

# To what extent evolutionary and social factors influence the formation and style of Homophobia

Wentao Shen<sup>1</sup>,  
Ziyan Huang<sup>2</sup>,  
Yingxue Wu<sup>3</sup>,  
Hairong Wang<sup>4</sup>,  
Zihan Shan<sup>5,\*</sup>

<sup>1</sup>Department of Psychology,  
University of British Columbia,  
Vancouver, V6T 1Z2, Canada,  
swt628628@126.com

<sup>2</sup>Changjun International Department  
Changsha, 410023, China,  
klo1huang@163.com

<sup>3</sup>West China Hospital, Sichuan  
University, Sichuan University,  
Chengdu, 610065, China,  
1828732465@qq.com

<sup>4</sup>Jinan Foreign Language  
School, Jinan, 250022, China,  
wanghairong004X@163.com

<sup>5</sup>WLSA Shanghai Academy,  
Shanghai, 200433, China,  
15617818682@163.com

All the authors contributed  
equally to this work and should be  
considered as co-first author.

\*Corresponding author email:  
15617818682@163.com

## Abstract:

Homophobia, characterised by fear or hatred of homosexuality, remains a pervasive social problem despite ongoing efforts to secure human rights and equality. This essay explores the formation and styles of homophobia from evolutionary and social perspectives. Evolutionary factors suggest that preference for heterosexuality may result from reproductive adaptations, while social influences, particularly group pressures during adolescence, shape homophobic behaviour. In addition, social dominance orientations and adherence to cultural norms contribute to homophobia. Gender differences in types of homophobia have been examined, with males displaying more fear due to societal perceptions of masculinity. The proposed hypothesis was tested through questionnaires and experimental methods. Understanding the formation and styles of homophobia is essential for promoting social inclusion and equality.

**Keywords:** Homophobia, evolutionary insights, social dynamics, group influences, Social Dominance Orientation (SDO).

## 1. Introduction

Holistic perception of homophobia (or homonegativity) is conceptualized as the fear or hatred of homosexuality and the fear of being a homosexual[1]. So far, despite ongoing activities on human rights and equality issues, negative influences and the manifestation of homophobia in many cultures are still common social problems. Homophobia has been noticed with aggressive or extreme discriminative actions, like verbal bullying, beatings, rape, rejection, loss of employment, threats upon lives and even killing[2]. According to Blechner (2017)[3], "This is odd, since homosexuality itself has harmed no one, whereas hatred and persecution of homosexuals has damaged many lives." By understanding the formation and styles of homophobia, we can fill the research gap and help the public advance recognition of this topic, aiding in the development of strategies to promote inclusivity, acceptance, and equality for all individuals. This essay explores to what extent the evolutionary and social factors influence the formation and styles of homophobia.

## 2. Evolutionary factors of Homophobia formation

Research on the formation of homophobia from evolutionary psychology insights has shown that foremost, the socially shown preferences for heterosexuality can be understood in terms of reproductive fitness, as it fits the goal of ensuring human gene persistence and inheritance[4]. According to research done by Kirkpatrick [5], most parents will accept children's homosexuality only when the children have their own offspring, which means the reproduction aims are ensured not to be interfered with. So why does homosexuality persist under conditions unfavorable to reproduction? Several theories have been raised, like genetic nonsexual advantages, altruistic upbringing of kin, enhanced fertility of female relatives [6], and the development of same-sex cooperative alliances. Between them, alliance theory has been recognized as the most popular and reasonable one to explain the origin and continuation of homosexuality. According to Muscarella [7], same-sex alliances can help with both survival and reproduction. Also, sex behaviors are seen to strengthen the commitment relationship and mutual trust. For example, it is revealed that bonobos use homosexual sex as an important part of their food exchange system, which will benefit their survival issues[8]. As for reproduction, heterosexual marriages and sexual behaviors are suggested to be complementary to same-sex alliances. For example, among the Etoro, Jaqaj and Onabasulu of Melanesia, members of same-sex alliances may share and exchange partners

of the other gender to satisfy their reproduction demand. Thus, it can be speculated that benefits brought by same-sex alliances consisting of homosexual people may cause other heterosexual people's jealousy, and then develop the emotions of alienation and discrimination, which further form homophobia. Thus, we raise a hypothesis: Non-heterosexual people in closed groups, or pairs, are more likely to induce more severe Homophobia towards them than they are alone. This hypothesis will be tested in our experiment.

