

Evolutionary Origins of Homosexuality

JAMES O'KEEFE, EVAN O'KEEFE, AND JOHN HODES

"Homosexuality may give advantages to the group by special talents, unusual qualities of personality, and the specialized roles and professions it generates. There is abundant evidence that such is the case in both preliterate and modern societies. Societies are mistaken to disapprove of homosexuality because gays have different sexual preferences and reproduce less. Their presence should be valued instead for what they contribute constructively to human diversity. A society that condemns homosexuality harms itself."
— E. O. Wilson (2012)

THROUGHOUT recorded history, homosexuals have comprised a small but significant cohort of human society. Evidence of same-sex sexual behavior dates back to the oldest written texts, first noted in Egypt 4,400 years ago, and subsequently found in ancient Greece, Rome, and China. Additionally, same-sex mating behavior has been documented in a broad range of animal species, including mammals, birds, reptiles, and insects. In Western countries today, the prevalence of male homosexuality is between two and eight percent. Nevertheless, same-sex physical intimacy is illegal in many nations, with punishments including death or imprisonment. The law in India, put in place by British colonizers, calls for imprisonment ranging from fourteen years to life, citing the rationale that homosexuality is "against the order of nature."

Here we discuss a body of scientific evidence that directly contradicts this assertion and instead argues that homosexuality has emerged through evolution as a normal variant that confers survival benefits to the family, particularly in certain settings. The predominant focus of this paper is male homosexuality, because substantially more scientific data has been published on same-sex sexual orientation in males compared to females.

HERITABILITY OF HOMOSEXUALITY

"Nothing in biology makes sense except in the light of evolution," wrote Theodosius Dobzhansky famously. However, in the context of Darwinian natural selection, homosexuality appears to be a paradox. Gay men have eighty percent fewer offspring than do heterosexual males, so this trait would be expected to

Male homosexuality appears to have arisen because of its potential benefits for the survivability of the family.

undergo extinction within several generations. The essence of natural selection is to favor and conserve beneficial genetic variations and eliminate maladaptive ones. Thus, if homosexuality were a genetic error, it would have been removed long ago from the gene pool via natural selection.

This evolutionary enigma is magnified by accumulating evidence indicating that male same-sex sexual preference—defined as sexual attraction to male partners even when female partners are available—is largely determined prenatally via inherited genes undergoing epigenetic modification in utero. In other words, genes coding for sexual orientation are activated in the developing fetus in response to the signals emanating from the mother and her surrounding environment, which are endocrine mechanisms acting upon the fetus during pregnancy. Thus, homosexuality is not solely a consequence of the in-utero environment; nor is it determined by an individual's genes alone. Instead, a complex interaction between the two produces biological changes that alter sexual orientation.

Twin studies provide strong evidence that sexual orientation is at least partially genetic. For example, if one identical twin is homosexual, there is an increased likelihood that the other twin will be too. However, several large studies scanning the entire human genome have not revealed a single, consistent genetic variant among males with homosexuality. Thus it is now clear that no specific "gay gene" determines sexual orientation.

In the largest and most rigorous genetic linkage study focused on this topic, Sanders and colleagues scrutinized the DNA from 409 pairs of gay brothers, searching for shared single nucleotide polymorphisms (SNPs)—substitutions of a single letter in the genetic code (Sanders, 2015). The two specific SNPs that were most commonly shared among the 818 gay men were in the Xq28 and 8q12 regions, located on the X chromosome and chromosome 8, respectively.

MATERNAL FERTILITY LINKAGE

The heritability of homosexuality is also supported by maternal fertility data. A woman who gives birth to a gay male is likely to come from a maternal bloodline with especially high fertility. Evolutionary theory strongly suggests that genes for homosexuality should be eliminated from the population unless a potential compensatory mechanism exists. One proposed, partial solution to this Darwinian paradox is the potential existence of a gene that increases fertility when present in a woman but predisposes to homosexuality when present in a male. Any reduced male fertility associated with homosexuality is offset by the high fertility of the mother and her female relatives. Androphilia—strong sexual attraction to males—has been pro-

James O'Keefe has authored or co-authored 360 medical articles, including many on evolution and human health. His TED Talk summing up this research has been viewed over one million times.

Evan O'Keefe, a third-year medical student, has published on global health, human evolution, and prevention of cardiovascular disease.

John Hodes, a pre-med student at Marquette University, has conducted research on belonging and its connection to mental health.

