



by Stanton L. Jones and Mark A. Yarhouse

*Homosexuality is a hot topic. Gay-rights activists flaunt it. Christians are concerned about it. Some people do battle against it. Congress has debates about it. Counselors help people who struggle with it. Few are neutral about it.*

# HOMOSEXUALITY

*But what do we really know about it?*

Christian Counseling

*Today is not a research journal; many of our articles don't have footnotes or references to scientific studies.*

## What We Know for Sure

*Nevertheless, we asked two research experts to*

*tell us what we really know about homosexuality and to back their conclusions with research data. What follows is more technical than our usual articles, but if you want a readable summary of the current scientific knowledge about homosexuality, read on.*

In the midst of perplexing debates on homosexuality, discussions often turn to the behavioral sciences for research-based data to help us answer complex moral, legal, and political questions. As members of the Christian community and the professional mental health community, Christian clinicians have a unique responsibility to be well-informed and to contribute to discussions on homosexuality with insight and compassion. This article summarizes current and relevant scientific knowledge to help us understand the extent of homosexuality, its causes, and the effectiveness of different change methods.

### **Prevalence: How Common Is Homosexuality?**

A recent journal article began with these words: "Given that lesbians and gay men comprise 10 to 15 percent of the general population, today's psychotherapist cannot afford to be ignorant of the mental health needs specific to these groups."<sup>1</sup> Statements like this assume that the mythical 10 percent

figure is a true indication of the prevalence of homosexuality. Legislators, media people, and even some church groups allow erroneous figures to shape their debates and influence what appears in their literature on sexuality. For example, the 1991 Presbyterian Church (USA) Majority Report on Sexuality stated, "Research...indicates that at least 10 percent of the American population, or approximately 22 million persons, are predominantly gay or lesbian."<sup>2</sup>

This claim of 10 percent prevalence of homosexuality is incorrect. The 10 percent figure is erroneously based on the famous Kinsey studies; however, significant sample biases in the original Kinsey study are increasingly being recognized.<sup>3</sup> For example, researchers examined previously unanalyzed Kinsey survey data from 1970 on the sexual behavior of 1,450 men. They found that only 3.3 percent reported having homosexual experiences either "occasionally" or "fairly often" at any point in adult life, and that between 1.6 and 2 percent reported having had some homosexual experience in the pre-

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P. 5

vious year.<sup>4</sup> Another research team found that only 2.3 percent of American males had engaged in any homosexual relations in the last 10 years: 1.1 percent had engaged in exclusively homosexual relations during that period. Other excellent studies have produced even lower estimates of male homosexual behavior.<sup>5</sup>

The prevalence rate of homosexuality in our culture is certainly not 10 percent. Good evidence suggests that the prevalence of males who are homosexually active in a given year is less than 3 percent and perhaps less than 2 percent. Although female homosexuality continues to be less frequently studied, this generally is estimated at half or less the frequency of male homosexuality. When the prevalence rates for male and female homosexuality are combined, homosexuality almost certainly characterizes less than 2 percent of the population.

### **Etiology: What Causes Homosexuality?**

Research on environmental causes of homosexuality—like family influences or past experiences—essentially has come to a standstill, and is widely criticized as inconclusive. The focus of research has shifted to the possible role biological factors play in the etiology of homosexual orientation. To date only a handful of biological studies have been completed, and fewer have been successfully replicated. Still many researchers consider biology to be the best source for answers to the etiological question. Genetics, hormonal studies, and brain research are three primary areas of current scientific activity.<sup>6</sup>

**Genetic Factors.** Some researchers have approached the question of genetic determination of homosexuality by comparing the behavior of identical twins with fraternal twins and other siblings. In terms of sample size and sophistication of methodology, the

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best studies of male and female homosexuality report that 52 percent of the men with monozygotic (identical) twin brothers shared a homosexual preference, while only 22 percent of the men with fraternal (non-identical) twin brothers shared a homosexual preference.<sup>7</sup> Statistics on female homosexuality were remarkably similar.<sup>8</sup> The researchers, Michael Bailey and Richard Pillard, concluded that genetic factors or "heritability" explains the majority of variance in sexual orientation.

Several concerns ought to be raised about this research. First, the best other recent studies of the genetic hypothe-

sis have not produced comparable results. One study reported concordance rates for male and female homosexuals mixed together to be about half those reported by Bailey and Pillard.<sup>9</sup> Second, and of greater concern, is the sampling method of the study. Volunteer bias could have dramatically affected the results, since subjects for the study were recruited through homophilic magazines, tabloids, and general advertisements in the gay community. Finally, the authors did not discuss the base rates of homosexual preference in these studies. If the real prevalence of homosexual orientation is around 2 percent for men and 1 percent for women, then why did the authors fail to note that the rate of homosexuality in these families, even among adoptive siblings, was approximately five times the national rates? If the findings of both studies can be summarized as finding 50 percent concordance rates among monozygotic twins and 10 percent among unrelated adoptive siblings, and if the true population base rates are below 2 percent, then genetic and environmental factors, appear to have contributed to etiology to a remarkably similar degree.