### 2.1 Hypothesis and predicted results

H1: Non-heterosexual people in groups are more likely to induce severe Homophobia towards them than they are alone.

## 3. Social Factors of homophobia formation

Although current research indicates that many evolutionary factors could explain why homophobia exists, Thersourinthone and his colleagues found that social factors also play roles in shaping internalized homophobia and affecting the homophobia style and severity in different groups of people.

### 3.1 Group Pressure

Instead of evolutionary factors, social factors also have a significant effect on the formation of homophobia. For example, group pressure especially shows in homophobic name-calling and masculine attitudes. Recently, suicides of several gay teenagers have underscored the effects of victimization on gay students [9]. During adolescence, the peer group stands out as a crucial social context. Typically, a peer group refers as a small friendship cluster of adolescents who spend large amounts of time together[10]. This study applied social network analysis and multilevel modeling techniques to analyze repeated measures data, aiming to investigate the formation of homophobic name-calling behavior among adolescents. Specifically, it focuses on demographic variables, homophobic name-calling, masculine attitudes, general bullying and victimization (aggression scale) and friendship nominations. All these dimensions use self-reporting to rate the scale or response to the questions. Participants are 493 middle school students in grades five to eight. The self-report on homophobic name-calling is investigating two fields, those called other homophobic epithets and called homophobic epithets by others during the previous 30 days ; based on the test, participants need to provide five perpetrations and victimization represented items separately. Response

options also include never, one or two times, three or four times, five or six times, or seven or more times [11]. As a result, group pressure or peer groups played a significant role in the formation of homophobic name-calling. Students who suffered from homophobic name-calling also perpetrate on others with those homophobic name-calling over time. Kids who are bullied even for other reasons tend to do more homophobic bullying themselves [12]. For masculinity, they used a self-report especially for adolescents, to test whether males should show masculinity when facing problems in socializing situations. The survey got a high response in their responses. Because of the sampling limitation, all participants are adolescents. So, we predict that adolescents are more sensitive and gain more attention on external evaluations; the results may be a little different for adults. In conclusion, the development of homophobic behaviors, particularly homophobic name-calling in early childhood, is significantly shaped by peer influence and rooted in concepts of gender and gender roles. Based on these supports, masculinity is a possibility that influences the formation but an alternative hypothesis we predict is homophobic behavior may be a protective mechanism for homosexual people because the group pressure.

### 3.1.1 Hypothesis and predicted results

H2: Homophobic behaviour may be a protective mechanism for homosexual people because the group pressure.

## 3.2 Social Dominance Orientation, Social and Cultural Manifestation of Homophobia

Besides the self-hatred feelings carried by social and group pressures on potential homosexual people, the social expectations and pressures also play roles in shaping homophobia levels and style in non-homosexual people. Homophobia could be the result of political propaganda, or at least it has been manifested under the governmental and cultural approval of homosexuality intolerance. Since it is a hot-debated social topic, researchers have conducted many analyses on the relationship between nationalism and homophobia [13]. According to Gellner's theory[14], nationalism is set of normatively commonly shared values or beliefs on what a nation carries, such as morality, religion, cultural traditions, sexuality, gender roles, and so on. In terms of sexual orientation, the nationalist viewpoint emphasizes the importance of the "biological propagation of the nation[15]". This involves pursuing political and societal objectives that support heterosexuality and discourage sexual orientations perceived as unproductive [16]. Usually, non-heterosexuality has been regarded as anti-nation and excluded from shared moral values. In some social cultures, the level of homophobia could

be extremely severe, and the main perspective toward non-heterosexuality is the result of Western value erosion for internalized political attacks as it is shown in Uganda [17], and China [13]. However, the observed homophobia levels are quite different between Uganda and China. As a post-colonial country, Uganda shows more intolerance toward homosexuality [17], and China has partially legalized same-sex marriage, as it is in Taiwan. Homophobia seems to vary in the social and cultural contexts. The level of homophobia expressed by people seems also affected by social content.

