Child Development in Same-Sex Families: Beliefs of Chinese Lesbians, Gays, and Heterosexuals



Ruobing Zhao 1 · Yong Zheng 1,2

Published online: 20 July 2020

© Springer Science+Business Media, LLC, part of Springer Nature 2020

Abstract

Introduction Same-sex parenting remains controversial, with many arguing that it negatively impacts children's psychological and social development. This study investigated the influences of beliefs about the etiology of homosexuality (as either learned or genetic) and ambivalent sexism (benevolent and hostile) on beliefs about children's development in same-sex families.

Methods A Chinese sample of 1400 respondents completed an online questionnaire in March–July 2019 and February 2020. The respondents self-identified as gay (490), lesbian (256), heterosexual male (266), or heterosexual female (388). Participants' beliefs about children raised by same-sex parents were measured using the Scale on Beliefs about Children's Adjustment in Same-Sex Families which included two subscales, namely individual opposition and normative opposition. We tested four hypotheses using multiple analysis of variance and hierarchical multiple linear regression.

Results Respondents who were male, heterosexual, older, or had stronger beliefs in the learned etiology showed stronger individual and normative opposition to same-sex parenting. Overall, benevolent sexism was related to individual opposition; lesbians and gays' hostile sexism was related to individual opposition, while heterosexuals' hostile sexism was related to normative and individual opposition. Participants' individual opposition was significantly stronger than their normative opposition.

Conclusions Chinese lesbians, gays, and heterosexuals hold relatively conservative and traditional beliefs about children's development in same-sex families.

Policy Implications Our results suggest a need for legal and policy protection against prejudice and the dissemination of educational material about same-sex families through public service advertising and educational programs.

 $\textbf{Keywords} \ \ \text{Same-sex parenting} \cdot \text{Child development} \cdot \text{Ambivalent sexism} \cdot \text{Homosexual etiology} \cdot \text{Lesbians and gays} \cdot \text{Heterosexual} \cdot \text{Chinese}$

Introduction

The increasing number of same-sex families with children has put this new family structure in the public and research spotlights (Golombok, 2015). Acceptance of lesbian, gay, bisexual, transgender, and queer (LGBTQ) people, along with the acceptance of same-sex marriage, has grown in many countries and regions, yet, negative attitudes toward same-sex parenting persist (Ioverno et al., 2019; Patterson & Riskind, 2010). Clarke (2001) discussed the six most common

 arguments in opposition to same-sex parenting and created two categories. The first is the opposition to same-sex parenting stemming from the religious or moral condemnation of LGBTQ people. The second category includes four of the six arguments and surrounds concerns about the growth and development of children raised in same-sex families (Rollè et al., 2018). Indeed, some studies have shown that many, including those self-identifying as LGBTQ, believe that same-sex parenting negatively affects children's psychological and social development (Bos & Van Balen, 2008; Pistella, Tanzilli, Ioverno, Lingiardi, & Baiocco, 2018). In fact, it is not unusual for people who support LGBTQ people and same-sex marriage to oppose same-sex parenting (Hollekim, Slaatten, & Anderssen, 2012; Meezan & Rauch, 2005). Therefore, understanding public beliefs regarding children's development in same-sex families is crucial to understanding attitudes toward same-sex parenting. To date, most research on this topic has been conducted in the West (e.g., North America and Europe),



Key Laboratory of Cognition and Personality (Ministry of Education), Southwest University, Chongqing, China

Faculty of Psychology, Southwest University, Chongqing 400715, China

with few studies in China. Considering that China has a more conservative attitude toward lesbian and gay (LG) people than the West, and China's large population makes it likely to be the country with the largest LG population globally, further research in China can extend current knowledge and increase understanding of the issue. With this in mind, the current study aimed to explore the beliefs of Chinese lesbians, gays, and heterosexuals toward the development of children in same-sex families.

The American Psychological Association indicated in 2005 that there was no existing research supporting the opinion that same-sex parenting negatively influences child development (Paige, 2005). One longitudinal study on the topic (Golombok & Tasker, 1996) found that growing up in a lesbian family did not influence children's adult sexual orientation. Other research has found that a parent's sexual orientation did not significantly relate to the child's gender identity (Bos & Sandfort, 2010), gender-typed behaviors (Farr, Bruun, Doss, & Patterson, 2018), gender development and sexual orientation (Golombok & Tasker, 1996), academic performance (Watkins, 2018), individual and social development (Patterson, 1992), or psychological adjustment (Baiocco, Carone, Ioverno, & Lingiardi, 2018). However, concerns about child development in same-sex families have persisted (Voultsos, Zymvragou, Raikos, & Spiliopoulou, 2019).

The Scale on Beliefs about Children's Adjustment in Same-Sex Families (SBCASSF) includes two types of beliefs about the negative social and psychological development of children raised by same-sex parents (Frias-Navarro & Monterde-i-Bort, 2012). The first is individual opposition (IO), which reflects traditional and conservative beliefs that same-sex parenting has a direct negative influence on children's development; for example, "children will be influenced by their parents to become gay." The second, normative opposition (NO), involves indirect, relatively modern beliefs regarding the negative effects of same-sex parents' sexual orientation on their children's social adjustment. NO does not focus on the parenting practices of same-sex parents, but reflects the belief that widespread heterosexist norms in society increase the likelihood that these children will be isolated and bullied (Frias-Navarro, García, Garcia-Banda, Pascual-Soler, & Badenes-Ribera, 2018; Frias-Navarro & Monterdei-Bort, 2012). For example, children of the same age may not make friends with them because they have same-sex parents. Previous studies have found that most opposition to same-sex parenting in Western countries is based on the normative perspective—a more moderate and modern view (Baiocco et al., 2020; Frias-Navarro, Monterde-i-Bort, Pascual-Soler, & Badenes-Ribera, 2015)—and the question remains whether research conducted in China would have the same results.

