Many misconceptions exist about the supposedly inborn nature of complex behaviors such as homosexuality. Most of these are due to media reports that present scientific studies in selective sound bites.

In reality, no scientific studies show an inborn cause for any such complex behaviors. In this day of shirking responsibility and blaming anything but ourselves for our actions (e.g., I spilled coffee and burned myself, but it was the restaurant’s fault for serving hot coffee), claims that someone is genetically or chemically structured to engage in dangerous or antisocial activities find increasing appeal.

People have asserted that they cannot keep themselves from smoking, drinking, or even adultery, because they were born with uncontrollable proclivities. While it is true that we are born with fallen natures that incline us toward any number of vices, it is an error to contend that an inclination is "uncontrollable." We can make choices and are not hopelessly forced to engage in illicit or dangerous practices of any sort.

When the question of the origin of homosexuality arises, homosexual activists tend to resort to the often-heard refrain "I was born gay." There are even T-shirts sold at homosexual functions and bookstores that say, "Hey Mom, Thanks for the Genes." The idea that homosexuality is a predetermined condition that originates in the womb also has been increasingly embraced by society as a whole. A February 2000 Harris Poll of 1,010 randomly selected adults found that the number of people who believe "sexual orientation" "is more dependent on the genes you are born with" has increased 6 percent since 1995. Thirty-five percent of the people polled believe that homosexuality is "genetic," versus 29 percent who held that opinion in 1995. Fifty-two percent believe that "what you learn and experience" causes homosexuality, as opposed to 65 percent who believed that in 1995.¹

But what do we really know about the science of behavior? Not much. Scientific studies have done more to confirm the complexities of human behavior than they have to isolate specific causes.

THE HAMER STUDY

In 1993, geneticist Dean Hamer of the National Cancer Institute released a study that claimed to have found a genetic component to some instances of male homosexuality.² That is very different from saying that he found a gene that inevitably determines that a man will be homosexual. Hamer never claimed to have done that. He studied 40 pairs of brothers who were homosexual, and hypothesized that a certain genetic marker on the X chromosome was at least partially responsible for their homosexuality. Since men have an X and a Y chromosome, and they inherit their X chromosome from their mothers, Hamer theorized that the mother may be the carrier of the gene determining homosexuality in their sons. It would not manifest in the mothers’ lives, but they would pass that gene on to their sons.

Hamer found that of the families he interviewed that had more than one son who was homosexual, a significantly larger number had a maternal uncle or a maternal aunt’s son who was also homosexual than showed a paternal linkage. This would suggest a maternal linkage for male homosexuality in some cases. Finding homosexual brothers who had homosexual maternal uncles would indicate that somewhere along the mother’s family line, the gene determining male homosexuality was most likely present.

This type of study is known as a gene "linkage study." In linkage studies, the researcher looks for a trait that appears frequently in an extended family, then checks to see if there is a DNA segment, or marker, on a particular chromosome that contains a variation that is the same in the members of the family with that trait. If the researcher finds that the same marker is present consistently in the family members who have that trait, he assumes that the marker he is studying is either close to or is the gene that codes for that trait. Such studies have been successful in locating genes that cause all sorts of diseases like Huntington’s disease, cystic fibrosis, and muscular dystrophy. Linkage studies, however, have not found genes that code for complex behaviors.
Dean Hamer’s study targeted the q28 marker on the X chromosome. It found the same variants on 33 of the 40 sets of homosexual brothers. From that, Hamer concluded that some male homosexuality was influenced by gene Xq28.

This conclusion raised many questions, some of which came from Hamer himself. Why were there seven sets of homosexual brothers who did not display the Xq28 variants? he asked in his study. One of the answers he included was the possibility of "nongenetic sources of variation in sexual orientation." Other questions that have been raised include the following: Does the Xq28 gene actually control the direction of sexual desire? Were the methods Hamer used scientifically sound? Did the heterosexual male relatives have the Xq28 variants, as well? What is the rate of the Xq28 variants in a randomly selected control group unrelated to the homosexual brothers? (Most linkage studies do not check to see if the DNA segments in question are present in people without the trait.) Why was there no control group of heterosexual brothers?