According to Metin Orta's study on SDO (Social Dominance Orientation), people who are more adherent to the SDO in specific cultural contexts are more likely to develop sexual prejudice towards people who are not as adhesive as them[18]. In particular, the researchers investigate the influence of participants' social dominance orientation (SDO) and gender role orientation on their attitudes towards gay men and lesbians, with a focus on the unique Turkish cultural context. To achieve their objectives, the researchers recruited 250 heterosexual university students from Turkey to participate in the study. The students completed a questionnaire that gauged their social dominance orientation, gender role orientation, and attitudes toward gay men and lesbians. The findings of the study highlight several significant associations. Notably, research has shown that individuals who align more strongly with the Social Dominance Orientation tend to exhibit higher levels of sexual prejudice. The intriguing aspect of this correlation lies in its implication that cultural and social contexts significantly contribute to the emergence of both homophobia and homo-tolerance.

Within this context, our study delves deeper into the nexus of social dominance orientation and homophobia levels. We hypothesize that individuals are more prone to develop and outwardly express feelings of homophobia for the reason that they desire to reaffirm their alignment with prevailing social norms and cultural expectations. Besides, we anticipate a positive association between the degree of homophobia and the level of affirmation of Social Dominance Orientation principles. By exploring these dimensions, we aim to unravel the intricate interplay between societal influences, individual beliefs, and the perpetuation of homophobia, contributing to a more comprehensive understanding of this complex societal phenomenon.

### 3.2.1 Hypothesis and predicted results

H3: Individuals are more prone to develop and outwardly express feelings of homophobia for under a homosexuality intolerant environment.

## 4. Homophobic style differences

An interesting thing is that women engage in more same-sex contact than men (women are more receptive to same-sex contact than men) Touch implies status and power, and the initiator of the touch is often seen as having a higher status. Touching behavior is governed by socio-cultural norms, rules, or expectations that prohibit male-to-male touching but allow female-to-female touching behavior. Gender differences in touching behavior may explain why men are more homophobic for they are more likely to be seen as gay if they have contact with the same sex. The fear of being seen as gay is why they avoid same-sex contact and are homophobic[19]. Men always need to prove their masculinity, and people who violate male gender roles are especially prejudiced. In a patriarchal society, prejudice against homosexuality is extremely strong among heterosexual men (and much stronger against gay men than against lesbians). Men are taught to be masculine in their childhood which may help them to take control and be dominant. Also, those who violate the male gender role can have a bad impact on male status[20]. There is also another reason why lesbians seem to be more accepted than gay men. Homosexuals (especially gay men) are not able to produce offspring, which hinders reproduction. Male homosexual relationships are more prejudiced for they may waste the potential of life (waste the semen) in sexual behavior, whereas lesbians do not[21].

One obvious but unexpected circumstance that has happened in the patriarchal society is that tomboys, who are girls who behave in a manner, are usually considered boyish, are easier to be accepted by both homosexual and heterosexual people[22]. The situation connects with potential social influence and gender differences. What people have known is that individuals of different sexes will be educated to take appropriate responsibility for their own genders. For instance, boys learn that they should bear the burden of social expectation of being a man, which is also called masculinity that may include toughness and self-discipline as traditional characteristics.

However, the formation of female gender roles is more complicated than male gender roles. They prefer to play all roles, both masculine and feminine, when they play games. The ability to demonstrate both masculine and feminine behaviors may manifest in girls learning both male and female gender roles. Also, society is much more likely to accept masculine females than feminine males, because sex role norm violations are more severely punished when demonstrated by men than by women[23]. Females who demonstrate both female and male gender behaviors are often seen as a positive action. Such women

are understood to achieve higher status[24]. Since lesbians have higher possibilities to be masculine, society will accept them easily in case of masculinity is an important part of a patriarchal society. So according to the research, we elevate two hypotheses that the first one is straight men are more likely to accept lesbians than gay males, and the other one is straight men show more homophobia towards gay males than straight women do.

### 4.1 Hypothesis and predicted results

H4: People are more likely to accept lesbians than gay males.

H5: Straight men show more homophobia towards gay males than straight women do.

## 5. Methodology

The aim of this study is to investigate the hypotheses around three categories that 1) homophobic behaviour may be a protective mechanism for homosexual people because the group pressure. 2) same-sex alliances for homosexual couples or groups cause sexual jealousy. 3) social and cultural norms and the political propaganda's effects on homophobia. A convenient sampling method is used here. All of the hypotheses formed from the Introduction will be tested.

