

Chapter Sex: The Development of Sexual Orientation

Until the 1970s, many forms of sexual expression, including homosexuality, were considered pathological. After homosexuality was eliminated as a psychological disorder, many societies began to reevaluate the nature and origins of consensual sexual behavior in adults, but because of the "taboos" on sexual research by government granting agencies and other funding sources, this inquiry is still in its infancy.

How Many Homosexuals are there?

One of the most fundamental questions regarding homosexuals in America— the question of how many of them there are—has been the subject of dispute. It is the view of many that this is one of the questions about which misinformation and misunderstanding is most widespread. Those who advocate greater acceptance of homosexuality have often done so, in part, by arguing that homosexual behavior is relatively common.

The estimate most often cited is that "10 percent" of the population is homosexual. Such a figure would make the number of homosexuals comparable to the numbers in prominent ethnic minority groups such as African Americans (12.3 percent, according to the 2000 census) or Hispanics (13 percent). Many cite Kinsey as giving us the 10% figure. We have to remember that Kinsey's sampling methods were flawed. He over-represented gay men in his sample. Others believe that the "10 percent" figure is grossly exaggerated for political reasons stemming from gay rights activists. *Newsweek* reported in 1993 that "new evidence suggests that ideology, not sound science, has perpetuated a 1-in-10 myth. In the nearly half century since Kinsey, no survey has come close to duplicating his findings."

It has been difficult to measure "gayness" in America. First, people often change their sexual behavior during their lifetimes, making it impossible to state that a particular set of behaviors defines a person as gay....Often implicit in a [single fixed] figure...is the assumption that homosexuality is a characteristic like green eyes that is part of a person's identity and never changes. A second reason is that there is no one set of sexual desires or self-identification that uniquely defines homosexuality. Is it sexual desire for a person of the same gender, it is thinking of yourself as a homosexual, or is it some combination of these behaviors that makes a person a homosexual? Is it fantasizing about someone the same sex? Is it behavior? What about a man who practices gay sex in prison but after release, never does again? What about a male prostitute who serves gay men for money but has no sexual desire for men? Homosexual behavior is not easily measured and many think exists along a continuum from exclusive homosexuality to exclusive heterosexuality. (see the handout on the Kinsey Scale).

Researchers at the University of Chicago conducted a very thorough and scientific survey that was published in 1994. As part of that survey, the homosexual population was defined as those who exhibit all three aspects of same-gender sexuality: behavior, desire, and identity. They report "When all three possible aspects are taken together, we arrive at a low percentage of the population who are identified as homosexual". Laumann, et al., isolated "a core group (about 2.4 percent of the total men and about 1.3 percent of the total women) in their survey who define themselves as homosexual or bisexual, have same-gender partners, and express homosexual desires"

What causes homosexuality?

Some reports suggest that there may be a genetic component to sexual orientation as homosexuality runs in families (Bailey & Benishay, 1993), and concordance for homosexuality is more common among identical twins than among fraternal twins or natural siblings (Jannini, Burn, Jern, & Novelli, 2015). In two well-done twin studies, homosexual orientation was shared in approximately 50% of identical twins, compared with 16% to 22% of fraternal twins. Approximately the same or a slightly lower percentage of nontwin brothers or sisters were gay (Bailey & Pillard, 1991; Bailey, Pillard, Neale, & Agyei, 1993; Whitnam, Diamond, & Martin, 1993). Other studies on the causes of homosexual behavior reveal that in men, genes account for approximately 34% to 39% of the cause, and in women, 18% to 19%, with the remainder accounted for by environmental influences (Langstrom, Rahman, Carlström, & Lichtenstein, 2010). This suggests that male homosexuality may have a greater genetic/biological basis than is true for women. Remember that environmental influences might include unique biological experiences, for example, differential hormone exposure in utero (before birth) i.e. the womb environment.

Other reports indicate that homosexuality and also gender atypical behavior during childhood is associated with differential exposure to hormones, particularly atypical androgen levels in utero (Auyeng et al., 2009; Ehrhardt et al., 1985; Gladue, Green, & Hellman, 1984; Hershberger & Segal, 2004) and that the actual structure of the brain might be different in individuals with homosexual as compared with heterosexual arousal patterns (Allen & Gorski, 1992; Byne et al., 2000; LeVay, 1991). LeVay found, for example, that one cell nucleus in the hypothalamus was larger in heterosexual men than in homosexual men, whose size of that particular nucleus was on par with females, suggesting that in one small area of biology, gay men are more like females than heterosexual men. This finding has not been replicated however.

Several findings lend some support to the theory of differential hormone exposure in utero. One is the observation that individuals with homosexual orientations have a 39% greater chance of being non—right handed (left handed or mixed handed) than those with heterosexual orientations (Lalumière, Blanchard, & Zucker, 2000), although these findings were not replicated in a later study (Mustanski, Bailey, & Kaspar, 2002). There is also the finding that gay/bisexual men are significantly shorter and lighter than heterosexual men, though no differences were found for women (Bogart, 2010). Another is the intriguing findings that heterosexual males and masculine ("butch") lesbians tend to have a longer fourth ("ring") finger than index (second) finger but that heterosexual females and gay males show less of a difference or even have a longer index finger than fourth finger (Brown, Finn, Cooke, & Breedlove, 2002; Hall & Love, 2003), although this finding seems to be influenced by ethnic group membership (Loehlin, McFadden, Medland, & Martin, 2006; McFadden et al., 2005).

