability of altruism in a potential mate, demonstrating that those who act altruistic are desirable, regardless of sexual orientation. However, gender and self-rated altruism were found to have a statistically significant effect on the desirability of a potential mate. Limitations and future directions of research are also discussed.

Keywords: altruism, mate choice, same-sex attraction

Altruism is a well-established example of intersexual competition, evolved through sexual selection (Farrelly, 2011; Arnocky et al., 2017). Sexual selection and altruism are observed in heterosexual contexts, with theories being developed, describing how altruism is an evolved trait, used as a mating signal (Miller, 2000). This is supported by research showing that those who display altruistic behaviorrs are seen as desirable when evaluating a potential mate (Phillips et al., 2008; Farrelly, 2011). The evidence for this finding is robust with extensive use of vignettes, a mix of self-report scales (such as Mate Preferences towards Altruistic Traits scale [MPAT]) and economic games for researchers to study altruism in real-world scenarios (see Bhogal et al. 2019 for a review). Findings show that altruistic actions are desirable and male participants who act altruistically reported having more lifetime partners than those who are non-altruistic (Arnocky et al., 2017). These results have further been supported by a longitudinal study that found those who are single and engage in altruistic behavior have higher chances of being in a relationship within the following 12 months (see Stavrova & Ehlebracht, 2015). Furthermore, when comparing altruism with other factors that are known to influence attraction such as status or physical attractiveness, altruism is always preferred for long term compared to short-term relationships (Ehlebracht et al., 2017; Farrelly et al., 2016; Skilton & Farrelly, 2024).

The aforementioned studies have exclusively focussed on heterosexual participants, meaning little is known on altruism and Same Sex Sexual Attraction (SSSA). It has been seen that homosexual men report stronger altruistic values than exclusively heterosexual men, and homosexual females display greater altruistic behaviors than their heterosexual counterparts (Cochran et al., 2009). This study was large (N=2,031) but only assessed altruism from those in HIV/AIDS organisations. The argument to be made is those who engage in voluntary work are more altruistic, regardless of sexual orientation. This does, however, create an interesting research

area to explore, whilst understanding that homosexual participants display greater altruistic behaviors, their response to altruism is undocumented and so it is possible that homosexual participants my find altruism significantly more desirable than their heterosexual counterparts, consistent with the prosociality theory proposed by Barron and Hare (2020).

More recent research has returned to Freudian theories (De Block & Adriaens, 2004) that SSSA in humans was not driven by a procreative need but a prosocial need, with sexual behavior as a way of strengthening social bonds, supporting social integration, important in our recent behavioral evolution with decreased aggression, increased communications and social affiliations (Barron & Hare, 2020). It is also argued by this theory, that any model attempting to explain human SSSA must work for female-to-female attraction as well as male-to-male attraction. There is support for this theory as same-sex couples are argued to be more socially diverse, meaning people are more likely to be from differing ends of the socio-economic scale in terms of education and age compared to opposite-sex couples (Lengerer & Schroedter, 2022). Arguably, this demonstrates prosociality of same sex pairings as the homogamy of opposite-sex couples would prevent a greater mix of differing educational backgrounds and ages, something which the variation of same-sex couples helps alleviate.

Even with the aforementioned evolutionary theoretical background, there is a lack of research examining altruism in SSSA, which is crucial when attempting to understand human behavioral evolution. However, this does make a broad research approach difficult to explore. As a result, the aim of this paper is to examine Same-Sex Sexual Attraction (SSSA) in relation to altruism by using what is already known about opposite sex attraction and apply this to SSSA persons to create a base for future research. If indeed altruism is a product of intersexual competition, an ornament equivalent to the peacock's tail, and following the theory set out by

Barron and Hare (2020), then we should see an effect of sexual orientation on the desirability of altruism in mate choice contexts due to homosexual participants being attracted to the prosocial element of altruism.