Procedure: Our questionnaires have been posted on the *Wenjuanxing* (问卷星) website, and have been separated through other social media platforms, such as *Wechat*. Participants who are interested in this topic participated. It was an independent measures design. There are two parts to the questionnaire. In the first part, participants were asked "what is your sexuality?" and two options would be offered, either "Heterosexual" or "Non-heterosexual". Participants were divided and asked different questions based on their sexuality, but all questions were served to test for hypotheses listed above. In answering questions, they needed to select the choice that best described their thoughts about question. Each of the participants was provided and informed consent. They fully knew what they were experiencing during the questionnaire. In the following sections, the result of the survey will be analyzed.

## 6. Result

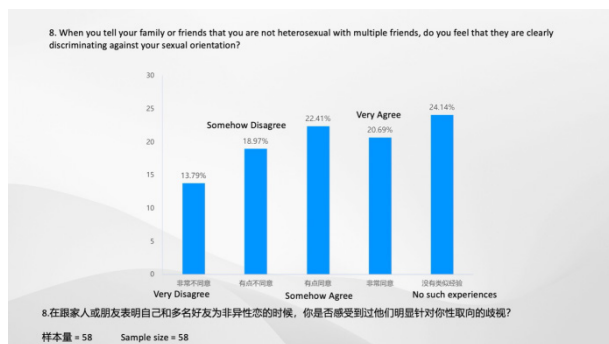
Overall, we have released our questionnaire through the Internet and multiple social media platforms in China (like WeChat, Weblog, and other platforms). After nearly half a month, we have successfully collected 182 useful individual responses from all over China. Among all, there are 58 responses are from non-heterosexual participants, which are responses that only answered from questions 1 to 19.

Besides, there are 124 responses are from heterosexual participants, which are responses that only answered from questions 20 to 29. Questionnaire contents and results graphs are shown in the Appendix, generated by Wenjuanxing( 问卷星 ) website.

### 6.1 Pairs and Singles of Homosexuality

To test H1, we designed questions number 8 and 10 to ask non-heterosexual participants whether they felt homophobia from their families or friends when participants stated

that they are the only non-heterosexual people in their social circles (like it is in Q8), and when they stating that there are many friends of them are also non-heterosexual people to their parents (like it is in Q10). By measuring the percentage of 5 different levels of agreement from their responses, we found that the percentage of the combination of choice “a little bit agree” and “very agree” in two questions are very close (45.82% from Q8, and 43.1% from Q10).

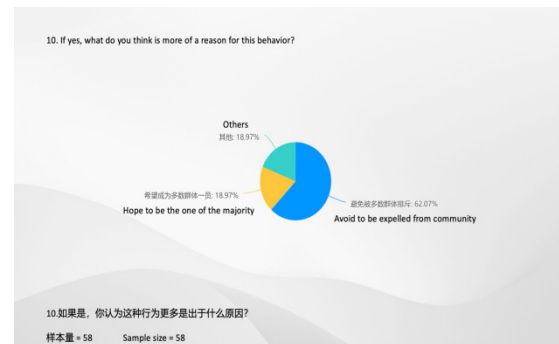


(The result of Q8)

Upon analysis, our findings did not support Hypothesis 1. Contrary to expectations, there was no statistical increase in reported instances of severe homophobia when non-heterosexual individuals were observed in pairs compared to when they were alone. This suggests that the presence of a same-sex partner may not necessarily amplify perceptions of threat or discomfort among heterosexual individuals. The lack of a significant effect challenges the notion that the social visibility of non-heterosexual individuals exacerbates manifestations of homophobia within societal contexts.

### 6.2 Group Pressure

Although not directly tested in our study, qualitative data from participant responses suggest a potential relationship between homophobic behavior and group pressure, particularly among homosexual individuals. Anecdotal evidence indicates that some homosexual participants may exhibit homophobic behavior as a protective mechanism in environments where non-heterosexuality is stigmatized or marginalized (Q10). While further research is needed to explore this hypothesis more comprehensively, our findings suggest the presence of complex social dynamics that



(The result of Q10)

influence the expression of homophobia within diverse social contexts.