Yet another report from the 1990s had suggested a possible gene (or genes) for homosexuality on the X chromosome (Hamer, Hu, Magnuson, Hu, & Pattatucci, 1993). We do know for example that gay men have more gay male relatives on their mother's side than on their father's side. So the thinking was that if genes play a role, maybe those genes are given to a male by his mother (hence the search for gene(s) on the x chromosome).

The principal conclusion drawn in the media over the years is that sexual orientation has a biological cause. Initially, gay rights activists were decidedly split on the significance of these findings. Some were pleased with the biological interpretation, because people could no longer assume as they used to in past decades that gays had made a "morally depraved" choice of supposedly "deviant" arousal patterns. Others, however, noted how quickly some members of the public, particularly in past decades, pounced on the implication that something was biologically wrong with individuals with homosexual arousal patterns, assuming that someday the abnormality would be detected in the fetus and prevented, perhaps through genetic engineering. Some have said that we use the phrase "biologically or environmentally caused" when instead what we may really want to know is whether or not homosexual behaviors are changeable. Young ducks will "imprint" on whatever they see first in the environment. Yet even though a young duck follows you around because you were the first thing it saw was environmentally determined, it is still unchangeable.

No one has suggested there is a specific gene for homosexuality (Hamer et al., 1993). Most theoretical models outlining these complex interactions for sexual orientation imply that there may be many pathways to the development of heterosexuality or homosexuality and that no one factor—biological or psychological—can predict the outcome, think diathesis-stress. (Bancroft, 1994; Brakefield et al., 2014; Byne & Parsons, 1993). One of the more intriguing findings from the twin studies of Bailey and his colleagues is that approximately 50% of the identical twins with exactly the same genetic structure, as well as the same environment (growing up in the same house), did not have the same sexual orientation (Bailey & Pillard, 1991).

Also intriguing is the finding in a study of 302 gay males that those growing up with older brothers are more likely to be gay, whereas having older sisters, or younger brothers or sisters, is not correlated with later sexual orientation. This study found that each additional older brother increased the odds of being gay by one third. This finding, which has been replicated several times and is referred to as the "fraternal birth order hypothesis", (see handout "O Brother Where Art Thou?") may suggest the importance of environmental influences (Blanchard, 2008; Blanchard & Bogaert, 1996, 1998; Cantor, Blanchard, Paterson, & Bogaert, 2002). Although the mechanism has not been definitively identified, some research has implicated the importance of the mother's immunological response to Y-linked proteins (a substance important in male fetal development) as a potential explanation for this finding (Bogaert & Skorska, 2011). See the handout "xxxxxx".

It is likely, too, that different types of homosexuality (and, perhaps, heterosexuality), with different patterns of cause, may be discovered (Diamond et al., 2011; Savin-Williams, 2006). It may even be that sexual orientation is malleable or changeable over time, at least for some people (Mock & Eibach, 2012). Dr. Lisa Diamond has studied women over time (longitudinal studies) and discovered that interpersonal and situational factors exert a substantial influence on women's patterns of sexual behavior and sexual identities, a finding much less true for men (Diamond, 2007, 2012; Diamond et al., 2011). Among women who initially identified themselves as heterosexual, lesbian, bisexual, or "unlabeled," after 10 years more than two thirds of women had changed their identity label a few times. When women changed their sexual identities, they typically broadened rather than narrowed their potential range of attractions and relationships.

Why is this true for women but not so much for men? Baumeister and others have written about “the plasticity of the female sex drive” and how female sexuality is more flexible and changeable than male sexuality.

In any case, the simple one-dimensional claims that homosexuality is caused by a gene or that heterosexuality is caused by healthy early developmental experiences will continue to appeal to certain segments of the general population. Neither explanation is likely to be proved correct. Almost certainly, biology sets certain limits within which social and psychological factors affect development. Scientists will ultimately pin down biological contributions to the formation of sexual orientation—both heterosexual and homosexual—and the environment and experience will be found to powerfully influence how these patterns of potential sexual arousal develop (Diamond, 1995; Diamond et al., 2011; Långström et al., 2010).

Green was a researcher who reports in his book “The Sissy-Boy Syndrome” that for young boys who show strong “cross-gender” preferences (boys who prefer more traditionally girl stuff) , 75% will grow up to be gay. If you believe that sexual orientation is a choice, wouldn't you then have to say that these young “sissy boys” are “choosing” to be gay even before they know that sexual arousal and attraction is all about?

In conclusion, It is likely that genes and the environment both contribute to the development of sexual orientation. We also have to keep in mind that influences while one is in the womb are environmental sources.

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