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Path Analysis: Social factors *do* lead to homosexuality

Another method that has been used in debate about the origins of homosexuality is a statistical tool called path analysis. As you might expect, path analysis tries to identify the most common path or paths leading to a particular condition, e.g. cancer. Path analysis produces a diagram, e.g., **Figures 30** and **31**, that visually demonstrates the network of causes and attempts to assign a relative importance to each cause. The method works best when there are a relatively small number of causes—so does not appear an ideal tool for the study of homosexuality. We'll see that in fact it fails to find a few predominant causes but does succeed in showing a multitude of causes, or paths.

Two major studies of homosexuality have been attempted using this method: one by a team, Bell, Weinberg and Hammersmith, using data gathered in 1969-70¹ (published in 1981), and another by Van Wyk and Geist published in 1984,² using male and female data collected by Kinsey in the forties of last century, but corrected for bias.

Figure 30. Path Analysis, Male Homosexuality

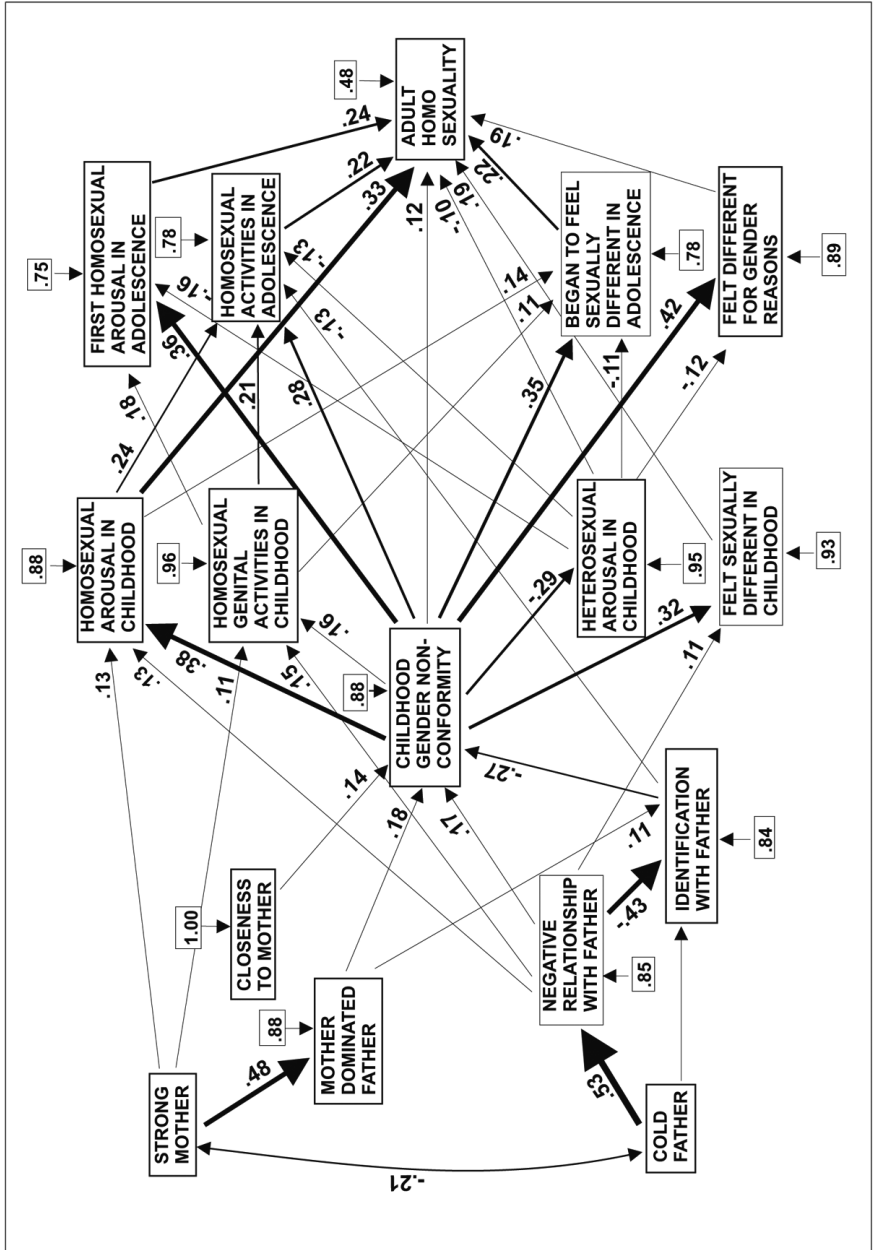
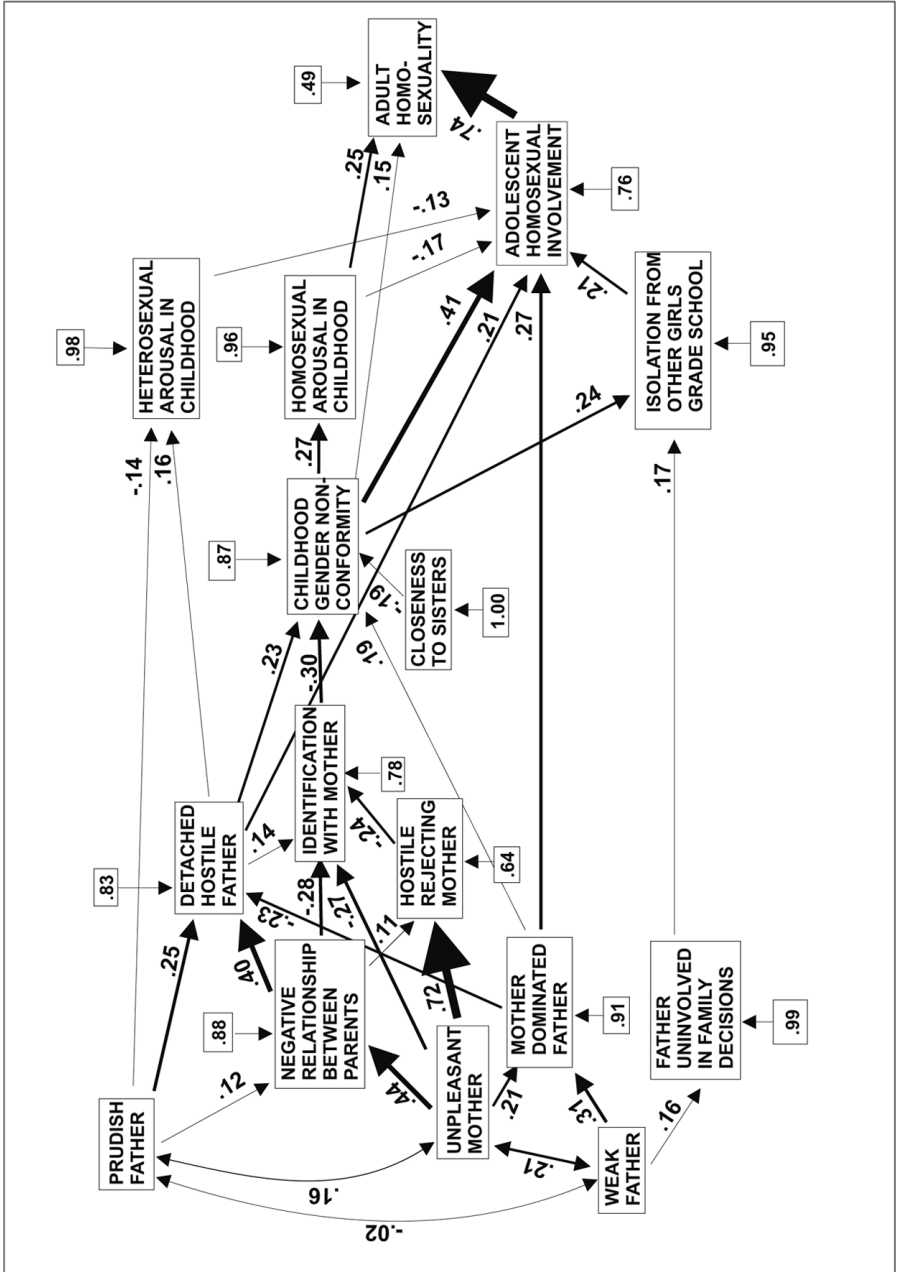