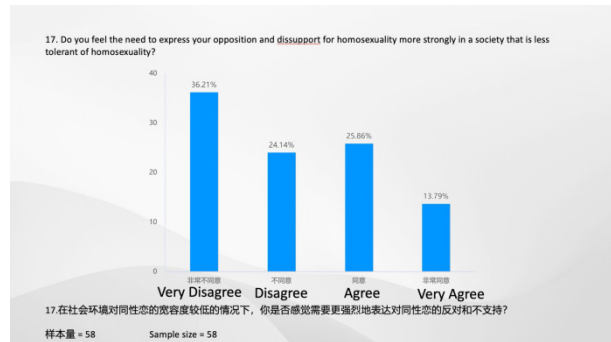
### 6.3 Tolerance and Self Expression

To test this hypothesis and theory based on SDO as we suggested in the Introduction. We designed questions number 16, 17, and 18 to ask non-heterosexual participants.

Our study found overwhelming support for the influence of social environments on the outward expression of homophobia (Q16). A remarkable 89.7% of participants acknowledged the impact of societal attitudes towards homosexuality on the prevalence and intensity of homophobia. This underscores the role of cultural norms and acceptance levels in shaping individual attitudes and behaviors toward sexual minorities. Furthermore, we found that 94.23% of participants believe members of the general public are more prone to express homophobic speech and behaviors in less homo-tolerated societies (Q17). Similarly, 86.54% of participants believe the general public tends to be more homo-tolerating in society than more tolerating non-heterosexual people.



(The result of Q16)

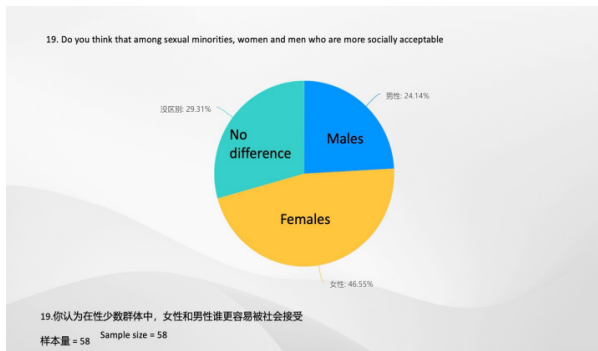


(The result of Q17)

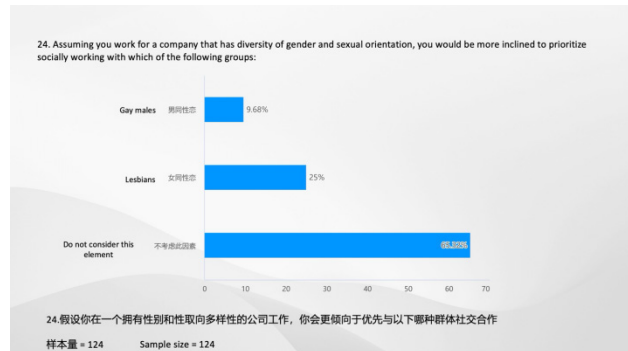
### 6.4 Homophobia against Different Genders

Based on questions 19 (for non-heterosexual participants) and 24 (for heterosexual participants) we intended to attain their opinion on whether non-heterosexual males or females are more acceptable by society by asking heterosexual participants, “Which group of non-heterosexual people do you feel more willing to work with” in question 24, and “whether gay males or lesbians are more accepted by society do you feel?” on question 19. Our findings indicate notable differences in perceived acceptance levels between lesbian and gay male individuals.

Among non-heterosexual participants, while 46.55% of participants perceived lesbians to be more readily accepted within society, opinions were divided, with 24.14% of participants expressing a belief that gay males are more accepted. Interestingly, 29.13% of participants perceived no significant difference in acceptance between the two groups. Besides, while the majority of heterosexual participants (65.32%) do not consider gender and sexuality as a reason for choosing a working partner, the remaining participants are more willing to work with lesbians (25%), compared to gay males (9.68%).