More recently, a study in *Science* has taken the genetic hypothesis a step further and reported that markers on chromosomes are associated with homosexual orientation.<sup>10</sup>

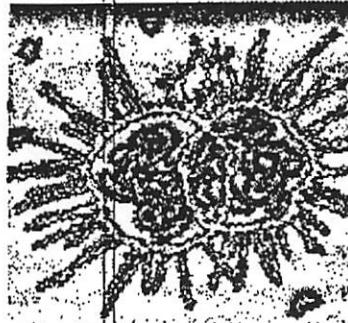
# HOMOSEXUALITY

## What We Know for Sure

Many assume that this study has unveiled a "homosexual gene," but the researchers themselves call this claim presumptuous. A careful examination of the study reveals that it begs the question of whether the identified chromosomes actually cause homosexual orientation, are necessary but not sufficient to cause it, or perhaps if the researchers actually discovered markers to temperamental or other variables that simply make homosexuality more likely to occur. Further, as is the case with much of the current and well-publicized research, this study has not yet been replicated, and similar claims regarding other behavioral syndromes have recently failed replication.

**Hormonal Influences.** In addition to research in genetics, a lot of speculation has concerned the role of hormones in the etiology of a homosexual orientation. Concerning adult hormonal influences and sexual orientation, recent research shows no difference between the testosterone or estrogen levels of homosexual and heterosexual men.<sup>11</sup> The scientific community is nearly unanimous in accepting the view that hormones in adults do not determine whom one finds sexually attractive.

As it became evident that adult hormone levels were not a factor in determining sexual orientation, scientists shifted their attention to studies on prenatal hormone exposure. This is the view that "male heterosexuality and female homosexuality result from prenatal exposure to high levels of testicular hormones, while homosexual males and heterosexual females are exposed to lower levels and thus retain a female pattern of brain organization."<sup>12</sup> Currently there are two general areas of evidence for prenatal causation of human homosexuality: studies of abnormal sex hormone levels in animal fetuses and



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research on what is known as "cycles of luteinizing-hormone feedback."

Several studies have induced abnormal sex hormone levels in pregnant animals to study how this influences sexual behavior patterns in the offspring. According to one review of animal research, such manipulations can result in animals showing sexually inverted behavior when mature, including homosexual behaviors related to mating.<sup>13</sup> Could a similar process explain human homosexuality? Some have argued that hormone variations during a critical time in pregnancy—when the neural-hormonal control system is developing between the middle of the second and fifth months after conception—may be a causal factor in human homosexuality.<sup>14</sup> Others have argued that numerous problems exist in establishing the relevance of this type of animal research for human beings, including the

highly abnormal hormone levels used to create these inversions and the considerable differences between animal and human sexual behavior.<sup>15</sup>

A second possible evidence for the prenatal-hormonal theory of sexual orientation involves luteinizing-hormone (LH) feedback. LH is a hormone released by the brain which initiates the development of an egg in the female's ovary. Both males and females produce LH. Administration of estrogen causes an increased release of LH in normal female animals but a decreased release in normal male animals. Some researchers have reported an LH feedback response in male homosexuals more similar to that of heterosexual women than heterosexual males.<sup>16</sup> These studies have failed replication, and theories explaining this response have been criticized.

**Anatomic Studies.** Recent attention has turned to brain structure and sexual orientation. It has been reported that the brain of a

homosexual male is on average more like that of a heterosexual female than a heterosexual male in three areas: the third interstitial nucleus of the anterior hypothalamus,<sup>17</sup> the suprachiasmatic nucleus of the hypothalamus,<sup>18</sup> and the midsagittal plane of the anterior commissure.<sup>19</sup>

Perhaps the most frequently mentioned evidence for anatomical differences between homosexual and heterosexual males is research by Simon LeVay.<sup>20</sup> In 1991, LeVay reported that the third interstitial nucleus of the anterior hypothalamus (INAH 3) is smaller in homosexual men than in heterosexual men, and that this portion of the brain is closer in size to the corresponding area in female brains. However, LeVay himself admits his study has several problems, including a small sample size, variation in individual nucleus size, and possible skewed results because all the gay men and some of the heterosexual subjects in his study had died of AIDS.<sup>21</sup> The effect of AIDS and its related complications on the size and shape of the brain is unknown. Significantly, only the male AIDS patients in LeVay's study, and not the presumed heterosexual males who died of other causes, had been asked their orientation before they died. In addition, three of the homosexual men in LeVay's study had INAH 3 areas as large as those of heterosexual men, as did two of the presumable heterosexual females. Finally, the relationship between INAH 3 and sexual behavior in humans is unknown.

