

Familial Aspects of Male Homosexuality

Khytam Dawood, M.S.,¹ Richard C. Pillard, M.D.,² Christopher Horvath, Ph.D.,³ William Revelle, Ph.D.,¹ and J. Michael Bailey, Ph.D.¹

Research has generally supported the existence of familial–genetic factors for male sexual orientation, but has not shed much light on the specific nature of those influences. Gay men with gay brothers provide the opportunity to examine several hypotheses. Sixty-six men, representing 37 gay male sibling pairs, completed questionnaires assessing behavior on various measures including childhood and adult gender nonconformity, timing of awareness of homosexual feelings, self-acceptance, and the quality of family relationships. Consistent with prior findings using twins, gay brothers were similar in their degree of childhood gender nonconformity, suggesting that this variable may distinguish etiologically (e.g., genetically) heterogeneous subtypes. The large majority of gay men with brothers knew about their own homosexual feelings before they learned about their brothers' homosexual feelings, suggesting that discovery of brothers' homosexuality is not an important cause of male homosexuality.

INTRODUCTION

Several studies have shown that gay men have more gay brothers than heterosexual men do (Pillard and Weinrich, 1986; Bailey and Bell, 1993; Bailey *et al.*, 1999). The most systematic study to date (Bailey *et al.*, 1999) found the rate of homosexuality in brothers of two samples of gay male probands to be approximately 7–11%, compared with a population prevalence of male homosexuality (using a similar definition) of approximately 2% (Laumann *et al.*, 1994). Twin studies (reviewed by Bailey and Pillard, 1995) have tended to support a genetic interpretation of this familiarity. Because of the high rate of discordant MZ pairs

¹Department of Psychology, Northwestern University, Evanston, Illinois 60208-2710.

²Department of Psychiatry, Boston University, Boston, Massachusetts.

³Departments of Philosophy and Biology, Illinois State University, Normal, Illinois.

(Bailey and Pillard, 1995; Bailey, Dunne, and Martin, 1998), there can be no doubt that nonshared environmental influences are considerable. (Nonshared environment causes differences between siblings reared together.) However, shared environmental influences cannot presently be excluded definitively. In any case, the specific nature of familial influences on male sexual orientation remains unclear. That is, it is unclear how genes and/or shared environment affect male sexual orientation. Merely demonstrating different rates of homosexuality in the brothers of gay and heterosexual men, or in the monozygotic versus dizygotic cotwins of gay twins, cannot illuminate the nature of familial–genetic influences on male sexual orientation. In a sibling study, one must go beyond testing differences in concordance and examine other information about gay men.

For example, one contribution of a study of gay siblings would be to explore familial–genetic heterogeneity. Childhood gender nonconformity (i.e., disliking stereotypic male activities, such as competitive sports, and participating in stereotypic female activities, such as cross-dressing, playing with dolls, and preferring girl playmates) is a strong correlate of male sexual orientation, but there is substantial variability in the trait among gay men (Bailey and Zucker, 1995). That is, some gay men remember being very feminine boys, whereas others remember being typically masculine. It is conceivable that homosexuality that is preceded by childhood gender nonconformity has different causes than homosexuality preceded by gender conformity. Suppose, for example, that both homosexuality with and without childhood gender nonconformity were similarly heritable but involved different sets of genes. In this case, gay siblings would be similar in their degree of childhood gender nonconformity. (Some would share the gene for “masculine” homosexuality; others for “feminine” homosexuality.) There is, in fact, evidence that MZ male cotwins concordant for homosexuality are remarkably similar in their degree of childhood gender nonconformity; one study found a relevant correlation of .76 (Bailey and Pillard, 1991). This is consistent with the possibility that different genotypes cause different “types” of homosexuality. Too few concordant DZ twin pairs, or pairs of nontwin gay brothers, have been studied to determine whether childhood gender nonconformity is similar in gay men who are merely first-degree relatives. If they are not very similar, this would exclude childhood gender nonconformity as an indicator of genetic heterogeneity.

