

# The alliance theory of homosexual behavior and the perception of social status and reproductive opportunities

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## Abstract

**OBJECTIVES:** The alliance theory holds that homosexual behavior in humans may have evolved because it reinforced same-sex alliances which contributed to survival and reproduction. The present study was designed to test this evolutionary hypothesis in view of the strongly negative perception of homosexual behavior. It was predicted that targets who engaged in homosexual behavior would be perceived as likely to achieve greater social status and reproductive opportunities when the behavior reinforced an alliance that led to increased social opportunities.

**METHODS:** Three hundred sixteen men and women read scenarios in which a target engaged in homosexual behavior and then answered questions about the target's future social status and reproductive opportunities as measured by number of sexual partners. The data were analyzed in two 3 (social outcome: positive vs. neutral vs. negative) × 2 (gender of target) × 2 (gender of participant) analyses of variance.

**RESULTS:** The results supported the predictions and demonstrated that targets were perceived as likely to have the greatest social status and reproductive opportunities in the positive outcome condition.

**CONCLUSION:** The alliance theory of homosexual behavior may have heuristic value for the evolutionary study of homosexual behavior and its perception.

## Introduction

Recently, several researchers have proposed an alliance theory to explain the universal and persistent presence of homosexual behavior in the human population [1, 2, 3, 4]. They argue that the capacity to engage in homosexual behavior under certain ecological conditions may have been adaptive for human ancestors. The sexual behavior may have reinforced same-sex alliances, which contributed directly to survival and indirectly to reproduction.

Ross and Wells [4] argue that the evolutionary study of homosexual behavior has been inappropriately based on contemporary Western societies. These do not reflect ancestral environments under which homosexual behavior is believed to have evolved or the specific ecological conditions that may have affected its expression. Ross and Wells propose that homosexual behavior is an exaptation of homosocial behavior. They speculate that male

homosexual behavior reinforced homosocial bonds which contributed to increased social support and access to resources.

Kauth [1] speculates that as hominid social systems became more complex, sexual desire became socialized. Sexual desire contributed to successful friendships as well as to sexual relationships and served to hold social relationships together. According to Kauth, the capacity to respond erotically to both sexes gave individuals social advantages which then contributed to their survival.

Kirkpatrick [2] and Muscarella [3] argue that the evolutionary study of the topic should focus on homosexual behavior, which is assumed to have some genetic component. They review much historical and cross-cultural literature and argue that for most of the human species across most of its history some degree of bisexual behavior has been the norm. Kirkpatrick [2] posits that male homosexual behavior comes from individual selection for reciprocal altruism, which would have contributed to resource exchange and a reduction in inter-male aggression.

Muscarella [3] speculates that adolescent and young adult hominids were socially peripheralized in same-sex groups. Homosexual behavior was adaptive for both sexes because it reinforced alliances that increased the chances of survival through resource sharing and mutual defense against attacks by predators and higher status conspecifics. Further, the alliances would have benefited the unique reproductive needs of each sex. Same-sex allies would have helped males to climb the social hierarchy more effectively, providing access to females and thus reproductive opportunities. Similarly, same-sex allies would have helped females to move to the safer and resource richer center of the group, which increased their chances of success in raising their offspring.

The perception of homosexual behavior varies across cultures and epochs as a function of local cultural values. This variation in perception is similar to that of other behaviors that may have been adaptive in the evolutionary past but are viewed within the context of cultures' variable ecological demands [5]. In cultures where homosexual behavior is viewed more positively, the behavior often occurs in the context of relationships that can be interpreted as benefiting the social status of one or both partners [6]. In contemporary American culture, homosexual behavior, especially male homosexual behavior, tends to be perceived very negatively [7]. Further, heterosexual men have more negative attitudes toward homosexuality than do heterosexual women [8]. For example, Ellyson [9] reported that some male survey respondents ranked engaging in homosexual behavior as worse than burning down a nursing home filled with elderly people.

Human males are speculated to be more sensitive than females to factors that threaten their social status because of its direct link to reproductive success in their evolutionary history [5, 10]. The label *homosexual* is associated with decreased social status for both males and females. However, it is very closely linked with decreased social status for males because of its association with the concepts of femininity and gender nonconformity [7].

The association of decreased social status with the term homosexual may contribute to males' more negative reaction to its presentation and manifestation.

Evolutionary psychology holds that contemporary environmental conditions that replicate or approximate the conditions under which a behavior evolved may influence the manifestation of that behavior and its psychological processing through the activation of evolved psychological mechanisms [5]. In view of the severely negative perceptions of homosexual behavior that exist in the general population, the manipulation of perceptions of homosexual behavior could provide evidence for the alliance theory as a valid theory of the evolution of homosexual behavior. Thus, this study was designed to determine if the perception of targets who engaged in homosexual behavior would vary in the expected direction when the behavior was placed in its speculated evolutionary context. Specifically, it was predicted that targets who engaged in homosexual behavior that reinforced an alliance which led to increased social opportunities would be perceived as more likely to achieve greater social status and reproductive opportunities.