Origins Of Sexuality And Homosexuality Research On Homosexuality

Kevin Franklin



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Origins of Sexuality and Homosexuality John Dececco, PhD, Michael Shively, 2014-04-04 This well documented book highlights some of the theories of bisexual and homosexual identities and their conceptual bases in cultural history moral philosophy biology and social psychology Some of the most respected minds in the field of human sexuality challenge traditional views on homosexuality and question the moral principles implicit in many existing psychiatric and psychological theories

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The SAGE Encyclopedia of LGBTQ Studies Abbie E. Goldberg, 2016-05-10 This far reaching and contemporary new Encyclopedia examines and explores the lives and experiences of Lesbian Gay Bisexual Transgender and Queer LGBTQ individuals focusing on the contexts and forces that shape their lives The work focuses on LGBTQ issues and identity primarily through the lenses of psychology human development and sociology emphasizing queer feminist and ecological perspectives on the topic and addresses questions such as What are the key theories used to understand variations in sexual orientation and gender identity How do Gay Straight Alliances GSA affect LGBTQ youth How do LGBTQ people experience the transition to parenthood How does sexual orientation intersect with other key social locations such as race to shape experience and identity What are the effects of marriage equality on sexual minority individuals and couples Top researchers and clinicians contribute to the 400 signed entries from fields such as Psychology Human Development Gender Queer Studies Sexuality Studies Social Work Sociology The SAGE Encyclopedia of LGBTQ Studies is an essential resource for researchers interested in an interdisciplinary perspective on LGBTQ lives and issues

Gay Men and the Sexual History of the Political Left Gert Hekma, Harry Oosterhuis, 1995 Chapter authors are internationally recognized scholars who analyze key developments of the attitudes and policies of leftist thinkers parties and regimes toward homosexuality in Western Europe the Soviet Union and the United States

Companion to Sexuality Studies Nancy A. Naples, 2020-04-29 An inclusive and accessible resource on the interdisciplinary study of gender and sexuality Companion to Sexuality Studies explores the significant theories concepts themes events and debates of the interdisciplinary study of sexuality in a broad range of cultural social and political contexts Bringing together essays by an international team of experts from diverse academic backgrounds this comprehensive volume provides original insights and fresh perspectives on the history and institutional regulatory processes that socially construct sex and sexuality and examines the movements for social justice that advance sexual citizenship and reproductive rights Detailed yet accessible chapters explore the intersection of sexuality studies and fields such as science health psychology economics environmental studies and social movements over different periods of time and in different social and national contexts Divided into five parts the Companion first discusses the theoretical and methodological diversity

of sexuality studies Subsequent chapters address the fields of health science and psychology religion education and the economy They also include attention to sexuality as constructed in popular culture as well as global activism sexual citizenship policy and law An essential overview and an important addition to scholarship in the field this book Draws on international postcolonial intersectional and interdisciplinary insights from scholars working on sexuality studies around the world Provides a comprehensive overview of the field of sexuality studies Offers a diverse range of topics themes and perspectives from leading authorities Focuses on the study of sexuality from the late nineteenth century to the present Includes an overview of the history and academic institutionalization of sexuality studies The Companion to Sexuality Studies is an indispensable resource for scholars researchers instructors and students in gender sexuality and feminist studies interdisciplinary programs in cultural studies international studies and human rights as well as disciplines such as anthropology psychology history education human geography political science and sociology

Humanity and Human Sexuality: The Origin and Nature of Sexual Preference Kevin Franklin, 2024-03-28 In *Humanity and Human Sexuality: The Origin and Nature of Sexual Preference* Dr Kevin Franklin embarks on an extraordinary exploration of the human being of mind and their potential Delving deep into themes of confusion and disorder he unveils how a trickster mind can hinder an individual's true potential for life and freedom Drawing from his own profound experiences of childhood psychosis which once seemed to destine him for a life overshadowed by schizophrenia and the threat of early suicide Dr Franklin defies expectations This book ventures beyond traditional boundaries to examine the metaphysical aspects of psychological order offering a unique perspective on the often misunderstood concepts of societal and psychological disorders Dr Franklin's insights extend into a scientific demonstration of the innate origins and nature of both heterosexual and homosexual preferences *Humanity and Human Sexuality: The Origin and Nature of Sexual Preference* illuminates various fields Philosophy Religion History Science Society and Psychology offering a revolutionary viewpoint on these disciplines It challenges long held beliefs and misconceptions particularly in the realms of sexual identity the gender and transgender discussion and the complex relationship between religion and science Structured in two parts the book first deconstructs the mythology of sexual identity before reconstructing a comprehensive understanding of human sexuality It seeks to resolve some of humanity's most pressing issues the lack of human compassion the intricacies of gender identity and the historical tensions between religious beliefs and scientific understanding This book is an essential read for anyone seeking a deeper understanding of the origins and nature of sexual preference and identity and the broader implications for society

Homosexuality in French History and Culture Jeffrey Merrick, Michael Sibalis, 2013-09-13 Deconstruct changing representations of homosexuality with this important new work of cultural criticism *Homosexuality in French History and Culture* explores episodes patterns and images of same sex attraction in France from the sixteenth to the twenty first century from the essays of Michel de Montaigne to pride parades in contemporary Paris This groundbreaking book documents the

