

Is There a “Gay Gene”?

Many laymen now believe that homosexuality is part of *who a person really is*—from the moment of conception.

The “genetic and unchangeable” theory has been actively promoted by gay activists and the popular media. Is homosexuality really an inborn and normal variant of human nature?

In reality, there is no evidence that shows that homosexuality is simply “genetic.” *And none of the research claims there is.* Only the press and certain researchers do, when speaking in sound bites to the public.

How The Public Was Misled

In July of 1993, the prestigious research journal *Science* published a study by Dean Hamer which claims that there might be a gene for homosexuality. Research seemed to be on the verge of proving that homosexuality is innate, genetic and therefore unchangeable—a normal variant of human nature.

Soon afterward, National Public Radio trumpeted those findings. *Newsweek* ran the cover story, “Gay Gene?” The *Wall Street Journal* announced, “Research Points Toward a Gay Gene...Normal Variation.”

Of course, certain necessary qualifiers were added within those news stories. But only an expert knew what those qualifiers meant. The vast majority of readers were urged to believe that homosexuals had been proven to be “born that way.”

In order to grasp what is *really* going on, one needs to understand some little-known facts about behavioral genetics.

Gene Linkage Studies

Dean Hamer and his colleagues had performed a common type of behavioral genetics investigation called the “linkage study.” Researchers identify a behavioral trait that runs in a family, and then:

- a) look for a chromosomal variant in the genetic material of that family, and
- b) determine whether that variant is more frequent in family members who share the particular trait.

To the layman, the “correlation” of a genetic structure with a behavioral trait means that trait “is genetic”—in other words, *inherited*.

In fact, it means absolutely nothing of the sort, and it should be emphasized that there is virtually no human trait without innumerable such correlations.

Scientists Know the Truth About “Gay Gene” Research

But before we consider the specifics, here is what serious scientists think about recent genetics-of-behavior research. From *Science*, 1994:

“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.’”¹

Homosexual Twin Studies

Two American activists recently published studies showing that if one of a pair of identical twins is homosexual, the other member of the pair will be, too, in just under 50% of the cases. On this basis, they claim that "homosexuality is genetic."

But two other genetic researchers—one heads one of the largest genetics departments in the country, the other is at Harvard—comment:

"While the authors interpreted their findings as evidence for a genetic basis for homosexuality, we think that the data in fact provide strong evidence for the influence of the environment."²

The author of the lead article on genes and behavior in a special issue of *Science* speaks of the renewed scientific recognition of the importance of environment. He notes the growing understanding that:

"the interaction of genes and environment is much more complicated than the simple 'violence genes' and 'intelligence genes' touted in the popular press. The same data that show the effects of genes, also point to the enormous influence of non-genetic factors."³

More Modest Claims to the Scientific Community

Researchers' public statements to the press are often grand and far-reaching. But when answering the scientific community, they speak much more cautiously.

"Gay gene" researcher Dean Hamer was asked by *Scientific American* if homosexuality was rooted solely in biology. He replied:

"Absolutely not. From twin studies, we already know that half or more of the variability in sexual orientation is not inherited. Our studies try to pinpoint the genetic factors...not negate the psychosocial factors."⁴

But in qualifying their findings, researchers often use language that will often evade general understanding--making statements that will continue to be avoided by the popular press, such as:

"...the question of the appropriate significance level to apply to a non-Mendelian trait such as sexual orientation is problematic."⁵

Sounds too complex to bother translating? This is actually a very important statement. In layman's terms, this means:

"It is *not possible* to know what the findings mean—*if anything*—since sexual orientation cannot possibly be inherited in the direct way eye-color is."

Thus, to their fellow scientists, the researchers have been honestly acknowledging the limitations of their research. However, the media doesn't understand that message. Columnist Ann Landers, for example, tells her readers that "homosexuals are born, not made." The media offers partial truths because the scientific reality is simply too unexciting to make the evening news; too complex for mass consumption; and furthermore, not fully and accurately understood by reporters.

Accurate Reporting Will Never Come in "Sound Bites"

There are no "lite," soundbite versions of behavioral genetics that are not fundamentally in error in one way or another.

Nonetheless, if one grasps at least some of the basics, in simple form, it will be possible to see exactly why the current research into homosexuality means so little and will continue to mean little, even should the quality of the research methods improve so long as it remains driven by political, rather than scientific objectives.

Understanding the Theory

There are only two major principles that need to be carefully understood in order to see through the distortions of the recent research. They are as follows:

1. *Heritable* does not mean *inherited*.
2. Genetics research which is truly meaningful will identify, and then focus on, only traits that are *directly inherited*.

Most every human characteristic is in significant measure *heritable*. But few human behavioral traits are directly *inherited*, in the manner of height, for example, or eye color. *Inherited* means "directly determined by genes," with little or no way of preventing or modifying the trait through a change in the environment.

How to “Prove” That Basketball Players are Born that Way

Suppose you are motivated to demonstrate--for political reasons--that there is a basketball gene that *makes* people grow up to be basketball players. You would use the same methods that have been used with homosexuality: (1) twin studies; (2) brain dissections; (3) gene “linkage” studies.

The basic idea in twin studies is to show that the more genetically similar two people are, the more likely it is that they will share the trait you are studying.

So you identify groups of twins in which *at least one person* is a basketball player. You will probably find that if one identical twin is a basketball player, his twin brother is *statistically more likely* to be one, too. You would need to create groups of different kinds of pairs to make further comparisons—one set of identical twin pairs, one set of non-identical twin pairs, one set of sibling pairs, etc.

