

# ***Comparing Evolutionary Hypotheses: Kin Selection Theory and Alliance Theory in Understanding Homosexual Orientation***

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**Abstract:** This paper explores evolutionary explanations for homosexual orientation by comparing Kin Selection Theory and Alliance Theory. Through a comprehensive literature review, the study evaluates Kin Selection Theory, which posits that homosexual individuals may enhance the reproductive success of their relatives through altruistic behaviors, thereby providing indirect genetic benefits. Key studies are analyzed to assess the validity of this hypothesis, highlighting both supporting evidence and limitations, such as cultural variability and methodological constraints. Conversely, Alliance Theory is examined as an alternative explanation, suggesting that same-sex sexual behaviors facilitate social bonds, reduce aggression, and improve social status, thereby offering direct adaptive advantages within social hierarchies. Empirical research supporting Alliance Theory is discussed, emphasizing its role in enhancing social integration and resource sharing among homosexual individuals. The paper also outlines research designs for investigating both theories, incorporating quantitative and qualitative methods to assess altruistic behaviors and social alliances among diverse populations. Additionally, the study identifies significant research gaps, including the need for cross-cultural analyses, exploration of long-term effects of alliances, and understanding the impact of social identity on homosexual individuals. By integrating insights from both theories, this paper underscores the complexity of the evolutionary origins of homosexual orientation and calls for interdisciplinary approaches to further elucidate the interplay between genetic predispositions and socio-cultural factors. Ultimately, the comparative analysis aims to provide a nuanced understanding of how Kin Selection and Alliance Theories contribute to explaining the persistence and variability of homosexual orientation in human populations.

**Keywords:** Evolutionary Psychology, Kin Selection Theory, Alliance Theory, Homosexual Orientation

## 1. Kin selection theory literature review

### 1.1. Introduction

The evolution of homosexual orientation has been one of the topics of interest for a long time and it is still fascinating researchers, especially about whether it is a by-product of evolution or an adaptation. There is still much controversy over this theory of evolution. One hypothesis is that homosexual orientation may provide indirect genetic benefits through kin selection, increasing the reproductive success of relatives and enhancing inclusive adaptations. This literature review evaluates key studies related to the kin selection hypothesis to assess its validity and implications for understanding homosexual orientation. An alternative hypothesis is that homosexual orientation may instead reduce reproduction because it does not produce a direct or indirect reproductive advantage for individuals. At the same time, this does not mean that homosexuality itself is wrong, rather their brain complexity allows them to still retain many new skills. The main aim of this study will be to assess the effects that homosexual orientation may provide for indirect inheritance among relatives through a literature review of parental selection theory.

### 1.2. Concrete evidence

Since group selection theory could not convincingly explain altruism, Hamilton proposed the theory of kin selection [1]. The theory was so convincing that it soon dominated the evolutionary theory of social behaviour. The basic idea of kin selection theory is that altruists only offer help or make sacrifices to their blood relatives. Since the recipient carries the same or similar genes as the altruist, when Hamilton's Law is satisfied, the altruist is not genetically less adaptive because of his or her altruistic behaviour [2]. In this way, altruism can evolve through kin selection. Therefore, the theory of kin selection is based on the intrinsic fitness of genes, not on fitness. Kin selection theory implies that organisms are more likely to exhibit altruistic behaviour towards their own relatives, and the closer the relatives, the more altruistic they are. Some studies have found that homosexual male relatives may reproduce more offspring due to financial help, or genetic responsibility [3]. Iemmola & Camperio Ciani investigated the fecundity of homosexual male relatives, providing some support for the kin selection hypothesis [4]. Their study found that female relatives of homosexual men exhibited higher reproductive success, which may provide indirect genetic benefits. However, the cross-sectional design of the study limits causal inferences, suggesting that longitudinal studies are needed to elucidate these dynamics. In addition to this, Forrester similarly found that homosexual men were more willing to provide financial support for some of the females in their family to reproduce as well as care for their children [5]. Nila also researched another perspective and found that due to the presence of homosexual males in the family, female relatives would be more responsible to take up the task of reproducing in the family and therefore may influence their reproductive decisions [6]. Nonetheless, Rahman and Hull conducted an empirical research study to test the hypothesis of kinship option by checking out the altruistic behaviour of homosexual and heterosexual men [7]. Their outcomes show that there is no substantial difference in kinship-oriented altruism, which tests the legitimacy of the theory. Nevertheless, the restrictions of this research study, such as sample size and cultural background, might influence the results, indicating the need for further investigation of different populaces.