Two researchers studied the suprachiasmatic nucleus, a section of the hypothalamus that helps regulate the daily rhythms of the body.<sup>22</sup> They reported that this area of the hypothalamus is larger and contains more cells in homosexual men than in either females or other males who were presumed to be heterosexual. It is unlikely that this finding has any direct bearing on sexual behavior, because gender differences there are more likely to show the effects of sexual behavior rather than the cause.

In addition to examining the hypothalamus, researchers have begun looking at the commissures of the human brain to support the anatomical difference hypothesis. In 1993, researchers Laura Allen and Roger Gorski reported that an area of the brain connecting

the brain's two hemispheres (the midsagittal plane of the anterior commissure) is generally larger in females than in males and may be even larger in homosexual males.<sup>23</sup> This research may help account for possible cognitive differences between homosexual and heterosexual males. However, these findings have difficulties that are similar to those of LeVay's work on the hypothalamus.<sup>24</sup> In addition, each of the three findings that we have mentioned is awaiting replication; similar studies in the past have failed replication.<sup>25</sup> Even if the studies can be replicated, findings like these cannot firmly establish the causes of homosexuality.

Behavior both affects and is affected by brain structure and function. If these differences actually exist, they may be the result of direct genetic factors, of prenatal hormonal factors (either dependent or independent of genetic control), or of adult behavior patterns that can alter brain structure and functioning.

The recent emphasis on biological theories for explaining the etiology of homosexuality seem to have resulted from dissatisfaction with the psychological theories. In fact, the biological theories at this point "seem to have no greater explanatory value than the psychological models they seek to replace."<sup>26</sup> Although empirical findings in the area of homosexuality are welcome, the remarkable publicity which certain findings have received may confuse the matter. As one writer notes in a review of the current scientific findings on homosexuality, "it is undeniably true that neurobiological research is often pursued in a context of great ignorance. The brain remains an organ of mystery even in general, not to mention with regard to specific functions. 'We don't know' may be the most frequently used words in neurobiology, and they seem to be used with special frequency when the subject of sexual orientation comes up."<sup>27</sup>

### **Efficacy: How Effective Are Methods for Bringing Change?**

However homosexual preference develops, there is substantial agreement that it is not a preference that is easily changed by a simple act of the will. There are a number of "former" homosexuals—individuals, for instance, who report adopting the homo-



# HOMOSEXUALITY

## What We Know for Sure

sexual lifestyle for a number of years and then changing the object of their sexual desire in addition to their habits and behaviors—but other homosexuals claim not to have found a “cure” in reorientation programs despite heroic efforts at change. Many struggle all their lives with homosexual inclinations and guilt.

Some authors argue that homosexual orientation is “immutable” and argue that instances of continued struggle on the part of some is evidence for the unchangeable nature of homosexuality.<sup>28</sup> Others are against reorientation programs under any circumstances.<sup>29</sup>

However, every study performed on conversion from homosexual to heterosexual orientation has claimed some successes. The psychological methods for reorientation have ranged from psychoanalysis<sup>30</sup> to directive behavioral sex therapy.<sup>31</sup> There has been at least one empirical study reporting change through a church lay counseling and healing ministry.<sup>32</sup> Reported success rates range from between 33 percent<sup>33</sup> and 50 to 60 percent.<sup>34</sup> The effectiveness of Christian ministries is not clear, since little empirical data has been collected.

There are wide variations in the ways people interpret the studies that do exist. As we have noted, critics in the gay community maintain that claims of “conversions” are fraudulent—that those who are reported to have changed never really changed at all. Others argue that the studies report changes in behavior, but often fail to assess whether the clients changed at the deeper level of their basic orientation.

At issue is the question of whether people still experience homosexual attraction and arousal after treatment. If they do, this may indicate that treatment really was ineffective. An alternative view is that continued struggles with homoerotic urges do not signal failure, but rather are expected residual effects from years of homosexual fantasy, behavior, and general lifestyle. The criteria for successful treatment of alcohol dependen-

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cy is not whether the person ever experiences cravings for a drink. This is an area where definitions and expectations for change must be made clear. Christian clinicians might expect that even the most successful treatment programs would not utterly erase all forms or experiences of homosexual desire.

Although change is difficult, it is most likely when motivation is strong, when there is a history of successful heterosexual functioning, when gender identity issues are not present, and when involvement in actual homosexual practice has been minimal. It may also be that change of homosexual orientation is impossible for some by any natural means.

### Conclusion

Space forbids addressing many other empirical findings of interest to Christian practitioners, such as the very low incidence of sexual monogamy in gay couples<sup>35</sup> and evidence for family influences in the development of homosexuality.<sup>36</sup>

Because we are confident of our moral and biblical stance regarding homosexual behavior, Christian counselors sometimes lapse into ignorance or skepticism regarding current research. We cannot afford to do this. Findings about homosexuality in the sciences are still in flux and consensus on what constitutes a homosexual orientation has not yet been reached. To understand the complex nature of the questions surrounding homosexuality, Christian counselors must maintain knowledge about the relevant scientific information related to the prevalence, etiology, and efficacy of change methods for use in our work with homosexuals. ♦

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