The more questions asked, the more doubt that is cast on using Dean Hamer’s study and his conclusions to advance any particular theory. Hamer wrote in his report, "We have now produced evidence that one form of male homosexuality is preferentially transmitted through the maternal side and is genetically linked to chromosomal region Xq28." In fact, the Office of Research Integrity of the Department of Health and Human Services investigated Hamer when one of his research assistants claimed that Hamer withheld findings that were inconsistent with his conclusions. The National Cancer Institute transferred him to the National Institutes of Health, and the results of the investigation were never released.

One of the earmarks of a scientific study’s accuracy is its replication by other scientific studies. One study alone does not prove anything. Hamer wrote in his conclusion, "As with all linkage studies, replication and confirmation of our results is essential." The findings of one study must be reproduced in another study to determine its accuracy. Hamer’s study of Xq28 has not been replicated.

SIMILAR STUDY, DIFFERENT RESULTS

Drs. George Rice and George Ebers of the University of Western Ontario and Stanford University did attempt to reproduce Hamer’s Xq28 results in a study of their own. Their study was released in April 1999 in Science magazine, the same magazine that printed Hamer’s study in 1993. Rice and Ebers failed to reproduce Hamer’s results. They concluded, "These results do not support an X-linked gene underlying male homosexuality."

Rice and Ebers studied the Xq28 in 52 pairs of brothers who were both homosexual. They found that only about 50 percent shared the same variants. Their results were nowhere near what Hamer had found in his study. The researchers concluded,

"It is unclear why our results are so discrepant from Hamer's original study. Because our study was larger than that of Hamer et al., we certainly had adequate power to detect a genetic effect as large as was reported in that study. Nonetheless, our data do not support the presence of a gene of large effect influencing sexual orientation at position Xq28."

That may be true, but these researchers did not follow the same criteria that Hamer used. It is unclear from Rice and Ebers’s study how many of the homosexual brothers had homosexual maternal uncles, or homosexual male cousins from their mothers’ sisters. The presence of male homosexuality along the maternal line is required to attempt to prove that a certain type of male homosexuality is the result of a gene on the X chromosome. Nevertheless, while this study did not directly disprove Hamer’s study, it did show the complexities involved in trying to pin the homosexuality of brothers on genetic factors.

In the March 1993 edition of the Archives of General Psychiatry (AGP), Drs. William Byne and Bruce Parsons examined past and current claims and concluded that "there is no evidence at present to substantiate a biologic theory. The appeal of current biologic explanations for sexual orientation may derive more from dissatisfaction with the present status of psychosocial explanations than from a substantiating body of experimental data." Ironically, this important review is in the very same AGP edition that includes a highly publicized study of lesbian twins. Conducted by J. Michael Bailey and Richard C. Pillard, two researchers who made news in 1991 with a male twins study with similar results, the lesbian study concludes that about half of the lesbians...
in the sample with identical twins had a twin who was lesbian. Thus, the authors surmise that lesbianism may have at least a partly genetic origin. Both studies by Bailey and Pillard, however, are flawed. The twins were recruited through advertisements in partisan homosexual publications, which, presumably, are read mainly by those who identify with the aims of the homosexual rights movement. Also, the twins were raised in the same household. Research strongly indicates that environmental factors play a crucial part in gender-identity formation. (See, for instance, the review of environmental studies in Dr. Joseph Nicolosi's Reparatrive Therapy of Male Homosexuality (Northvale, N.J.: Jason Aronson, Inc., 1991).)

The Bailey-Pillard studies of non-twin siblings showed a frequency rate for homosexual siblings similar to that of adoptive siblings with no shared genetic inheritance whatever. Also, nowhere are the unique psychological dynamics of twins taken into account, nor are other factors such as age at the earliest sexual experiences or whether or not one or both of the twins ever was sexually molested. Finally, the fact that nearly half of the homosexual twins' identical siblings were heterosexual should dampen the hopes of homosexual activists that sexual orientation is genetically based. If it were genetic, then 100 percent of the twins would be homosexual.