A second potential contribution of the study of gay sibling pairs concerns the possibility of sibling influence. That is, siblings may exert influences on each other’s sexual orientation. Specifically, it is conceivable that having a gay brother is an environmental cause of male homosexuality. For example, knowing that one’s brother is gay could make it more likely that one would consider the possibility oneself, leading to the discovery or acknowledgment of previously hidden sexual feelings. This might be especially true, given the prevalent belief that homosexuality has a strong genetic component (Schmalz, 1993). A second possibility of sibling influence has been raised by several researchers (Slater, 1958; Cameron and Cameron, 1995; Jones and Blanchard, 1998) and in our experience appears to be

a common belief. It is the possibility that male homosexuality can be transmitted within families via incest. Both possibilities can be directly examined by studies of gay brothers. By the respective sibling influence hypotheses we have mentioned, within gay brother pairs, many gay men should have recognized their gay feelings only after they found out about their gay brothers, and early sexual experiences between gay brothers should be common.

Finally, data from gay men with gay brothers, when compared with data from other gay men, can provide rough tests of some other environmental hypotheses. As we have discussed elsewhere (Bailey and Bell, 1993), gay men with gay brothers are especially likely to have been exposed to any familial (or shared) environmental influences affecting sexual orientation. For example, some psychoanalytic theories predict that emotionally distant fathers will produce more gay sons (see Zucker and Bradley, 1995, pp. 239–248, for a review). If the theory is true, then gay men with gay brothers should be especially likely to recall their fathers as emotionally distant.

In the present study, we obtained psychological data from gay men with gay brothers in order to examine several specific hypotheses.

METHOD

Participants

Sibling Pairs

Sibling pairs included gay men with at least one gay brother. Participants were recruited by means of an advertisement in several gay publications in major metropolitan areas across the United States. The advertisement specified that we were looking for gay men with gay brothers to participate in a study on the development of sexual orientation. Confidentiality was assured. When a prospective participant responded to the advertisement, a research associate briefly explained the different components of the study, and determined whether the prospective participant met criteria for participation in the study. Fifty gay men with gay brothers indicated interest in this component of the study, and questionnaires were mailed to both probands and their gay brothers, with an accompanying cover letter emphasizing the importance of the sibling pairs completing the questionnaire without prior discussion among themselves. Sixty-six completed questionnaires were returned, representing 29 complete pairs and 8 incomplete pairs.

Controls

The comparison sample of participants comprised gay men ascertained randomly with respect to familial homosexuality (i.e., we did not ascertain whether

men in this sample had a gay brother). One hundred ninety-one gay males (recruited at the annual Gay Pride Parade in Chicago for a different study) were contacted by mail to solicit participation in this study. Completed questionnaires were received from 49 participants.

Measures

Demographic Variables

The following variables were assessed: sex, age, ethnicity, and highest level of education attained.

Sexual Orientation

This was measured using the Kinsey scale. Participants provided ratings of their sexual attraction to men and women (Kinsey scales; Kinsey *et al.*, 1953). Sexual fantasies (i.e., the degree to which participants' fantasize about their own or opposite sex) and sexual behavior (i.e., the relative frequency of same-sex or opposite-sex activity) were rated separately for adolescence, adulthood, and during the previous year. Kinsey scores range from 0 (completely heterosexual) to 6 (completely homosexual).

Childhood Gender Nonconformity

The Childhood Gender Nonconformity scale consisted of seven items that measured participants' retrospective concepts of self as masculine or feminine in childhood using 7-point rating scales, ranging from "strongly agree" to "strongly disagree." Example items include: "As a child I was called a 'sissy' by my peers" and "As a child I often felt that I had more in common with girls than boys." A previous study found large differences between homosexual and heterosexual men on this scale (Bailey *et al.*, 1996). Coefficient alpha for this scale was .89.

Continuous Gender Identity

This scale (CGI) consisted of 10 items that assessed participants' current self-concepts as masculine or feminine (e.g., "In many ways I feel more similar to women than to men") using 7-point rating scales ranging from "strongly agree" to "strongly disagree." A previous study (Bailey *et al.*, 1998) found this scale to be significantly related to sexual orientation, with homosexual men rating themselves as less masculine than heterosexual men. Coefficient alpha in this sample was .70.

Closeness of Family Relationships

Several scales were created to measure the degree of closeness felt by the participant in relationships with each parent, his gay brother, and with other siblings. Participants were asked to describe the relationship with each member of the immediate family on a 7-point scale ranging from “extremely close” to “extremely distant.” Coefficient alpha for these scales was .66, .81, .62, and .76, respectively, for relationships with mother, father, gay brother, and other siblings.

