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While sexuality is full of cultural variations and subjective definitions used for self-identification, scientists have attempted to investigate the complexity of this topic. There may be benefits and risks involved for many if science rules out specific characteristics that determine one's sexuality, but there is no simple determining factor for sexuality because of its fluidity.

To start, how do scientists study sexuality? One of the most common methods for determining sexual orientation was developed by Drs. Alfred Kinsey, Wardell Pomeroy, and Clyde Martin in the late 1940s. This method is known as the Kinsey Scale and determines a range of sexualities from purely heterosexual to completely homosexual.[1] While this model incorporates sexualities ranging from heterosexual to homosexual, it does not address all possible sexualities. However, the reports that developed this method did lead to a change in the public's view of sexuality.

Additionally, researchers have used methods such as self-reporting, pupil dilation, genital and neural response, and association activities to study sexual orientation.[2] While these all have a variety of benefits and drawbacks, self-reporting has become a more useful method for determining sexual orientation with rises in the public's tolerance of diverse orientations and lessened reluctance of participants to report less accepted orientations.

Now that we know methods scientists employ to comprehend sexual identity and orientation, we can take a look at the studies scientists have conducted regarding sexuality. While many deterministic studies cannot be conducted because they would create many an ethical dilemma, there have been some significant studies that correlate certain environmental factors with an individual's sexual orientation.

A review done by an array of scientists found that childhood gender nonconformity (behaving in a manner inconsistent socially with your presented gender) has a strong correlation with adult sexual orientation.[2] Scientists have found through studies that follow children to adulthood, as well as studies where adults reflect on their childhood, that for men and women in Western and non-Western cultures, that "nonheterosexual adults partook in more repetitive behaviors surrounding gender nonconformity" typically beginning around preschool age (3-4).[3] This correlation potentially presents dangers to children being raised in conservative environments where their behavior may be more strictly regulated and expected to conform to their presented gender. However, this correlation varies and is not a consistent indicator of adult sexual orientation as childhood behavior does not always indicate adult sexuality. However, there is a significant correlation between childhood nonconformity and potential adult sexuality.

In contrast to behavior, some other scientists have found a potential environmental/genetic factor that indicates an increased likelihood for a male to be-homosexual: fraternal birth order. Specifically, these studies have found that an increase in the number of older birth-related brothers increases the likelihood that a male will be homosexual. This study found that it only correlates with birth-related brothers,

regardless if they are raised in the same home.[4] The lack of correlation for other types of siblings, younger siblings, and non-birth siblings such as stepsiblings indicates that this propensity for homosexuality is somehow correlated to the developmental environment in the womb and the potential genetic alterations that occur as a mother has more children. This is an interesting correlation because it combines the concept of nature and nurture as the bases for sexuality (nature as inthe genetic factors, nurture as in the environmental factors) which demonstrates how science is not always reducible to one theory or another.

Scientists have also been able to disprove a lot of conceptions regarding indicators of sexuality. For instance, there was a superstition that one could tell a man's sexuality by the difference in length of the 2nd and 4th fingers. This was supposedly correlated to the increased difference in length commonly found in women and levels of prenatal hormones. However, while men and women do exhibit trends of differences in finger lengths, there is no relationship between this factor, the hormonal cause, and sexual orientation.[2]

One interesting type of study for investigating developmental relationships between sexuality and one's environment is through the use of twins. Identical twins share the same genetics and are raised in the same overall environment, even if there are some small environmental and epigenetic differences between the two, they function as constants in the lab that can be tested against a series of variables that could lead to the identification of factors leading to certain sexualities. However, the ability to perform these studies without self-selecting for certain groupings of twins, as well as appropriately investigating the differences has been too inconclusive and many scientists believe that twin studies need to be supplemented with further environmental studies.[2]

While scientists have not been able to appropriately study twins to investigate genetic and environmental factors, they have been able to study the effects of nonheterosexual parents on the sexuality of their children. Unfortunately large-scale studies of parenting have not been able to be achieved. However, some small-scale studies seem to suggest that children raised by nonheterosexual parents have similar outcomes in sexual orientation and quality of life as children raised by heterosexual parents.[5, 6] These studies however could use additional research because nonheterosexual couples who wish to raise children still experience discrimination under some adoption laws.[2] Studies like this could have a positive effect in eliminating the ways in which laws discriminate against lgbtq people.

In conclusion, scientists have been developing methods for studying sexuality and are still working to improve their techniques. However, these studies raise the question of the ethics of being able to determine sexuality consistently and accurately. If scientists are able to determine explicit factors that lead to one's sexuality, doesn't that raise the risk of discrimination? On the short hand, yes, if there is some simplistic factor that determines sexuality that is a danger, but in looking at the studies done so far and the questions being asked, I do not believe that is the case. Sexuality seems to be driven by a complex number of factors that are both innate and environmental, and these complexities are what contribute to the difficulty of the question being addressed and humanity's diversity. Science has a long way to go before it can tell us about the ways in which sexuality influences us and vice versa, and I look forward to the prospect of science in further comprehending the diversity of life.

References

1. Kinsey, A. C., Pomeroy, W. R., & Martin, C. E. (2003). Sexual behavior in the human male. 1948. American journal of public health, 93(6), 894–898. doi:10.2105/ajph.93.6.894

2. Bailey, J. M., Vasey, P. L., Diamond, L. M., Breedlove, S. M., Vilain, E., & Epprecht, M. (2016). Sexual Orientation, Controversy, and Science. Pyschological Science in the Public Interest, 17(2), 45-101. doi:10.1177/1529100616637616

3. Bailey, J. M., Zucker, K. J. (1995). Childhood sex-typed behavior and sexual orientation: A conceptual analysis and quantitative review. Developmental Psychology, 31, 43–55.

4. Bogaert, A. F. (2006). Biological versus nonbiological older brothers and men's sexual orientation. Proceedings of the National Academy of Sciences, USA, 103, 10771–10774.

5. Patterson, C. J. (2006). Children of lesbian and gay parents. Current Directions in Psychological Science, 15, 241–244.

6. Tasker, F. (2005). Lesbian mothers, gay fathers, and their children: A review. Journal of Developmental & BehavioralPediatrics, 26, 224–240.

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