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Lesbian and Gay Studies Theo Sandfort, 2000-07-28 This timely book seeks to demonstrate the coherence of lesbian and gay studies It introduces the reader to the principal interdisciplinary approaches in the field and critically assesses their strengths and weaknesses whilst asking What is lesbian and gay studies When did it emerge And what are its achievements and research agenda The gay and lesbian movement has emerged as a major political and cultural force It poses a series of far reaching questions about the organization of identity the operation of power and the limits of tolerance Lesbian and Gay Studies has emerged as a vital and enriching field It offers challenges to more traditional disciplines and requires new forms of thought about the connections between acad

A Recent History of Lesbian and Gay Psychology Peter Hegarty, 2017-09-13 This ground breaking text explores the contemporary history of how psychological research practice and theory has engaged with gay and lesbian movements in the United States and beyond over the last 50 years Peter Hegarty examines the main strands of research in lesbian and gay psychology that have emerged since the de pathologizing of homosexuality in the 1970s that followed from the recognition of homophobia and societal prejudice The author details the expansion of lesbian and gay psychology to LGB to LGBT psychology via its paradigm shifts legal activism shifts in policy makers and mental health professionals goals in regard to sexual and gender minorities For the first time the origins of the concepts debates and major research programs that have made up the field of LGBT psychology have been drawn together in a single historical narrative making this a unique resource A case is made that psychology has only very lately come to consider the needs and issues of transgender and intersex people and that LGB paradigms need to be critically interrogated to understand how they can be best brokered to bring about social change for such groups A Recent History of Lesbian and Gay Psychology will serve as an advanced historical introduction to this field s recent history and current concerns and will inform both those who have been a part of this history and students who are new to the field

Reader's Guide to Lesbian and Gay Studies Timothy Murphy, 2013-10-18 The Reader s Guide to Lesbian and Gay Studies surveys the field in some 470 entries on individuals

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Table of Contents Origins Of Sexuality And Homosexuality Research On Homosexuality

1. Understanding the eBook Origins Of Sexuality And Homosexuality Research On Homosexuality
 - The Rise of Digital Reading Origins Of Sexuality And Homosexuality Research On Homosexuality
 - Advantages of eBooks Over Traditional Books
2. Identifying Origins Of Sexuality And Homosexuality Research On Homosexuality
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Origins Of Sexuality And Homosexuality Research On Homosexuality
 - User-Friendly Interface
4. Exploring eBook Recommendations from Origins Of Sexuality And Homosexuality Research On Homosexuality

- Personalized Recommendations
 - Origins Of Sexuality And Homosexuality Research On Homosexuality User Reviews and Ratings
 - Origins Of Sexuality And Homosexuality Research On Homosexuality and Bestseller Lists
5. Accessing Origins Of Sexuality And Homosexuality Research On Homosexuality Free and Paid eBooks
 - Origins Of Sexuality And Homosexuality Research On Homosexuality Public Domain eBooks
 - Origins Of Sexuality And Homosexuality Research On Homosexuality eBook Subscription Services
 - Origins Of Sexuality And Homosexuality Research On Homosexuality Budget-Friendly Options
 6. Navigating Origins Of Sexuality And Homosexuality Research On Homosexuality eBook Formats
 - ePub, PDF, MOBI, and More
 - Origins Of Sexuality And Homosexuality Research On Homosexuality Compatibility with Devices
 - Origins Of Sexuality And Homosexuality Research On Homosexuality Enhanced eBook Features
 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Origins Of Sexuality And Homosexuality Research On Homosexuality
 - Highlighting and Note-Taking Origins Of Sexuality And Homosexuality Research On Homosexuality
 - Interactive Elements Origins Of Sexuality And Homosexuality Research On Homosexuality
 8. Staying Engaged with Origins Of Sexuality And Homosexuality Research On Homosexuality
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Origins Of Sexuality And Homosexuality Research On Homosexuality
 9. Balancing eBooks and Physical Books Origins Of Sexuality And Homosexuality Research On Homosexuality
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Origins Of Sexuality And Homosexuality Research On Homosexuality
 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
 11. Cultivating a Reading Routine Origins Of Sexuality And Homosexuality Research On Homosexuality
 - Setting Reading Goals Origins Of Sexuality And Homosexuality Research On Homosexuality
 - Carving Out Dedicated Reading Time
 12. Sourcing Reliable Information of Origins Of Sexuality And Homosexuality Research On Homosexuality

- Fact-Checking eBook Content of Origins Of Sexuality And Homosexuality Research On Homosexuality
- Distinguishing Credible Sources

13. Promoting Lifelong Learning

- Utilizing eBooks for Skill Development
- Exploring Educational eBooks

14. Embracing eBook Trends

- Integration of Multimedia Elements
- Interactive and Gamified eBooks

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