As demonstrated over several studies, altruism has a positive effect on attraction in mate choice (Phillips et al., 2008; Farrelly, 2011), the current research examined if altruism has an effect on same sex attraction compared to opposite sex attraction. By examining the participants sexual orientation, gender and desirability towards altruistic targets, understanding the mechanisms of Same Sex Sexual Attraction can been furthered. We examined participants' self-rated altruism as a covariate. Here, we could assess if those who rated themselves as highly altruistic found altruistic targets more desirable compared to those who do not rate themselves as high.

The research question posed was: does the sexual orientation of a person affect their attraction to a potential mate who is displaying altruistic behaviors? To test this, participants were asked to complete two scales. Both of these scales have been used extensively in the mate choice literature and frequently used together over their respective lifespans, with revisions made to the eldest to make it appropriate for a modern-day context (Farrelly, 2013; Iredale et al., 2020; Hansen & Hicks, 1980; Oda et al., 2013).

As research in this area is novel, there were three exploratory hypotheses:

H1: There will be a significant effect of participants sexual orientation on desirability of a potential mate.

H2: There will be a significant effect of participants gender on desirability of a potential mate.

H3: There will be significant interaction between the sexual orientation of the participant (heterosexual or homosexual), and gender on desirability of a potential mate.

Method

Participants

Participants were recruited from the general population in the U.K. To guide the sample size, a G*Power analysis was undertaken (Faul et al., 2009). For an effect size of 0.25 and an alpha level of 0.05, G*Power recommended 269 participants. The parameters for the G*Power were based on previous research (Bhogal et al., 2020). A total number of 321 participants were recruited and a mix of self-identified heterosexual (N = 215) and homosexual (N = 106) participants were recruited.

Design

This study adopted a between groups 2X2 ANCOVA design. There were two independent variables; the participants sexual orientation (2 levels - heterosexual/homosexual) and gender (2 levels - male/female), on the desirability of a potential mate, which is the dependent variable. Self-rated altruism was included as a covariate and controlled for in the analysis.

Materials

In this study, two scales were used to examine desirability of a potential mate and altruism of the participants using a self-report scale. The first scale used was Mate Preference Towards Altruistic Traits scale [MPAT] Philips et al., 2008). When completing this scale, participants were asked to complete a Likert scale based over a total of 36 scenarios, this was used to rate the desirability of the target displaying each particular altruistic behavior. The scenarios described certain altruistic actions such as “Volunteered to help without pay on a week’s holiday for people with disabilities” and participants rated from 1 = undesirable to 5 = desirable. Within the 36 scenarios there were filter questions, which helped disguise the true nature of the study, these

questions appeared in the same format as the regular questions but were neutral and did not describe an altruistic act. Cronbach Alpha was calculated, showing that the scale was reliable on our sample ($\alpha = .765$).

Secondly, participants completed the Self Report Altruism Scale [SRA] Phillips et al., 2008), this scale was closely based on the original SRA (Rushton et al., 1981) but with minor modernisations made, such as 'Xerox Machine' was replaced with 'Photocopier.' The principle was similar to the MPAT scale, with participants completing a Likert scale about how often they have completed certain altruistic actions. For example, participants were asked "I have given directions to a stranger," participants would respond with either, "1=Never" to "5=Very Often.". The scale was reliable in our sample ($\alpha = .898$).

Procedure

Participants completed this study using Qualtrics where their demographic details including age, gender and sexual orientation were captured to screen out those who do not meet the eligibility criteria. Those who were eligible for the study were asked to read the information sheet and confirm they understood by ticking the sections on the consent form. Participants completed the MPAT Scale and then the SRA Scale. Once the two scales had been completed, participants were debriefed online.

Results

A 2X2 ANCOVA was carried out, controlling for self-reported altruism as a covariate. There was a significant main effect of gender F (1, 313) = 5.21, p = .023, η_p^2 = .016. There was a non-significant main effect of sexual orientation F (1, 313) = .816, p = .367, η_p^2 = .003, and there was no significant interaction between sexual orientation and gender F (1, 313) = .358, p = .550,

$\eta_p^2 = .001$. There was a significant covariate effect of self-reported altruism F (1, 313) = 34.02, $p < .001$, $\eta_p^2 = .098$. This suggests that a participant's gender or how altruistically participants rated themselves influences the desirability of an altruistic target .