(The result of Q19)

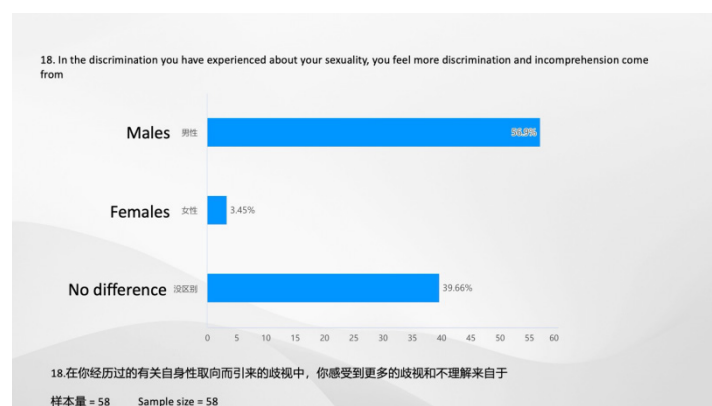


(The result of Q24)

### 6.5 Homophobia of Different Genders

To test this hypothesis, we designed the question with the numbers 29 (for straight people) and 18 (for non-heterosexual people) in our questionnaire by asking whether the most homophobic behavior came from males or females based on their observations or if there is no difference. Consistent with existing literature, our study confirms that heterosexual males are more likely to exhibit severe homophobia compared to females. Among non-heterosexual participants, 56.9% perceived males to exhibit more pronounced homophobia, compared to the number of non-heterosexual people holding that females are more homophobic (3.45%). Almost 16 times more non-heterosexual participants believe that males are more homophobic-

bic than females. Similarly, a majority of heterosexual participants (46.77%) also perceived males to demonstrate more severe homophobia, compared to participants who held that females are more homophobic (16.13%), indicating the pervasiveness of gender-based biases in attitudes towards homosexuality. However, it is noteworthy that a substantial proportion of participants perceived no difference in homophobia levels between genders, suggesting the need for further research to elucidate the complexities of gender dynamics in homophobia.



(The result of Q18)

## 7. Discussion

The study provided valuable insights, while also had certain limitations, though. Based on self-reported data through questionnaires, the results may include biases such as social expectations and not fully reflect individual attitudes. Convenience sampling methods and online surveys may skew the sample, thus limiting universality. Experimental designs, while informative, face limitations in replicating real-world social dynamics and ethical considerations. In addition, the study's emphasis on evolutionary and social factors may ignore other influencing factors, such as culture and religious beliefs. Addressing these limitations and adopting more robust approaches would deepen our understanding of homophobia and provide more effective strategies for promoting inclusion and equality.

## 8. Conclusion

In conclusion, this essay provides an in-depth exploration of the complex and multifaceted nature of homophobia, examining its formation and manifestations from both evolutionary and social perspectives. Through a combination of literature review, theoretical analysis, questionnaire interview, and experimental methods, we have gained valuable insights into the factors that influence homophobia and its different styles in society. From the evolutionary perspective, preferences for heterosexuality may stem from reproductive adaptations, while social factors (including group pressure and adherence to cultural norms during adolescence) also contribute to the development of homophobic behavior considerably. According to the interview results, several hypotheses are supported by the data: Homophobic behaviors are influenced by the social environment, the genders of objects and subjects. Also, it might be a protective mechanism for homosexual people because of group pressure. However, whether

non-heterosexual pairs will induce more severe homophobia than individuals (H1) cannot be proved and requires further research. By highlighting the important role of social attitudes and cultural contexts in shaping perceptions of homosexuality and the prevalence of homophobia, our research contributes to the creation of more inclusive and accepting environments. A society with greater investment in research, advocacy and education can allow everyone to experience dignity, equality, and freedom from discrimination.

## 9. References

- [1] *Thepsourinthone, J., Dune, T., Liamputtong, P., & Arora, A. (2020). The Relationship between Masculinity and Internalized Homophobia amongst Australian Gay Men. International Journal of Environmental Research and Public Health, 17(15), 5475. https://doi.org/10.3390/ijerph17155475*
- [2] Pharr. (1988). *Homophobia: a weapon of sexism* / Suzanne Pharr; illustrations by Susan G. Raymond. Chardon Press.
- [3] Blechner, M. J. (2017). Understanding Homophobia. In N. Giffney & E. Watson (Eds.), *Clinical Encounters in Sexuality: Psychoanalytic Practice and Queer Theory* (pp. 411–418). Punctum Books. <http://www.jstor.org/stable/j.ctv19cwndt.29>
- [4] Richmond, J. P., & McKenna, H. (1998). Homophobia: An evolutionary analysis of the concept as applied to nursing. *Journal of Advanced Nursing, 28(2), 362–369. https://doi.org/10.1046/j.1365-2648.1998.00691.x*
- [5] Kirkpatrick, R. C. (2000). The Evolution of Human Homosexual Behavior. *Current Anthropology, 41(3), 385–413. https://doi.org/10.1086/300145*
- [6] Pillard, R. C., & Bailey, J. M. (1998). Human Sexual Orientation Has a Heritable Component. *Human Biology, 70(2), 347–365. https://www.jstor.org/stable/41465642*
- [7] Muscarella, F. (2007). The Evolution of Male-Male Sexual Behavior in Humans: The Alliance Theory. *Journal of Psychology & Human Sexuality, 18(4), 275–311. https://doi.org/10.1080/10532528.2007.10555475*