THE BRAIN STUDIES

Another highly publicized 1991 study was done by former Salk Institute researcher Simon LeVay, who studied a cluster of neurons known as INAH-3 (the third interstitial hypothalamus) in the brains of 35 male cadavers. Contrasting 19 known homosexuals with 16 supposedly heterosexual men, LeVay found that the homosexuals generally had smaller clusters. But one of the many flaws of this study is its extremely small sample size and his failure to identify a control group. Also, LeVay did not actually know the orientation of the "heterosexual" cadavers; he assumed they were all heterosexual, even though six had died of AIDS. The study also included major exceptions. Three of the "heterosexuals" had clusters smaller than the mean size for the homosexuals; three of the homosexuals had larger clusters than the mean size for "heterosexuals." Furthermore, it is unclear what role the nodes play, if any, in sexual orientation. Variations may be the result, not the cause, of sexual activity or of AIDS-related brain damage.

Another study (Allen and Gorski, 1992) shows a pattern of different sizes of the brain's anterior commissure between a group of heterosexual men and a group of women and homosexual men. But as William Byne and Bruce Parsons point out, this study has "many of the same interpretive difficulties as LeVay's." These include a "tremendous" number of exceptions, such as the fact that 27 of 30 homosexual men had anterior commissures that "fell within the range established by 30 heterosexual men."

Not many studies have been conducted on lesbian heritability, although researchers have used twin studies like the one mentioned above to try to determine whether there may be a biologic influence to lesbianism. Hamer writes, "The best recent study suggests that female sexual identification is more a matter of environment than heredity." That study was done by Australian behavioral geneticist Nicolas Martin and Northwestern University psychologist Michael Bailey. Using a national registry of twins in Australia, rather than recruiting twins through advertisements in homosexual publications, they studied 1,912 women between the ages of 17 and 50. They found no difference in the rate of lesbianism in monozygotic (identical) or dzyzogotic (fraternal) twins. If there were a genetic factor to lesbianism, the incidence of shared lesbianism between the ages of 17 and 50 may have at least a partly genetic origin. A mother and her child cannot be more genetically similar than two sisters. "But the pattern we observed could mean only one thing: being a lesbian, or a nonheterosexual woman, was 'culturally transmitted,' not inherited," Hamer wrote.

Biochemist Neil Whitehead, in his book My Genes Made Me Do It!, writes,

Science has not yet discovered any genetically dictated behavior in humans. So far, genetically dictated behaviors of the one-gene-one-trait variety have been found only in very simple organisms. The closest thing to a genetically-caused human behavior that science has come up with in humans so far (agression in Dutch men related to a mutation of one gene), is far too responsive to counseling and varied in its expression to be genetically determined. This raises the obvious question: is there really any such thing as a genetically-caused human behavior?"
Time and time again, scientists have claimed that particular genes or chromosomal regions are associated with behavioral traits, only to withdraw their findings when they were not replicated. ‘Unfortunately,’ says Yale’s [Dr. Joel] Gelernter, ‘it’s hard to come up with many’ findings linking specific genes to complex human behaviors that have been replicated. ‘All were announced with great fanfare; all were greeted unskeptically in the popular press; all are now in disrepute.’