## Material and Method

### *Participants*

Participants were recruited from a university campus and paid a \$5.00 incentive. There were 316 participants (154 men and 162 women) who ranged in age from 18 to 48 years ( $M = 21.77$ ,  $SD = 4.3$ ). The participants' self-classification of ethnicity is as follows: 98 Hispanic, 85 Black, 83 White, 7 Afro-Caribbean, 3 Asian, and 40 mixed-race and non-classified.

### *Materials*

A standard scenario was constructed describing a target (Bill or Sara) as a popular and talented 18-year-old student athlete, with a history of opposite sex dating, who attends a summer basketball camp. The target, whose talent is recognized at the camp, becomes friendly with another, same-sex student whose father is a coach for a professional team. The target and the other player are described as becoming close and developing a sexual relationship. The sexual relationship is described as such, and the terms gay, lesbian, homosexual and bisexual are not used.

Three outcome paragraphs varied by condition. In the positive outcome condition the target receives a letter of recommendation from the other student's father. The target goes with a full scholarship to a college and plays on its top ranked team which is always scouted by the professional teams. In the neutral outcome condition there is no impact of the relationship upon the target's admission to colleges. The target is described as returning home after the camp and waiting to hear which of the schools with low, medium, and high ranking teams he/she has been accepted to. In the negative outcome condition the target loses a chance to go to a college with a top or middle ranked team because word of the relationship reaches coaches who will not admit the target. The target is described as going to a college without a scholarship

and playing basketball on its low ranking team which is never scouted by the professional teams.

In a preliminary study, the outcome paragraphs themselves, independent of the scenario, were rated for how positive and desirable they were. Thirty participants (15 men and 15 women) rated the outcome paragraphs on an 11-point Likert scale (0 = *least positive and desirable*, 10 = *most positive and desirable*). A series of t tests indicated that the positive outcome ( $M = 8.6$ ) was rated higher than the neutral outcome ( $M = 6.0$ ),  $t(18) = 2.86$ ,  $p = .01$ , which was rated higher than the negative outcome ( $M = 2.4$ ),  $t(18) = 4.63$ ,  $p < .001$ .

The Perception of Target Questionnaire (POTQ) was developed to assess the participants' perception of the targets. It consisted of 14 items rated on a 7-point Likert scale (1 = *not very likely*, 7 = *very likely*). The items were designed to assess various aspects of social status as measure by social standing (e.g., How likely is Bill/Sara to be recruited by a professional team and become a professional basketball player? How likely is Bill/Sara to be respected by his/her community over his/her life?), access to resources and material wealth (e.g., How likely is Bill/Sara to have a big house, an expensive car, and live in a wealthy area?), and attractiveness as a mate to the opposite sex (e.g., How likely is Bill/Sara to marry a very attractive woman/man?). Reproductive opportunity was measured by asking how many opposite-sex sexual partners the target was likely to have over a lifetime.

#### Procedure

Participants were randomly assigned to one of six vignette conditions. The conditions varied by outcome (positive vs. neutral vs. negative) and gender of target (male vs. female). The participants anonymously completed a packet that included a demographic form, a vignette, and the POTQ. In cases where the participants used adjectives rather than numbers to answer the open-ended question about number of lifetime sexual partners the following transformations were made: none = 0; some = 1; a couple, a few, and several = 2; many, a lot = mean numbers calculated separately for the male target ( $M = 11$ ) and the female target ( $M = 7$ ).

#### Results

The 14 Likert items of the POTQ were grouped into one scale of social status ( $\alpha = .87$ ). A total score was created by summing the responses for the items. Possible scores ranged from 14 to 98. For the item measuring number of sexual partners, a score which appeared to be the end of the normal distribution was identified, and all scores beyond that (e.g., 1000) were given the value of that score plus one [11].

The dependent measures social status and reproductive opportunities were analyzed in two 3 (outcome)  $\times$  2 (gender of target)  $\times$  2 (gender of participant) between-subjects analyses of variance. For the variable social status there was a main effect of outcome,  $F(2, 297) = 29.95$ ,  $p < .001$ . Tukey post hoc analysis revealed that the positive outcome ( $M = 72.10$ ,  $SD = 11.22$ ) was significantly greater than the neutral outcome ( $M = 67.34$ ,  $SD = 11.25$ ) which

was significantly greater than the negative outcome ( $M = 60.32$ ,  $SD = 12.21$ ). There was a main effect of gender of target,  $F(1, 297) = 19.11$ ,  $p < .001$  such that female targets ( $M = 69.31$ ,  $SD = 11.77$ ) received higher scores than male targets ( $M = 64.01$ ,  $SD = 12.67$ ). There was a main effect of gender of participant,  $F(1, 297) = 13.22$ ,  $p < .001$  such that female participants gave higher ratings ( $M = 68.84$ ,  $SD = 13.12$ ) than male participants ( $M = 64.36$ ,  $SD = 11.41$ ). There were no significant interactions.