Figure 31. Path Analysis, female homosexuality



Study one

The 1981 study is particularly important because it has been consistently misinterpreted. The usual claim is that it disproves any social cause for homosexuality. This is both completely right and completely wrong at the same time! What it shows is that social causes *as a whole* are significant, but a social factor which may be important to one individual will not be important to the majority with SSA, i.e., there are a multitude of paths, each very important to the individuals concerned, but not important for all. However a few common themes still emerge. The work also confirms that chance (random events and reactions) is very important. An in-depth critique is available elsewhere.⁹

Bell et al. designed a 175-page questionnaire intended to test current sociological and psychological theories about the causes of homosexuality and provide information about the categories, called “variables,” that appear in capital letters in **Figures 30** and **31**. (We will call them factors.) For example, the question, “During the time you were growing up how afraid were you of your father? Very much, somewhat, very little, not at all,” provided information for the factor, *negative relationship with father*, in **Figure 30**. Some questions were open-ended questions, such as “How did you feel about dating?” They tried to cover all popular psychological theories about what caused homosexuality. When all the answers were in, the team combined many answers into much fewer major factors and used a complex statistical procedure to see which of the different variables were most common, attempting to link them into a causal pathway.

Some paths showed up more strongly than others, but even the strongest variable was rather mediocre as a predictor; *child gender non-conformity* (“sissiness” rather than modern Gender Identity Disorder) for boys was the strongest single variable. But on a scale of 0 to 100, it measured only 12% as a direct contributor to homosexuality. This means that few sissy boys become homosexual as a direct consequence of gender non-conformity alone. However when combined with other indirect paths its role in the cumulative effect is much higher.

The authors concluded: “What we seem to have identified... is a pattern of feeling and reactions within the child that cannot be traced back to a single social or psychological root; indeed homosexuality may arise from a biological precursor.”

Critics of psychological theories of homosexuality interpreted the study to have proved there is no social or familial basis to homosexuality.³ They then tended to emphasise and research biological causes—with little success as we have discovered 30 years later.

Study two

The second study, by Van Wyk and Geist, was limited to the questions Kinsey asked. But Van Wyk and Geist had Kinsey's huge sample to work with: 3526 females and 4143 males, and Kinsey's questioning had been wide ranging, so any common features could be expected to emerge. Their path analysis put an emphasis on early sexual experiences and put "gender related" and "familial" (family-related) variables second and third, respectively, on the list of influences. But no single variable scored higher than 10%, and most variables scored significantly lower—around 3.6%. On a scale of 0 to 100, poor relationship with father accounted for about 3.9%. For females, family related effects were found to total less than 1%. Just like the Bell et al. study, this study showed any particular path was important to only a small number of people. However, Van Wyk and Geist commented on their study:

The degree of similarity between the results of this study and that of Bell et al...is striking. In each case sexual experience variables accounted for the most...[adult homosexuality] followed by gender-related variables and family-related variables in that order.²

The research community was puzzled by the results of the two studies, because social factors did not clearly predict adult SSA. They thought the clinical psychologists with their vivid case studies must simply be wrong. The studies were fuel to those who rejected an environmental explanation and sought a genetic or biological one. So what was going on? Let's look in more detail at the studies.

Bell et al

Male homosexuality

Bell et al. actually discovered a number of paths to male homosexuality (**Figure 30**), and the three most common lend support to psychological

theories suggested in Chapter Three (*cold father, negative relationship with father, negative identification with father, childhood gender non-conformity, homosexual arousal in childhood or first homosexual experience in adolescence*). *Childhood gender non-conformity* was made up of three factors: how much boys disliked typical boys' activities, how much they enjoyed typical girls' activities, and how "masculine" or "feminine" adult homosexuals said they had felt growing up.

Bell et al. comment,

Childhood gender non-conformity turns out to be a very strong predictor of adult sexual preference among the males in our sample. With total effects of 0.61 (on a scale of 0 to 1) it ranks first in importance among our 15 developmental variables and appears to influence a variety of explicitly sexual variables; in fact it has a direct connection to every single variable following it on the path model.

They go on to outline the path, remarking that boys who did not conform to the childhood gender stereotype were more likely *to feel sexually different*, either in childhood or adolescence; more likely to experience *homosexual arousal* in childhood or adolescence; somewhat more likely to have some kind of *homosexual genital activities in childhood*; and more extensive involvement in *homosexual activities in adolescence*. "Each of these [factors] in turn makes adult homosexuality more probable."