THE STEIN CRITIQUE

Edward Stein, Ph.D., homosexual activist and author of The Mismeasure of Desire: The Science, Theory, and Ethics of Sexual Orientation, critically examines the research of both Hamer and LeVay that claims a biological origin to homosexuality. In an interview with the Advocate (a homosexual magazine), Stein said, "There are serious problems with the science itself. … My training had taught me that a lot of what was being said was, well, highly unscientific." While a number of Stein’s criticisms are similar to those stated above, Stein also explains in his book that none of the researchers studying hypothesized biological origins of homosexuality has proven direct causation, although in some circumstances they claim to have done just that. Hamer, as mentioned before, actually concluded in his report that he had found evidence of the transmission of "one form of male homosexuality" through the maternal line. Hamer’s book on the biology of behavior is subtitled The Search for the Gay Gene, implying that such a gene could possibly exist, an assumption that Stein firmly refutes:

Genes in themselves cannot directly specify any behavior or psychological phenomenon. Instead, genes direct a particular pattern of RNA synthesis, which in turn may influence the development of psychological dispositions and the expression of behaviors. There are necessarily many intervening pathways between a gene and a disposition or a behavior, and even more intervening variables between a gene and a pattern that involves both thinking and behaving. The terms 'gay gene' and 'homosexual gene' are, therefore, without meaning. … No one has … presented evidence in support of such a simple and direct link between genes and sexual orientation.

Stein criticizes LeVay for concluding in his study that "sexual orientation in humans is amenable to study at the biological level," as well as for making even stronger claims to the press. For example, LeVay is quoted in the San Francisco Chronicle in 1991 in an article that states,

Psychological literature is replete with material suggesting that male homosexuality is triggered by relationships with an overly protective mother or with a distant, even hostile father. 'Here is a whole other way of looking at the question,' says LeVay. 'These children may already be determined to become homosexual or heterosexual. The development plan that is laid out for them may be what causes them to develop certain troubled relationships with their parents.'

Stein writes in his book,

LeVay has at best shown that there is a correlation between INAH-3 and sexual orientation; he has not, as he admits when he is careful, shown any causation. Further, and relatedly, he has no evidence that biological factors directly affect sexual orientation. Even if he could prove that INAH-3 size and sexual orientation are perfectly correlated in his sample population (and I have argued that he fails to do so), this would not establish any direct causal account of homosexuality.

There is increasing debate among homosexual activists as to whether or not they should even be advocating the idea that homosexuality is genetic. It was once thought to be politically expedient to say, "I can’t help my attractions. I was born this way." Stein told the Advocate,

Many gay people want to use this research to promote gay rights. If gay people are ‘born that way,’ then discrimination against them must be wrong. … A gay or lesbian person’s public identity, sexual behaviors, romantic relationships, or decisions to raise children are all choices. No theory suggests that these choices are genetic.
Not only is the scientific research that tries to prove an inborn nature to homosexuality questionable, but the researchers also fail to take into account the existence of thousands of former homosexuals. If homosexuality were biologically determined, it would seem impossible for homosexuals to become heterosexual.

Recently, Dr. Robert Spitzer, one of the men who helped change the American Psychiatric Association’s opinion on homosexuality as a mental disorder in 1973, acknowledged that homosexuals can become heterosexual. In an interview with *CitizenLink* online newsletter, Spitzer said, "The critics of this kind of therapy don’t just argue that it is rarely effective; they argue that it’s never effective." Spitzer is interviewing former homosexuals who have left the homosexual lifestyle and have lost their attractions for the same sex. He said,

> What we’re really trying to see is, ‘Are there individuals who give a pretty convincing report that they have changed in a fundamental way their sexual orientation, and has it been sustained for many years? …’ I'm personally convinced that many of these individuals have maintained and made major changes in their sexual orientation."

CONCLUSION

Scientists have not even come close to proving a genetic or biological cause for homosexuality, yet homosexual activists continue to say that sexual activity between members of the same sex is "just the same" as race or gender. Using "biology" as a stamp of legitimacy, activists have pushed for special rights, from sex-partner subsidies to "gay marriage" to adoption. Without scientific evidence to support such claims, it is wrong and dangerously misleading to say that people are born homosexual and cannot change.

Yvette C. Schneider, a former lesbian who is now married, is a policy analyst in the cultural studies department at Family Research Council. (Portions of this paper were taken from Robert H. Knight’s InFocus "Flawed Science Nurtures Genetic Origin for Homosexuality.

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ENDNOTES