To investigate these results further, an independent samples t-test explored the effect of gender on self-rated altruism t (316) = -3.11, p = .002, d = 0.97, There was a violation for homogeneity of variance ($p < .001$). This demonstrates that female participants (M = 2.74, SD = 0.87) rated themselves significantly more altruistic than their male counterparts (M = 2.39, SD = 1.10).

A further independent samples t-test was performed to assess the effect of sexual orientation on self-rated altruism, t (316) = 5.29, $p < .001$. Mean responses were highest in heterosexual participants (M = 2.79, SD = 0.87), with self-rated altruism being lowest in homosexual participants (M = 2.19, SD = 1.09) thus not supporting Barron and Hare's (2020). Table 1 shows Descriptive statistics for perceived attractiveness based on sexual orientation and gender.

Table 1.

Descriptive statistics based on sexual orientation and gender.

Sexual Orientation	Participants' Gender	Mean (SD)
Heterosexual	Male	3.39 (1.06)
	Female	3.77 (0.66)
Homosexual	Male	3.46 (0.91)
	Female	3.59 (0.92)

Discussion

This exploratory study aimed to examine sexual orientation and the effect this has on desirability towards altruistic traits. To our knowledge, this is the first study to examine sexual orientation and altruism in human mate choice. Hypothesis 1 was unsupported, as there was no significant effect of sexual orientation on preferences for altruism. Hypothesis 2 was supported, as there was a significant effect of gender on preferences for altruism. This is consistent with existing literature that females place higher importance on altruism when looking for a relationship (Moore et al., 2013; Bhogal et al., 2019c). This research has also demonstrated that alongside gender, self-rated altruism is a significant factor on desirability of a potential mate which is a factor seldom covered in existing research. This study demonstrates how self-rated altruism influences how attractive altruistic behaviors are.

The primary factor explored in this study was sexual orientation and the analysis shows this was not a significant contributing factor, any previous research and wider theory that suggests that homosexual participants are more altruistic than heterosexual participants (Barron & Hare,

2020; Cochran et al. (2009), potentially due to Same-Sex Sexual Attraction (SSSA) being a product of human evolution that evolved for strengthened community bonds via altruism and prosociality, is not supported by this study.

Although a small step, this study does challenge the notion that the desirability of altruistic tendencies in a partner are restricted to heterosexual couples. Results show, across heterosexual and non-heterosexual participants that altruism is a desirable trait. This study treated participants who identify as homosexual, within their own distinct category, moving away from generalised heteronormative models which have been previously used in research (Thorne et al., 2019).

Regarding hypothesis 3, there was a non-significant interaction between sexual orientation and gender, which could support previous research finding that altruism is a display signal of a good partner/parent (Farrelly, 2013). This display signal can still apply to same sex attracted persons, as same-sex couples still have offspring – just not naturally occurring. This creates a potentially new area of research which could examine altruism in homosexual populations as a signal to those who wish to give away their offspring that same-sex couples are suitable parents. So, whilst this result was null, further investigation can be found from the results of this study. Furthermore, the good partner hypothesis could be supported here, as altruism could be beneficial to romantic relationships, regardless of sexual orientation.

There are notable limitations to consider, related to a lack of categories for those who identify differently such as bisexual participants who did not fit eligibility criteria and so were discounted, something which future research should include. Furthermore, the role of seeking short term or long-term relationships was not included within the research design, so responses from participants are unclear as to if they are referring to a long term or short-term partner, particularly as research shows altruism is desirable for long-term compared to short-term relationships (Bhogal et al.

2020). This makes the results of this study difficult to interpret as it is unknown which relationship type participants were referring to when responding to the MPAT questionnaire. The lack of inclusion for other sexual minorities does not necessarily affect the results of this study but certainly needs addressing in future research. Future work could include those who identify as aromantic or asexual so are either not interested in typical romantic displays or are not interested in sexual intercourse at all. These sexual orientations being present demonstrate a potential evolutionary reason for this that future research should begin to address.

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