Homosexuality: Nature or Nurture?

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Etiology of Homosexuality

I. Studies on Biology
  A. Twin Studies
    1. Bailey and Pillard (1991)
      a. 52% of identical twin brothers were both gay
      b. Not 100%
      c. Biased applicant pool
    2. Bailey, Dunne and Martin (2000)
      a. 30% of identical twins were both gay
      b. Not replicated

Etiology of Homosexuality

I. Studies on Biology
  A. Twin Studies
    3. Bearman and Bruckner (2002)
      a. 6.7% of identical twins were both gay
    4. Långström, Rahman, Carlström, Lichtenstein (2008)
      a. The largest twin study of same-sex sexual behavior attempted so far - 3,826 pairs
      b. Male: Genetics 34%-39%, Shared Environment 0%, Individual-Specific Environment 61%-66%

Etiology of Homosexuality

I. Studies on Biology

A. Twin Studies

4. Långström, et al. (2008)

c. Female: Genetic 18%-19%, Shared Environment 16%-17%, Individual-Specific Environment 64%-66%

d. "Although wide confidence intervals suggest cautious interpretation, the results are consistent with moderate, primarily genetic, familial effects, and moderate to large effects of the nonshared environment (**social and biological**) on same-sex sexual behavior."

Etiology of Homosexuality

I. Studies on Biology

A. Twin Studies

4. Långström, et al. (2008)

e. 95% Confidence Interval: Genetics 0%-59%, Shared Environment 0%-46%, Individual-Specific Environment 41%-85%

f. Only 7/71 pairs of male MZ and 26/214 pairs of female MZ had same-sex partners - 10% males and 12% females

g. Conclusion – Both environment and genetics play roles

Etiology of Homosexuality

I. Studies on Biology

B. Brain Structure

1. Simon LeVay (1991)

a. The hypothalamus is believed to play a role in the regulation of sexual behavior in animals

b. 41 cadavers: 19 gay men - all died of AIDS, 16 (presumed) heterosexual men - 6 died AIDS, 6 (presumed) heterosexual women - 1 died of AIDS

c. Studied neurons group size in hypothalamus, INAH1, INAH2, INAH3 and INAH4

Etiology of Homosexuality

I. Studies on Biology

B. Brain Structure

1. Simon LeVay (1991)

d. He found that the INAH3 group of neurons appeared to be twice as big in (presumed) heterosexual male group as in the gay male group

2. Byne, Tobet, Mattiace, et al. (2001)

a. Could not replicate

Etiology of Homosexuality

I. Studies on Biology

B. Brain Structure

3. LeVay's conclusion

a. "It's important to stress what I didn't find. I did not prove that homosexuality is genetic, or find a genetic cause for being gay. I didn't show that gay men are born that way, the most common mistake people make in interpreting my work. Nor did I locate a gay center in the brain...Since I look at adult brains, we don't know if the differences I found were there at birth or if they appeared later."

Etiology of Homosexuality

I. Studies on Biology

C. Chromosomes

1. Hamer, Hu, Magnuson, Hu, Pattatucci (1993)

a. Studied 76 gay brothers and their families

b. Hamer noted that gay men had more gay relatives on the maternal side of the family - so he studied X chromosomes of gay men

c. Found that 83% of gay men had similar alleles in the distal region of Xq28

Etiology of Homosexuality

I. Studies on Biology

C. Chromosomes

1. Hamer, et al. (1993)

d. This was popularly (but inaccurately) dubbed the “gay gene” by media (Time Magazine)

e. Hamer himself (who was gay) clarified “environmental factors play a role. There is not a single master gene that makes people gay...I don’t think we will ever be able to predict who will be gay.”