Lesbianism

In women, the effect was similar (**Figure 31**): the most common path linked the factors *unpleasant mother, hostile rejecting mother, negative identification with mother, childhood gender non-conformity, adolescent homosexual involvement, and adult homosexuality*. Again, say Bell et al., *childhood gender non-conformity* was the second strongest predictor overall (53%),^{§§} though it was less likely to develop among those girls who reported "much identification with Mother," and was particularly strong for homosexual women (48%) who had masculine pastimes in childhood.

§§ These percentages do not appear in Figures 34 and 35. However they are derived from them but by a statistical procedure too complex to go into here.

These results were significant

Bell and Weinberg found 76% of adult homosexuality could be explained by their paths. However, they interpreted this result as simple “tracking” from adolescent to adult homosexuality, i.e., a pattern started in adolescence continuing into adulthood, and dismissed it. Similarly they found “tracking” from childhood SSA to adolescent SSA. As a result, when they summarised their results for men and women, they said that none of the factors linked into significant paths. But their “tracking” explanation has been shown, at least since the 1994 study by Laumann et al., to be incorrect. The vast majority of SSA adolescents will not become SSA adults, and adolescent SSA itself is extraordinarily unstable⁶ (see Chapter Twelve). We calculate that even allowing for tracking, these social factors all taken together still account for about 30-40% of adult homosexuality, but there is no single predominant path. Rather than concluding therefore that social factors were not important, they should rather have commented that social factors are important, but no one factor is important to all. Both are true—social factors as a whole are significant, but no social factor by itself is significant for the majority. A fairer critical interpretation of their results is that the most common paths for male homosexuality and for lesbianism (described above) are among the most significant of the network of paths discovered, and will be very important for many individuals.

Why weren't they more significant?

If you look at **Figures 30** and **31**, *Childhood Gender Non-conformity*, you will notice a vertical arrow: 0.88 in **Figure 30**, and 0.87 in **Figure 31**. Put a little simplistically, this is the amount of gender non-conformity in their sample that Bell et al. found their model was unable to explain. The figure actually translates to 77% (the authors explain this figure is calculated by squaring the figure on the vertical arrow). That is, it was not clear what led to childhood gender non-conformity in 77% of cases. The vertical arrow appears against most of the variables and the unexplained causes are high. Some calculated percentages of causes not explained were: *Homosexual Genital Activities in Childhood (Figure 30)* 92%; female *Childhood Gender Non-conformity* (tomboyishness) 76%; female *Adolescent Homosexual Involvement* 58%. This could mean either, or both, of three things—wrong questions were

asked, or a large number of individual paths were involved, or a lot of chance was involved.

The right questions and unique factors

One reason could be that the researchers did not ask the right questions.

Three general factors which have since proved important are

1. Where were you brought up, large city, town, or country? (See Chapter 3, **Figure 19**). This relationship for men is “marked and strong.”⁷
2. The presence in the original home of adult mental problems.⁸
3. A family member in prison.⁸

These were individually statistically significant. See also Chapter 3.

Individual and unique factors, which couldn't easily have been elicited even by 175 pages of questions, contribute to the variables. If different questions had been asked, or if respondents had been able to offer their own opinions as to why they grew up homosexual, their responses could well have strengthened particular existing pathways, or unique experiences themselves might have emerged as one of the most significant pathways to homosexuality.

It is the nature of path analysis to eliminate those factors that do not apply to everyone in the sample in the simple attempt to find common factors. This is what Bell et al. did. But the net effect, as Van Wyk and Geist comment, is that “idiosyncratic and unique sexual and non-sexual experiences” as contributors to homosexuality are ruled out. Think of your own idiosyncratic and unique sexual and non-sexual experiences and judge whether or not you felt different as a result of those experiences.