For the variable reproductive opportunities, measured by number of sexual partners, there was a main effect of outcome,  $F(2, 295) = 3.51$ ,  $p = .031$ . Tukey post hoc analysis revealed that the positive outcome ( $M = 11.13$ ,  $SD = 12.34$ ) was significantly greater than the negative outcome ( $M = 7.29$ ,  $SD = 8.22$ ). The neutral outcome ( $M = 9.41$ ,  $SD = 12.33$ ) was not significantly different from either the positive or negative outcomes. There was a main effect of gender of target,  $F(1, 295) = 13.24$ ,  $p < .001$  such that the male target ( $M = 11.53$ ,  $SD = 14.54$ ) had more sexual partners than the female target ( $M = 7.02$ ,  $SD = 5.54$ ). There was a two-way interaction between outcome and gender of participant,  $F(2, 295) = 3.04$ ,  $p = .05$  such that men in the positive outcome condition reported the highest number of sexual partners for the targets. A three-way interaction between outcome, gender of target, and gender of participant approached significance ( $p = .07$ ) indicating that the highest number of sexual partners was reported by men for the male target in the positive outcome condition.

#### Discussion

The results of this study support the predictions. Targets who engaged in homosexual behavior were perceived by both male and female observers as likely to have greater social status and reproductive opportunities when the behavior was presented in its speculated evolutionary context. That is, when the behavior reinforced an alliance which led to increased social opportunities. These results are noteworthy in view of the well-documented negative impact that homosexual behavior has on social perception especially as it relates to male targets and observers [7, 8]. In fact, perceptions of homosexual behavior tend to be so negative that it is compelling to demonstrate that those negative perceptions can be altered in an experimental setting. The successful manipulation of social perception occurred by varying contextual conditions as informed by theory. The results suggest that the alliance theory may have heuristic value for the evolutionary study of homosexual behavior and its perception.

Consistent with the literature, the homosexual behavior appeared to be more damaging to the male target's status than to the female target's, and men gave lower ratings to the targets than did women. These results also support the validity of the vignettes because they had the predicted outcome for the well-documented and robust effect of sex differences in the perception of homosexual behavior. The male target was seen as having more sexual partners than the female target. The trend for men to perceive the male target in the positive outcome condi-

tion as having the highest number of sexual partners is consistent with the evolutionary concept that males are very sensitive to the reproductive opportunities associated with high social status. This result seems to support the contention that a key issue associated with men's perception of homosexual behavior is its impact on perceived status and merits further study.

One limitation of the study is the possibility that a target engaging in any number of negatively perceived behaviors who is placed in a condition with strong social opportunities might be rated as likely to have more social status in the future. This remains to be determined. Further, future studies based on the alliance theory could examine the perception of homosexual behavior itself as well as the perception of the personal characteristics of the targets who engage in it.

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### REFERENCES

- 1 Kauth MR. True nature: A theory of sexual attraction. New York: Kluwer Academic/Plenum Publishers; 2000.
- 2 Kirkpatrick RC. The evolution of human homosexual behavior. *Curr Anthropol* 2000; **41**:385-414.
- 3 Muscarella F. The evolution of homoerotic behavior in humans. *J Homosexual* 2000; **40**:51-77.
- 4 Ross MW, Wells AL. The modernist fallacy in homosexual selection theories: Homosexual and homosocial exaptation in South Asian society. *Psychology, Evolution & Gender* 2000; **2/3**:253-262.
- 5 Buss DM. *Evolutionary psychology: The new science of the mind* (2<sup>nd</sup> ed.). Boston: Allyn and Bacon; 2004.
- 6 Greenberg DF. *The construction of homosexuality*. Chicago: University of Chicago Press; 1988.
- 7 Kite ME, Whitley BE, Jr. Sex differences in attitudes toward homosexual persons, behaviors and civil rights: A meta-analysis. *Pers Soc Psychol Bull* 1996; **22**:336-352.
- 8 LaMar L, Kite ME. Sex differences in attitudes toward gay men and lesbians: A multidimensional perspective. *J Sex Res* 1998; **35**:189-196.
- 9 Ellyson SL. The interaction of homonegativity and gender: Twenty years and five samples. Paper presented at the annual meeting of the Eastern Psychological Association, Providence, RI; 1999.
- 10 Symons D. *The evolution of human sexuality*. New York: Oxford University Press; 1979.
- 11 Tabachnick BG, Fidell LS. *Computer-assisted research design and analysis*. Boston: Allyn and Bacon; 2001.