Etiology of Homosexuality

I. Studies on Biology

C. Chromosomes

2. Bailey et al. (1999)

a. Could not replicate

3. McKnight and Malcolm (2000)

a. Could not replicate

Etiology of Homosexuality

II. Studies on Environment

A. Twin Studies

1. Långström, et al.(2008) showed moderate to large effects of non-shared environmental factors which influenced same-sex sexual behavior

Etiology of Homosexuality

II. Studies on Environment

B. Familial Factors

1. Jonas (1944); West (1959); Bieber et al. (1962); Brown (1963); Braatan and Darling (1965); Evans (1969); Snortum (1969); Biggio (1973); Siegelman (1974); Socarides (1978); Bell, Weinberg and Parks (1981); Millic and Crowne (1986); Nicolosi (1991); Phelan (1993); Seutter and Rovers (2004)
2. Kendler, Thornton, Gilman, Kessler (2000) studied American twins and showed that familial factors influence sexual orientation

Etiology of Homosexuality

II. Studies on Environment

B. Familial Factors

3. Lung and Shu (2007) studied 275 men in Taiwanese military and concluded "paternal protection and maternal care were determined to be the main vulnerability factors in the development of homosexual males."

C. Childhood gender non-conformity, Urban vs. Rural

Etiology of Homosexuality

III. Critique of Studies

A. Environment

1. Confusing correlation with causation
2. Causation is when one factor or multiple factors bring about something being studied - cause and effect
3. Correlation is when there is some type of relationship between two variables
   a. Causal, effectual, indirect, coincidental?
   b. Correlation does not necessarily mean causation

Etiology of Homosexuality

III. Critique of Studies

B. Biology

1. Biological factors ≠ born gay (innate)
2. Not born gay? What about choice?
3. No empirical, objective test for homosexuality

Etiology of Homosexuality

IV. Biblical Anthropology

A. Psa 51:5 - All born with a sinful nature

B. Genetics could influence sin

C. Example: Alcoholism

1. "Genetic factors appear to play a significant role in alcoholism and may account for about half of the total risk for alcoholism," but "other factors usually come into play, including biology, genetics, culture, and psychology"

Etiology of Homosexuality

IV. Biblical Anthropology

D. Biology doesn't make something morally permissible or determinative

E. Homosexuality may have multiple components, influences or factors—including both biology and environment

Etiology of Homosexuality

V. Nature and Nurture

"Some people believe that sexual orientation is innate and fixed; however, sexual orientation develops across a person's lifetime."

American Psychiatric Association

Etiology of Homosexuality

V. Nature and Nurture

"There is no consensus among scientists about the exact reasons that an individual develops a heterosexual, bisexual, gay, or lesbian orientation. Although much research has examined the possible genetic, hormonal, developmental, social, and cultural influences on sexual orientation, no findings have emerged that permit scientists to conclude that sexual orientation is determined by any particular factor or factors. Many think that nature and nurture both play complex roles." American Psychological Association

Etiology of Homosexuality

V. Nature and Nurture

"Sexual orientation probably is not determined by any one factor but by a combination of genetic, hormonal, and environmental influences." AAP

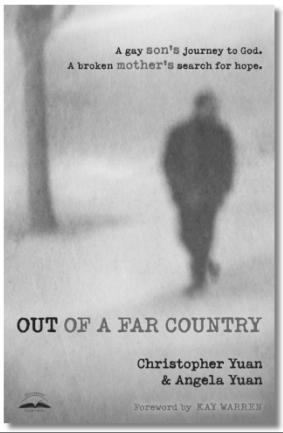
"No one knows what causes heterosexuality, homosexuality, or bisexuality…there is a renewed interest in searching for biological etiologies for homosexuality. However, to date there are no replicated scientific studies supporting any specific biological etiology for homosexuality." Association of Gay and Lesbian Psychiatrics

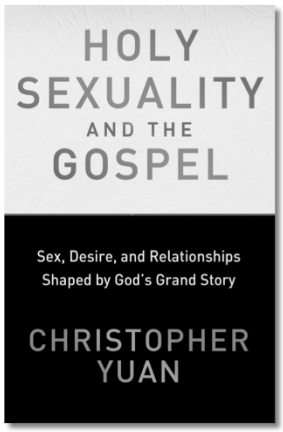
Etiology of Homosexuality

V. Nature and Nurture

"It is more likely there are several genes that interact with nongenetic factors, including psychological and social influences, to determine sexual orientation." Dr. Alan Sanders, Northwestern University

"As much as people like to divide themselves into nature or nurture camps, what genes actually do in the brain reflects the interaction between hereditary and environmental information."
Dr. Gene Robinson, Dir. of Neuroscience Program at University of Illinois





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