of whom had bulimia, with a similar group of female patients. Two series of male bulimic patients with five cases (Dunkeld Turnbull et al, 1987) and nine cases (Robinson & Holden, 1986) have also been described. Surveys of the population, which have mainly been conducted on college students, give a prevalence of male bulimics as 0.4–5% of the college population (e.g. Pyle et al, 1983).

A few of the series have mentioned the sexuality of the patients. Three of the nine patients described by Robinson & Holden (1986) were homosexual, and Herzog et al (1984) noted that male patients were significantly more likely to report being homosexual than female patients. He postulated that the greater cultural pressure on homosexual men to be thin and attractive places them at a greater risk of developing eating disorders. If eating disorders are in fact more common in homosexual men than in the male population as a whole, it is perhaps not surprising to see referrals to a psychiatric liaison service which works in close conjunction with a medical team whose patients with HIV infection are mostly homosexual men. Further research to elicit the prevalence of eating disorders in homosexual men who are both seronegative and seropositive for HIV, is necessary to discover the implications of these conditions in this population.

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Homosexuals who are Twins

A Study of 46 Probands

MICHAEL KING and ELIZABETH MCDONALD

Forty-six homosexual men and women who were twins took part in a study of their sexuality and that of their co-twin. Discordance for sexual orientation in the monozygotic pairs confirmed that genetic factors are insufficient explanation of the development of sexual orientation. There was a high level of shared knowledge of sexual orientation between members of twin pairs, and a relatively high likelihood of sexual relations occurring with same sex co-twins at some time, particularly in monozygotic pairs. The implications of these results for the study of the origins of sexual orientation and for twin research are discussed. British Journal of Psychiatry (1992), 160, 407–409

Studies of homosexuals who are twins has centred almost exclusively on a search for genetic factors. The best known of the early studies was that by Kallman (1952) who reported 100% concordance for homosexuality in 37 pairs of monozygotic twins and
12% concordance in 26 pairs of dizygotic twins. His method of ascertainment has been criticized, however, and no subsequent study has claimed such high concordance rates. In the wake of this challenge, and the then-recent Kinsey data (Kinsey et al., 1948), his work was painstaking in its delineation of the spectrum of sexual identity. Most other reports have been based upon interviews or on single case reports (e.g., Heston & Shields, 1968; Eckert et al., 1986) and results have been equivocal. Individual twins have often been ascertained from psychiatric case registers or the clinics of psychiatrists and are, therefore, unrepresentative of homosexual twins (Heston & Shieldes, 1968).

This study was prompted by an observation of the high proportion of twins in a group of randomly selected HIV antigen positive homosexual men (6 out of 30) who were being studied as part of a drug trial. Several of them discussed the extent of their knowledge of their co-twin's sexuality. As studies have generally failed to support heredity as a complete explanation of sexual orientation, it has been argued that genetic factors may predispose individuals to environmental influences leading to their homosexual orientation, or that intense identification or other factors related to twinning might explain higher concordance rates (Wakeling, 1979). Sexual attraction between same-sex twins has occasionally been reported (e.g., Myers, 1982; Eckert et al. 1986). However, together they have usually denied this (Kallman, 1952; Heston & Shieldes, 1968). Although much has been written of the close affinity between, particularly monogamous, twins, little is known about their likelihood of incest and even less is known about twinnings where at least one member is homosexual. Our aim was to examine concordance for sexuality and the extent of shared knowledge and physical attraction between twin pairs in which at least one member is homosexual.