The following people believe certain experiences, which they remember very clearly, were critical in the development of their later homosexual attraction. John mentions the “traumatic and unforgettable” day his father told him (at the age of five) and his sister that he and his mother were divorcing, and he would have to live for the rest of his life with his mother. Lorna said she realised, as a child, that her mother could not be trusted, but that her father “had it good” while her mother had to work all the time, so she didn't want to be a woman. Roberta mentions a frequently repeated story of the death of her father's first wife in childbirth that filled her with fear of being a woman. Then she was raped by her boyfriend. Steven talks about his father favouring an

older brother who was good at sports while he wasn't. James mentions a rejection of his male genitalia at very young age, after he observed violent sexual abuse of his mother by his father. Jane recalls frequent sexual contact with her father who was not in other respects hostile to her. None of these falls easily into the variables in **Figures 30** and **31**. These days internet porn would probably have to be added to the list.

Van Wyk and Geist

This path analysis was not looking for causes of homosexuality. It was an attempt to eliminate the bias in Kinsey's sample to see how it affected homosexual occurrence and distribution through the Kinsey classes. Kinsey himself was not concerned to find causes of homosexuality, so his questions were not geared that way. So Van Wyk and Geist's contribution from the Kinsey sample to the debate on the development of homosexuality is incidental rather than deliberate.

Nevertheless, what did they find? They found that "intense sexual experiences and feelings of arousal and pleasure or discomfort associated with those experiences [were] the strongest precursors of sexual orientation." All variables considered, they found higher levels of homosexuality among males in the Kinsey sample who reported

poorer teenage relationships with their fathers, had more girl companions at age 10, fewer male companions at ages 10 and 16, avoided sports participation, learned of homosexuality by experience, learned to masturbate by being masturbated by a male, had intense pre-pubertal sexual contact with boys or men, had neither heterosexual contact nor petting to orgasm by age 18, found thought or sight of males, (but not females) arousing by age 18, had homosexual contact by age 15...and had higher first year homosexual behavior activity.

For women, they found more homosexuality among those who

had few girl companions at age 10 and few male companions at 16, had learned to masturbate by being masturbated by a female, had intense pre-pubertal sexual contact with boys or men, found thought or sight of females, but not

males, arousing by age 18, had homosexual contact by age 18, and higher first-year homosexual behavior frequency.

All these factors together accounted for 36% of adult female homosexuality and 78% of adult male homosexuality (including the significant link from adolescence to adulthood), and the idea of tracking is mentioned again. These results are similar to those of Bell et al. but, again, many individual factors were mostly unaccounted for. The same pattern emerges: all these social factors together significantly contributed to homosexuality but each factor on its own was very small. So there are very many individual paths and stories, there are some common themes also found by Bell et al. but probably a lot of chance individual reactions to the same events. Kitzuger and Wilkinson⁵ in their survey of changes towards lesbianism remark that there were so many different psychological paths to exclusive SSA that it was impossible they were genetically controlled, a point rarely made. But their view is supported by the long list of SSA causes important to various people given in Chapter Ten, and gets support from the complexity of the paths in **Figures 30** and **31**.

Bem path analysis

One more, but minor, path analysis was done by Bem, father of the “Exotic makes Erotic” theory⁴ (see Chapter Three). It is very interesting because it incorporates genetic influences into a very condensed path analysis and compares them with social factors. Bell et al. did not have a means of making this comparison. Bem obtained the data from the Bailey et al. (2000) twin study on SSA, which included data on childhood gender non-conformity. Using the twin data from Bailey and others gives a measure of genetic influence.

Applying the mathematical method for path analysis he obtained **Figure 32**.

The diagram compares childhood gender non-conformity with genetics as contributors to later SSA. It finds genetic influence is not significant for either men or women, but that childhood gender non-conformity is modestly significant. In fact gender non-conformity is about 10 times stronger than direct genetic influences.

Bem finds more genetic influence on childhood gender non-conformity than direct genetic influence on adult SSA. The influence on adult homosexuality of childhood gender non-conformity is very