Using the “concordance rate” (the percentage of pairs in which *both twins* are basketball players, or *both* are not), you would calculate a “heritability” rate. The concordance rate would be quite high--just as in the concordance rate for homosexuality

Then, you announce to the reporter from *Sports Illustrated*: “Our research demonstrates that basketball playing is strongly heritable.” (And you would be right. It would be “heritable”--but not directly inherited. Few readers would be aware of the distinction, however.)

Soon after, the article appears. It says:

“...New research shows that basketball playing is probably *inherited*. Basketball players are apparently ‘born that way’! A number of outside researchers examined the work and found it substantially accurate and well-performed...”

But no one (other than the serious scientist) *notices* the media’s inaccurate reporting.

What All Neuroscientists Know: The Brain Changes with Use

Then you move on to conduct some brain research. As in the well-known LeVay brain study which measured parts of the hypothalamus, your colleagues perform a series of autopsies on the brains of some dead people

who, they have reason to believe, were basketball players.

Next, they do the same with a group of dead non-basketball players. Your colleagues report that, on average, “Certain parts of the brain long thought to be involved with basketball playing are much larger in the group of basketball players.”

A few national newspapers pick up on the story and editorialize, “*Clearly, basketball playing is not a choice*. Not only does basketball playing run in families, but even the player’s *brains* are different.”

You, of course, as a scientist, are well aware that the brain changes with use...*indeed quite dramatically*. Those parts responsible for an activity get larger over time, and there are specific parts of the brain that are more utilized in basketball playing.

Now, as a scientist, you will not *lie* about this fact, if *asked* (since you will not be), but neither will you go out of your way to offer the truth. The truth, after all, would put an end to the worldwide media blitz accompanying the announcement of your findings.

Gene Linkage Studies: “Associated With” Does Not Mean “Caused By”

Now, for the last phase, you find a small number of families of basketball players and compare them to some families of non-players. You have a hunch that of the innumerable genes likely to be associated with basketball playing (those for height, athleticism, and quick reflexes, for example), some will be located on the x-chromosome.

You won’t say these genes *cause* basketball playing because such a claim would be scientifically insupportable, but the public thinks “caused by” and “associated with” are synonymous.

After a few false starts, sure enough, you find what you are looking for: among the basketball-playing families, one particular cluster of genes is found more commonly.

With a Little Help from the Media

Now, it happens that you have some sympathizers at National People’s Radio, and they were long ago quietly informed of your research. They want people to come around to certain beliefs, too. So, as soon as your work hits the press, they are on the air:

“Researchers are hot on the trail of the Basketball Gene...In an article to be published tomorrow in *Sports Science*...”

Commentators pontificate about the enormous public-policy implications of this superb piece of science. Two weeks later, there it is again, on the cover of the major national newsweekly: “Is There a Basketball Gene?”

Now what is wrong with this scenario? It is simple: of course basketball playing is associated with certain genes; of course it is *heritable*. But it is those intermediate physiological traits--muscle strength, speed, agility, reflex speed, height, etc. —which are themselves directly *inherited*. Those are the traits that make it likely one will be *able* to, and will *want to*, play basketball.

In the case of homosexuality, the inherited traits that are more common among male homosexuals might include a greater-than-average tendency to anxiety, shyness, sensitivity, intelligence, and aesthetic abilities. But this is speculation. To date, researchers have not yet sought to identify these factors with scientific rigor.

In Summary

The majority of respected scientists now believe that homosexuality is attributable to a combination of **psychological, social, and biological factors**.

From the American Psychological Association

“...[M]any scientists share the view that sexual orientation is shaped for most people at an early age through complex interactions of biological, psychological and social factors.”⁶

From “Gay Brain Researcher” Simon LeVay

“At this point, the most widely held opinion [on causation of homosexuality] is that *multiple factors* play a role.”⁷

From Sociologist Steven Goldberg

“**I know of no one** in the field who argues that homosexuality can be explained without reference to environmental factors.”⁸

As we have seen, there is no evidence that homosexuality is genetic-and none of the research claims there is.

Only the press and certain researchers do, when speaking in sound bites to the public.

Endnotes

1. Mann, C., “Genes and Behavior.” *Science* 264:1687 (1994).
2. Billings, P. and Beckwith, J. *Technology Review*, July, 1993. p.60.
3. Mann, C. op. cit. pp.1686-1689.
4. “Gay Genes, Revisited: Doubts Arise Over Research on the Biology of Homosexuality,” *Scientific American*, November 1995, p.26.
5. Hamer, D. H., et al. Response to Risch, N., et al., “Male Sexual Orientation & Genetic Evidence,” *Science*, 262 (1993), pp. 2063-65.
6. The American Psychological Association’s pamphlet, “Answers to Your Questions About Sexual Orientation and Homosexuality.”
7. LeVay, Simon, (1996). *Queer Science*, MIT Press.
8. Goldberg, Steven (1994), *When Wish Replaces Thought: Why So Much of What You Believe is False*. Buffalo, New York: Prometheus Books.

The above article was adapted (with permission) from a paper entitled, “The Gay Gene?” by Jeffrey Satinover, M.D., in The Journal of Human Sexuality, 1996, with additional material from past issues of the National Association of Research and Therapy of Homosexuality (NARTH) Bulletin.

For an in-depth discussion of homosexuality and genetics, consult Dr. Satinover’s 1996 book, Homosexuality and the Politics of Truth, published by Hamewith/ Baker Books.