Etiology of Homosexuality
I. Studies on Biology
A. Twin Studies
      a. 52% of identical twin (MZ), 22% fraternal (DZ)
      b. Not 100%
      c. Biased applicant pool
      a. 30% of identical twins were both gay
      b. Not replicated

B. Brain Structure
      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
      a. Could not replicate
   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.”

C. Twin Studies
      a. 6.7% of identical twins were both gay
      a. The largest twin study of same-sex sexual
         behavior attempted so far - 3,826 twins
      b. Male: Genetics 34%-39%, Shared
         Environment 0%, Individual-Specific
         Environment 61%-66%
      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.”
      e. Confidence Intervals: Genetics 0%-59%,
         Shared Environment 0%-46%, Individual-
         Specific Envt 41%-85%
      f. Males: 7/71 MZ (10%) and 3/53 DZ (6%)
         Females: 26/214 MZ (12%) and 13/140 DZ
         (9%) ever had any same-sex partner
      g. Conclusion - both environment and biology
         play roles

D. Brain Structure
      a. 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
      a. Could not replicate
Etiology of Homosexuality

I. Studies on Biology

C. Chromosomes

   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

2. Bailey et al. (1999)
   a. Could not replicate

   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

B. Familial Factors

1. Jonas (1944); West (1959); Bieber et al. (1962); Brown (1963); Braaian and Darling (1965); Evans (1969); Snortum (1969); Biggio (1973); Siegelman (1974); Sociardies (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

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, Fraternal birth order, 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. Could be causal, effectual, indirect, coincidental
   b. Correlation does not mean causation

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”
IV. Biblical Anthropology
C. Biology doesn’t make something morally permissible or determinative
D. Homosexuality has multiple components, influences or factors—including biological and environmental

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 Psychological Association

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.” APA

Sexual orientation probably is not determined by any one factor but by a combination of genetic, hormonal, and environmental influences.”
American Academy of Pediatrics

“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 Psychiatrists

“It is more likely there are several genes that interact with nongenetic factors, including psychological and social influences, to determine sexual orientation.” Alan Sanders (Northwestern)

“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.”
Gene E. Robinson, PhD, Dir. of Neuroscience Program at the University of Illinois at Urbana-Champaign

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