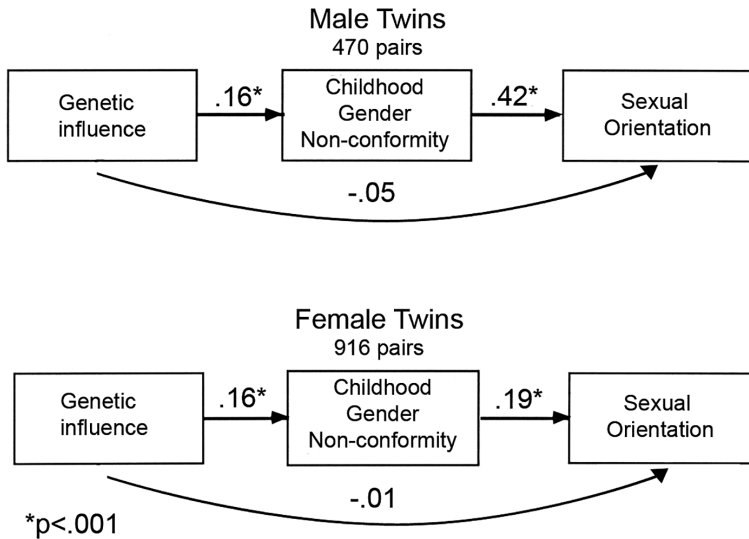


Figure 32. Bem's comparison of genetic and social factors in the development of homosexuality (used with permission.) p at less than .05 is significant, p at .001 is very significant. Numbers represent the strength of the association

close to the findings of Bell et al., significant because the sample was completely different: Australian, not American.

So, not only does Bem confirm that Bell et al.'s strongest single factor (gender non-conformity) is important, he also finds that genetic influence is near zero in comparison.

Summary

The Bailey and Van Wyk and Geist path analyses have been used to argue that there is no social or familial basis to homosexuality. That conclusion is completely unjustified. Bell et al. chose to emphasise, even when their combined paths accounted for 76% of adult homosexuality, that the individual paths to adolescent homosexuality were not significant.

It would have been more accurate to add they could not find a single path to adolescent homosexuality which affected most people, but that individualistic paths were predominant. They identified paths that lend support to psychological theories of homosexual development: negative

relationships with the parent of the same sex, leading to lack of gender identification; gender non-conformity (sissiness in boys and tomboyism in girls); homosexual arousal in childhood and homosexual experience in adolescence. These explanations also have credibility among those who work with people wanting to change a homosexual orientation.

Van Wyk and Geist, although their raw material was not structured for a study of causality, nevertheless found environmental factors that overall accounted for 36% of female homosexuality and 78% of male homosexuality.

So this emphasises the importance of individuals and their experiences, which is the traditional case-study approach of clinical psychologists. Path analysis confirms that social causes as a whole are important, but the details must be filled in by narrated personal experience.

The two path analyses lend good support to the idea of a constellation of environmental factors behind homosexuality, rather than biological ones, with hints that existing paths might be strengthened if the right questions were asked, and respondents were able to volunteer reasons why they believed they became homosexual.

It is highly probable individual reactions to the same environmental factors are far more important than usually thought.

Bem's path analysis shows that gender non conformity is about 10 times stronger than genetic factors in the development of homosexuality.

References:

1. Bell AP, Weinberg MS, Hammersmith SK. 1981. *Sexual Preference: Its Development In Men and Women*. Bloomington, Indiana: Indiana University Press
2. Van Wyk PH, Geist CS. 1984. Psychosocial development of heterosexual, bisexual and homosexual behavior. *Archives of Sexual Behavior* 13(6):505-44
3. Whitam FL, Mathy RM. 1986. *Male Homosexuality in Four Societies. Brazil, Guatemala, the Philippines, and the United States*. New York: Praeger
4. Bem DJ. 2000. Exotic becomes erotic: interpreting the biological correlates of sexual orientation. *Archives of Sexual Behavior* 29:531-47
5. Kitzuger C, Wilkinson S. 1995. Transitions from heterosexuality to lesbianism: the discursive production of lesbian identities. *Developmental Psychology* 31:95-100
6. Savin-Williams RC, Ream GL. 2007. Prevalence and Stability of Sexual Orientation Components During Adolescence and Young Adulthood. *Archives of Sexual Behavior* 36:385-94

7. Laumann EO, Gagnon JH, Michael RT, Michaels S. 1994 *The Social Organization of Sexuality*. Chicago: University of Chicago Press
8. Austin A, Herrick H, Proescholdbell S. 2015. Adverse childhood experiences, sexual orientation and adult health: an analysis of North Carolina, Washington, and Wisconsin behavioral risk factor surveillance survey data. *Injury Prevention* 21(Suppl.1): A6-A7
9. Whitehead NE. 2011. Sociological studies show social factors produce adult SSA. *Journal of Human Sexuality* 3:115-136