org/10.1300/J056v18n04\_02

[8] White, F.J. (1989) Ecological correlates of pygmy chimpanzee social structure, *Comparative socioecology: The behavioural ecology of humans and other mammals* (pp. 151–164).

[9] McKinley, J. (2010). Suicides put light on pressures of gay teenagers. *New York Times*, 3.

[10] Brown, B. B. (2004). Adolescents' relationships with peers. *Handbook of adolescent psychology*, 363-394.

[11] Poteat, V. P., & Espelage, D. L. (2005). Exploring the relation between bullying and homophobic verbal content: The Homophobic Content Agent Target (HCAT) Scale. *Violence and victims*, 20(5), 513-528.

[12] Birkett, M., & Espelage, D. L. (2015). Homophobic name-calling, peer-groups, and masculinity: The socialization of homophobic behavior in adolescents. *Social Development*, 24(1), 184-205.

[13] Liu, X. (2020). 'But if Taiwan legalizes same-sex marriage . . .': discourses of homophobia and nationalism in a Chinese antigay community online. *Critical Discourse Studies*, 18(4), 429–444. <https://doi.org/10.1080/17405904.2020.1724809>

[14] Gellner, E. (1983). *Nations and nationalism*. Oxford: Blackwell.

[15] Mole, R. (2011). Nationality and sexuality: Homophobic discourse and the 'national threat' in contemporary Latvia. *Nations and Nationalism*, 17(3), 540–560.

[16] Rivkin-Fish, M. (2006). From "demographic crisis" to "dying nation" – The politics of language and reproduction in Russia. In H. Gosciolo & A. Lanoux (Eds.), *Gender and national identity in twentieth-century Russian culture* (pp. 151–173). DeKalb, IL: Northern Illinois University Press.

[17] Namusoga, S. (2017). *The framing of homosexuality by two Ugandan newspapers: An analysis of new vision and daily monitor* (Doctoral thesis). Durban: University of KwaZulu-Natal.

[18] Metin-Orta, I. (2019). The relationship between social dominance orientation, gender role orientation and attitudes toward gay men and lesbians in a Turkish sample. *Curr Psychol*, 40, 3425–3439. <https://link.springer.com/article/10.1007/s12144-019-00293-y>

[19] Kory Floyd (2000) *Affectionate Same-Sex Touch: The Influence of Homophobia on Observers' Perceptions*, *The Journal of Social Psychology*, 140:6, 774-788, DOI: 10.1080/00224540009600516

[20] Robert D. Schope PhD & Michele J. Eliason PhD. (2004). Sissies and Tomboys, *Journal of Gay & Lesbian Social Services*, 16:2, 73-97, DOI: 10.1300/J041v16n0205

[21] De Almeida, T., De Lima, R. D., Panho, J. M., & Canezin, P. F. M. (2018). Homosexuality: Brief history and considerations on the manifestation of jealousy in homosexual relationships. *OALib*. <https://doi.org/10.4236/oalib.1104612>

[22] Bjornsdottir, R. T., & Rule, N. O. (2020). Emotion and Gender Typicality Cue Sexual Orientation Differently in Women and Men. *Archives of Sexual Behavior*, 49(7), 2547–2560. <https://doi.org/10.1007/s10508-020-01700-3>

[23] Whitley, B. E. (1987). The relationship of sex-role orientation to heterosexuals' attitudes toward homosexuals. *Sex Roles*, 17(1–2), 103–113. <https://doi.org/10.1007/bf00287903>

[24] Robert D. Schope PhD & Michele J. Eliason PhD. (2004). Sissies and Tomboys, *Journal of Gay & Lesbian Social Services*, 16:2, 73-97, DOI: 10.1300/J041v16n0205