Self-Acceptance

This nine-item scale was designed to measure attitudes toward an individual’s own homosexuality using 7-point rating scales, ranging from “strongly agree” to “strongly disagree.” Sample items include: “I am proud to be gay,” and “I feel comfortable at openly gay events or social settings.” Coefficient alpha for this scale was .74.

The remaining questions were given only to participants in the gay brothers sample.

Sex-Play between Brothers

This question was adapted from Bell and Weinberg (1978) and was used to assess whether participants had engaged in any sexual activities with their brothers at any time. Participants could check up to seven different sexual activities, ranging from masturbation to anal intercourse. The overall score was the number of the seven items that were checked. Coefficient alpha for this scale was .72. Gay brothers’ agreement on this measure was .59.

Sexual History Variables

A series of 12 questions were included to assess the age of onset of participants’ same-sex sexual fantasies and activities. Participants were also asked to report whether their first homosexual feelings and experiences occurred before or after their awareness of their brothers’ homosexual feelings. Finally, participants were also asked to report the total number of sexual partners they had to date.

Data Analysis

Most of the data analyses were correlational, and two types of correlations should be distinguished. When the variables to be correlated consisted of exactly the same scales over brother pairs, we used the intraclass correlation (ρ), and $N = 29$. Otherwise, we used the Pearson correlation (r), and $N = 66$.

We note one problem with some of our analyses, specifically, those that did not focus on the similarity of brothers in complete pairs. The other analyses (all Pearson correlations and *t*-tests), which employed the entire sample and considered each subject an independent case, technically violated the independence assumptions required for probability estimation. This is because brothers are not independent observations. The seriousness of this violation depends on how highly correlated brothers are for the trait that is analyzed; the higher the correlation, the more serious the violation.

RESULTS AND DISCUSSION

Similarities between Gay Brothers

Consistent with prior studies of twins, gay brothers were remarkably similar in their reports of childhood gender nonconformity, $\rho = .54$, $p < 0.01$. That is, both brothers tended to have been either feminine or masculine. Of course, because the correlation was less than unity, there were exceptions. This suggests that childhood gender nonconformity is a good candidate to distinguish familial–genetic subtypes of male homosexuality. There was no obvious bimodality in this variable’s distribution, suggesting that among gay men, variation in childhood gender nonconformity is not determined by a dichotomous variable (e.g., two different genotypes or environments). This was consistent with previous research (e.g., Bailey and Zucker, 1995, p. 48). Although childhood gender nonconformity was moderately related to continuous gender identity, $r = .45$, $p < 0.05$, the latter trait was uncorrelated among brothers, $\rho = -.03$. Evidently, familial factors influencing the particular expression of homosexual orientation are limited to childhood. However, thinking in terms of two forms of homosexuality, one with “masculine” and one with “feminine” childhood histories, is defensible only as a convenience. Otherwise, we should have found bimodality of our childhood gender nonconformity measure. If the tendency of gay brothers to be similar in their childhood memories reflects genetic heterogeneity, then it is more appropriate to think in terms of several genes that influence a range of feminine expression among gay men.

Brothers were also positively correlated for degree of self-acceptance, $\rho = .26$, and age of “coming out” to parents, $\rho = .31$, although neither correlation was significant. These variables are particularly relevant to the possibility that families with pro-gay attitudes foster more homosexuality. Our results suggest that such effects, if any, are modest.

Sibling Influences

Finally, we examined the possibility that having a gay brother is a causal factor influencing homosexuality in males. As we have noted, it is plausible that having

a gay brother encourages other brothers to explore homosexuality or discover their own homosexual inclinations. This possibility was not supported by our data. Participants reported that, on average, they were aware of their first homosexual feelings at age 11 ($SD = 5$). On average, they first had sexual relations with a man at age 17 ($SD = 6$). They learned of their brother's homosexuality, on average, at age 21 ($SD = 7$). Most of the participants (83%) knew that their brother had homosexual feelings after they had already experienced these feelings, and 69% of them had already had sex with a man before they first knew their brother was gay. This suggests that knowledge that a brother is gay is unlikely to be a powerful cause of homosexuality. Furthermore, it is important to emphasize that even in those cases in which such knowledge occurred before self-knowledge, additional evidence would be required to determine that knowledge about gay brothers is etiologically relevant.