In regards to approaches to keep track of the reproductive influence of gay male relatives, Forrester et al. checked out the reproductive behaviour of gay men in Canada, providing combined support for the option of family members [5]. Although there is some evidence that there is a boost in altruism towards nephews and nieces, the outcomes are undetermined. This research study emphasises the importance of thinking about the social and ecological elements that might mediate kinship-oriented

altruism and their transformative value. Kirkpatrick stressed the duty of cultural and ecological history in shaping homosexual behavior [8]. He thinks that the option of relatives may communicate with socio-cultural factors to affect the expression of homosexual orientation and the possible evolutionary advantage. This sight shows that understanding homosexuality needs a thorough method, taking into account organic tendencies and social characteristics. Vasey and VanderLaan agree with the above views on the research of Japanese men's unconscious tendency, exposing cultural dependence in kinship-oriented altruism. Their findings show that the applicability of the selection of relatives varies from society to society, which enhances the requirement to take into consideration multiculturalism when reviewing evolutionary assumptions [9]. These research studies stress the complicated interaction in between genetics and culture in shaping sexual orientation.

### 1.3. Conclusion

Whether homosexual orientation is an evolutionary artefact or an adaptive feature will still be the focus of academic focus. The current literary works puts forward an intricate image of the role of the kinship choice hypothesis in describing homosexual orientation, stressing the feasible unexpected effect of this complex picture - promoting the recreation of relatives. Although some researches provide minimal assistance, various other research studies emphasise substantial social and environmental effects. The communication between hereditary propensities and socio-cultural backgrounds shows that the evolutionary origin of homosexual orientation is complex. Future study needs to check out these characteristics with interdisciplinary methods, combine different social views and advanced methodologies, thoroughly recognize homosexual orientation from an evolutionary perspective, and a lot more fully discover the transformative basis of human behaviour.

## 2. Kin selection research design final

### 2.1. Participants

The study intends to include a sample of roughly 200 individuals. By examining the relationship between sexual orientation and selfless actions toward kin, this study aims to evaluate the Kin Selection Theory as an evolutionary explanation for homosexual orientation. Consistent with the proposed hypothesis, the study attempts to determine whether homosexuals show higher degrees of altruism toward their family members. In order to effectively categorize participants' sexual orientation, questions regarding the gender of their previous partners will be posed, and then the percentage of homosexual past relationships in those will be computed by analyzing homosexual behaviors.

### 2.2. Methods

In order to collect quantitative and qualitative data for the study, questionnaires and self-reported interviews will be used.

For quantitative data, basic information such as gender, age, sexual orientation (identified by participants themselves), size of family, and number of relatives that participants believed they are close to (such as siblings, cousins, nieces, nephews, etc.) will be gathered at the very beginning of the questionnaire as a fundamental data to the research. In addition, a questionnaire will be applied to evaluate altruistic actions directed towards relatives. This survey will evaluate behaviors like efforts putting in childcare of the whole family, time spent with the family, helping with financial problems, and providing emotional support. For example, questions include "How often do you help with your family members' financial issues?", "How frequently do you offer emotional support to your family

members?", "How often do you babysit your family members' babies?", etc., with responses will be scaled from "Either of the time", "Rare", "Sometimes", "Often", to "Very often".

For qualitative data, self-reporting interviews will be conducted to collect the relationship between participants and their relatives and the motivation behind their altruistic behavior.

Interview questions will explore the influence of familial expectations, cultural beliefs, participants' personal beliefs toward family support, and how their sexual orientation may have shaped their relationships with family members. Example questions include, "Can you share examples of times when you have prioritized your family's needs over your own?" and "Do you believe your sexual orientation has influenced the way you interact with or support your family?"

### 2.3. Data analysis

The quantitative survey data will be analyzed using statistical software such as SPSS or Jamovi. The aim will be to compare levels of altruistic behavior toward kin across different groups based on sexual orientation. A correlational analysis will be performed to examine the relationship between sexual orientation and altruistic behaviors. The qualitative data from the interviews will be analyzed thematically, focusing on recurring patterns related to family support and the personal and cultural motivations behind altruistic behaviors.

### 2.4. Conclusion

This research design integrates both quantitative and qualitative methods to explore the Kin Selection Theory in relation to homosexual orientation. By analyzing altruistic behaviors toward kin, the study aims to provide a better understanding of whether homosexual orientation can be explained as an adaptation that promotes indirect benefits.

## 3. Alliance theory literature review

### 3.1. Introduction

In many cultures homosexuals band together, however this is not in the same manner as cooperation in rearing offsprings or for purposes of building families. In alliance theory, people join themselves as partners in matters relating to emotional support, self and mutual interests and resource sharing.