Method

Notices were placed in several local and national 'gay' periodicals requesting homosexual men and lesbians who were twins to contact us. Little information was given in the notice about the study, except to stress that we wanted to contact all such men or women, regardless of whether they considered that their co-twin was also of homosexual orientation. Each subject who contacted us was posted a questionnaire on the following:

Table 1: Sexual orientation of the co-twin

<table>
<thead>
<tr>
<th></th>
<th>Homosexual</th>
<th>Bisexual</th>
<th>Heterosexual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monogamous</td>
<td>2</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Dizygotic</td>
<td>2</td>
<td>1</td>
<td>22</td>
</tr>
</tbody>
</table>

1. One triplet with one homosexual and one heterosexual subject is not included.

HOMOSEOUS TWINS

Results

Forty-eight people responded to our notices, of whom 46 returned completed questionnaires. Our respondents were predominantly young men (38 males, 8 females; mean age 31.8 (d. 9-25) years, range 18-60) of middle to higher social class. Forty-five identified themselves as primarily homosexual and one as bisexual, 42 were simple and four had been married at some time. Twenty (43%) claimed they were identical (or monogamous, 23 (50%) non-identical (or dizygotic), two were unsure but considered themselves dizygotic and one was a trizygotic triplet. In 33 pairs, the co-twins were of the same sex as the respondent; 20 were monogamous and 13 dizygotic.

All except one respondent were 'fairly sure' or 'certain' of their co-twin's sexual preference. In 25 instances, the co-twin had actually discussed their sexuality with our respondent. Only nine (20%) subjects claimed that their co-twin was also homosexual and only five of these was the female triplet who claimed that her brother was homosexual and her sister heterosexual. There was little difference in concordance between monogamous and dizygotic pairs (Table 1). The majority (41%) claimed that their co-twin was aware of their (the respondent's) homosexuality. Five men and two women (15%) reported having had homosexual relations with their co-twin at some time in the past. Only nine of these reported that the sexual relationship had been prolonged, in one case continuing after the marriage of the co-twin. Thus, seven (5 male, 2 female) of 33 (21%) twins from same-sex pair that her brother was homosexual and her sister heterosexual. Of these, one was from a dizygotic, and six were from monogamous pairs. Nevertheless, in five of these seven cases, the respondent considered their co-twin to be homosexual or bisexual in orientation. In only one case was the fact of this sexual relationship known by any other person besides the twins. Although several of the remaining pairs reported that they had been sexually attracted to their co-twin whether that twin was the same or opposite sex.

Discussion

Our knowledge, this group of homosexual and bisexual twins is the largest reported to date. It is important to all studies in the last independent studies have indicated that twins may class themselves more accurately on the range of accuracy (Hirshe & Robbinette, 1983).

In this sex development, the discordance for sexual attraction in both monogamous and dizygotic pairs supports and confirms that genetic factors are sufficient to explain the development of sexual orientation. This result occurred despite possible sex. However, it could be argued that the nature and exaggerating the chances that their twin also being homosexual, or those having a non-co-twin finding the research more explained. In this study, there was a high level of shared knowledge but only a low proportion of members of the present sample had a relatively high likelihood of sexual attraction occurring with same-sex co-twins at some particularity in monogamous pairs. Where same-sex co-twins had occurred, the twins if did not mind that the co-twin was necessarily homosexual. These data implicate the reverse. Our findings give little support to theories of 'intersex'. Despite finding to raising concordance for sexuality in childhood, it may not be as simple as a family history of sexual orientation. That sexual attraction between brothers is rare, but 'degree of intimacy' can take place, the respondent considered the most interesting 'differentiating relationship' which may be between monogamous twins is that of 'incest-submissiveness' (Shields, 1962). Thus, the co-twin's influence in place, the respondent to this study might have been the dominant twin of the pair. There is a lack of knowledge about the ' incest between twins of all types. It has been assumed that the relationship is a function of their relationship with each other and regardless of their relationship orientation, monogamous twins might find that developing sexual relationships later in life is more difficult and subject to disability. Monozygotic twins may be especially prone to sexual dysfunction with partners or spouses (Myers, 1982), perhaps reflecting this emotional ambivalence. How do these findings inform future research into the origins of sexual orientation? It is clear that our current genetic and psychological theories are untenable. The co-twins of men and women who identify themselves as homosexual appear to have a potential for sexual behavior. Although this is a sensitive area, more detailed exploration of the sexual relationships between twins and their later development may cast more light on the origins of sexuality than a narrow search for genetic factors.

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