Sibling pairs also reported on the incidence of homosexual sex play between siblings in childhood. Approximately two-thirds of the participants denied any sexual activity with their siblings. Among the 21 participants who indicated that some form of sex play occurred, levels of activity included touching and mutual masturbation ($N = 16$), giving or receiving fellatio ($N = 9$), and anal intercourse ($N = 4$). Only 7 participants indicated that sex play was accompanied by orgasm. Participants who reported sex play with their brothers recalled earlier homosexual feelings ($M = 9.6$) compared with other participants ($M = 11.7$), $t(63) = 1.8$, $p = 0.07$. Furthermore, participants who had such experiences recalled significantly less childhood gender nonconformity, $t(64) = 2.8$, $p < 0.01$. However, similar percentages of men with and without sibling sex play experiences knew about their own homosexual feelings prior to learning of their brothers' (84% and 76%, respectively).

It is important to emphasize that neither our data nor other, similar data (e.g., Cameron and Cameron, 1995) are sufficient to prove an etiologic influence of childhood sex play among brothers on homosexual orientation. One argument in favor of such an influence would be that gay men who engaged in early sex play were less feminine as boys, suggesting that they had less of a predisposition to become homosexual. By this argument, their childhood sex play experience provided a needed push toward homosexuality. One problem with this argument is that studies that have looked have failed to demonstrate that homosexuality associated with childhood gender nonconformity is more environmentally or socially influenced than other homosexuality (e.g., Bailey and Pillard, 1991). The second problem is that alternative explanations of the negative association between childhood gender nonconformity and sexual experimentation between brothers are not difficult to suggest. Perhaps among boys who will become gay men, masculine boys have more opportunities to engage in sex play because they associate more with other boys (including, presumably, their brothers). Alternatively, it is possible that early femininity is associated with personality traits that delay sexual feelings and experience. Further research is required to distinguish among the various alternative

interpretations of these findings. The fact that the majority of men who engaged in early sexual experimentation with their brothers knew about their own feelings before they knew about their brothers' suggests that the sexual experimentation was more likely an indication of, rather than a determinant of, early homosexual feelings.

Comparison of Gay Men with and without Gay Brothers

Gay men with gay brothers did not report more distant relationships with their mothers or fathers, compared with the comparison group. In fact, only one measured variable differentiated gay men with and without gay brothers. Gay men without gay brothers expressed greater self-acceptance of their homosexuality, $d = .50$, $t(110) = 2.6$, $p < 0.01$. This probably reflects an ascertainment bias because most of the control probands were recruited from a gay pride parade. Because this event typically attracts members of the gay community who actively display their self-acceptance and pride in their sexual orientation, we believe this sample of gay men is likely to have elevated self-acceptance relative to gay men who would not attend such an event. We cannot think of an equally plausible alternative in which gay men with gay brothers should be less self-accepting compared with other gay men.

Thus, our results do not suggest that there are large differences between gay men with and without gay brothers. This means that gay men with gay brothers are not very unrepresentative, at least with respect to the variables we examined. Our results are relevant to the issue of whether there are characteristics that distinguish "familial" versus "nonfamilial" forms of male homosexuality; we were unable to find any promising candidates. However, detecting differences, if they are modest in magnitude, requires much greater sample sizes than we had (Eaves, Kendler, and Schulz, 1986).

Finally, we note that our samples were not systematically ascertained, and this may have affected our results. Although we cannot think of ways in which our most interesting significant findings may be due to ascertainment biases, clearly it would be desirable to recruit subjects in a more systematic fashion in future studies.

CONCLUSIONS

Much previous research suggests that male sexual orientation is familial, but little research has taken advantage of familial aggregation to explore more specific etiologic hypotheses. The present study represents an early attempt to elucidate familial-genetic variation among gay men. Consistent with a great deal of prior research, childhood gender nonconformity appears to be a promising

variable for further exploration. Among gay men, childhood gender nonconformity was familial, and it was also associated with different early sexual experiences. Familial–genetic research on sexual orientation should routinely include measures of childhood gender nonconformity in order to examine alternative pathways to adult homosexuality.

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