### 3.2. Analysis

Frank Muscarella showed evidence in his work to support the alliance theory. From an evolutionary point of view, he discusses the ways in which male-male sexuality among humans has been shaped by alliance theory. In the article: *The Evolution of Human Male-Male Sexuality* published by Muscarella, he states that this behavior indeed could have evolved and was functional for the purpose of such bonding especially in view of male dominance hierarchies [10]. In this hypothesis, male-to-male sexual activity reaffirms social relationships, decreases aggressiveness and therefore enhances reproductive capacity. By dismantling the notion that it is just a form of sexual orientation, Muscarella contributes towards affirming the fact that these behaviors are fundamental aspects that are closely related to survival, reproduction, and maintenance of social bonds [11].

Muscarella and his partners, in a related empirical research, extended the study and discussion of alliance theory through focusing on its implications on the social and reproductive structures as regards homosexual actions. The research also showed that homosexual reactions in males may thus elevate an individual's ranking in society and contribute to indirect sexual reproductive benefits [12]. The study offered very persuasive evidence to back the claim that same sex sexual behavior contributes towards social hierarchy and alliance. These relationships enable them to secure resources

and shield themselves in the right manner as compared to their counterparts. As such, same-sex sexual behavior is an act of survival and this paper finding is in an agreement with the adaptation theory.

### **3.3. Conclusion**

Therefore, same-sex sexual relationships can facilitate the construction of mutually supportive unions economically, socially and in reproduction, therefore increasing their survivalism and adaptive stability in the society. These alliances can be outside the conventional framework of gay and lesbian identity, which in turn gives people a wider range of support systems.

## **4. Alliance theory research design**

### **4.1. Participants**

This study aims to explore the effects of alliance activities on homosexual individuals. A sample of approximately 200 participants will be selected randomly. This research seeks to discuss which group of people depends more on the country's aid and what kind of alliance does they need most. Participants will be asked about their age, occupation, income level etc. These factors will form a contrast for the subsequent survey results. After this, to categorize the sexual orientation of the participants' effectively, they will have to self-report the gender of their previous partner, and then the group of people who have homosexual past relationship will be rank in the group of homosexual.

### **4.2. Methods**

We will use a questionnaire to measure whether LGBTQ+ individual and the heterosexuals participate in the alliance activities, and who relies on alliance more. The questionnaire will include measure of their quality of life, social integration, self-identity, social status, social support perception and what they have gained from those alliance activities. These data will be used to evaluate their degree of integration in societies such as workplace and community as well as their acceptance and confidence in their own sexual orientation. The questionnaire will also contain questions like "what kind of you've obtained from the society and even your country ". "How much do you rely on the aids from your country".

### **4.3. Data analysis**

By using these data collected from the questionnaire, we will compare the social status, degree of discrimination and the inconveniences in the lives of the two groups to measure what kind of help does the two groups people need, and who depends on the help more. We can also perform statistical analysis on the questionnaire data to compare the differences in obtaining social assistance between homosexual and heterosexual groups. This analysis will help us understand the expectations of different groups for the required assistance and find out the commonalities and differences.

### **4.4. Conclusion**

In conclusion, this study highlights the importance of alliance activities. These activities can have a positive impact on quality of life, social integration, and self-identity. Future research could further explore the long-term effects of alliance activities and develop more targeted interventions to support the well-being of homosexual individuals and promote social equality."

## 4.5. Research gap

While the existing study provides valuable insights into the potential evolutionary explanations for homosexual orientation, several research gaps remain for further investigation. The limitations underscore the need for a more comprehensive understanding of the phenomenon.

### 4.5.1. Cultural diversity

The studies mentioned illustrate that the varying applicability of kin selection across societies, emphasizing the importance of considering cultural diversity when evaluating evolutionary hypotheses. However, there is a lack of systematic cross-cultural research that directly compares the expression of homosexual orientation across diverse cultural contexts. Further research is needed to explore how cultural shapes the evolutionary pressures and benefits associated with homosexual orientation.

### 4.5.2. Long-Term impacts of alliance theory

While Alliance Theory offers a promising foundation for understanding the direct adaptive benefits of homosexual orientation, such as enhancing social bonds and improving the social status, the long-term implications of these alliances have not been fully elucidated. Future research should be conducted to investigate the stability and durability of these alliances over time, as well as their impact on individuals. This could involve longitudinal studies tracking the social and evolutionary outcomes of homosexual alliances across generations.

### 4.5.3. Social identity

The research gap also involves the social identity experienced by homosexual individuals and the development of interventions to support their well-being. There is a lack of research that based on evidence of the specific strategies that can not only promote social equality effectively but improve the quality of life for homosexual individuals. Future research should be focused on evaluating the effectiveness of the enhancement of social connections and belongingness within diverse communities.

In conclusion, the existing research on homosexual orientation highlights several promising avenues for future exploration. Addressing these research gaps will provide a more comprehensive and nuanced understanding of the evolutionary and social determinants of homosexual orientation.

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