People's beliefs about the etiology, or origins, of differences between one group and other groups can influence their attitudes toward that group (Boysen & Vogel, 2007). Some

people believe that homosexuality is a learned lifestyle, whereas others believe it is genetically determined (Haider-Markel & Joslyn, 2008). Numerous studies have found that people who considered sexual orientation a choice (i.e., learned etiology) were more resistant to same-sex marriage and parenting than those who considered it innate (i.e., genetic etiology; Frias-Navarro et al., 2015). These findings support the attributional theory of stigma (Weiner, Perry, & Magnusson, 1988), which proposes that attitudes toward stigmatized groups tend to be more negative when the stigmata are believed to be controllable. This attitude contends, whether personal choice or personal weakness, the stigmata is self-inflicted; thus, individuals should take personal responsibility for their situations (Frias-Navarro et al., 2015).

Previous studies on the relationship between beliefs about the etiology of homosexuality and children in same-sex families revealed that people who believed that homosexuality is learned have higher scores on the IO and the NO subscales than those who believed homosexuality was genetic (Frias-Navarro et al., 2018; Vecho, Gross, Gratton, D'Amore, & Green, 2019). However, one study only identified a difference in the IO subscale (Frias-Navarro et al., 2015).

Another variable, sexism, has been associated with certain attitudes and beliefs about sexual minorities, and stronger sexism is related to the increased exclusion of sexual minorities (Herek & McLemore, 2013; Mange & Lepastourel, 2013). Sexism is usually defined as negative evaluations of individuals based on gender and is embodied in the attitudes, behaviors, and beliefs of individuals and in specific cultural and organizational practices that support gender inequality (Swim & Hyers, 2009).

Glick and Fiske (1996) developed the ambivalent sexism theory, which has two components: hostile sexism and benevolent sexism. They created the Ambivalent Sexism Inventory (ASI) to measure individuals' ambivalent sexism toward women, and the Ambivalence toward Men Inventory (AMI; Glick & Fiske, 1999), to differentiate between women's hostile and benevolent prejudices and stereotypes regarding men. Hostile sexism toward women includes antipathy toward women, whereas benevolent sexism toward women reflects a sense of caring for and protecting women, both of which reflect a traditional heterosexist perspective (Glick & Fiske, 1996; Pistella et al., 2018). Hostility toward men arises from women's dissatisfaction with current inequalities between men and women, and comprises aversion to male dominance, paternalism, and aggression. In contrast, benevolence toward men reflects an acceptance of complementary gender roles, support of higher male status, and an emphasis on the belief that men cannot replace women in certain roles, such as taking care of the family (Glick & Fiske, 1999; Lee, Fiske, Glick, & Chen, 2010). The latter reflects beliefs that support and justify male dominance, while the former reflects an aversion to the consequences of male dominance. In general, hostile sexism is



more in line with traditional sexism, including prejudice against women and resentment of men holding greater power, while benevolent sexism is a more modern and subtle phenomenon that rationalizes traditional gender norms, including gender inequality, supporting the division of gender roles between male and female (Lee et al., 2010).

Rye and Meaney (2010) investigated the influences of women's and men's hostile sexism and benevolent sexism on their attitudes toward same-sex adoption. They found that, among men, hostile sexism was related to negative attitudes toward same-sex adoption. Among women, hostile sexism and benevolent sexism were both related to negative attitudes toward same-sex adoption. An Italian study reported that strong sexism (both hostile and benevolent) significantly related to negative attitudes toward same-sex parenting among LGs and heterosexuals (Pistella et al., 2018). They also found that men had stronger sexist attitudes and more negative attitudes than women had toward same-sex parenting.

A positive association between sexism and sexual prejudice, which refers to negative attitudes toward a person because of their sexual orientation (Herek, 2000), has been demonstrated, with some researchers believing sexual prejudice to be a weapon of sexism (Appleby, 1995; Cunningham & Melton, 2013; Rees-Turyn, Doyle, Holland, & Root, 2008). Numerous studies have found that heterosexual men had stronger negative attitudes toward same-sex marriage and same-sex parenting than heterosexual women (Gato & Fontaine, 2013, 2016; Rollè et al., 2018; Sloane & Robillard, 2018). One reason for this gender difference might be that men have relatively greater sexual prejudices (Ioverno et al., 2018; Pistella et al., 2018; Rollè et al., 2018). Moreover, sexual prejudices have been shown to have a larger mediating effect on religious beliefs, political preferences, and etiological beliefs in attitudes toward same-sex parenting for men than for women: Religious piety, conservative political orientation, and attributing homosexuality to learning lead to stronger sexual prejudices, and thus, more negative attitudes (Vecho et al., 2019). In addition, women were less likely than men to believe that homosexuality is learned (Costa, Carneiro, Esposito, D'Amore, & Green, 2018).

This study's primary focus and purpose is to explore the beliefs regarding the development of children in same-sex families from the perspective of LGs themselves, which has important theoretical and practical significance (Pacilli, Taurino, Jost, & van der Toorn, 2011). Some studies have shown that LG and bisexual people had negative attitudes toward same-sex parenting, and there is some evidence of gender differences (Baiocco, Argalia, & Laghi, 2014; Pistella et al., 2018; Trub, Quinlan, Starks, & Rosenthal, 2017). For example, lesbians have indicated stronger interest and willingness than gay men to raise children, and, regarding same-sex parenting, gay men, but not lesbians, reported feeling stigmatized (Riskind & Patterson, 2010; Scandurra et al.,

2019). Pacilli et al. (2011) indicated that lesbians rated lesbian mothers as more competent than heterosexual mothers, whereas gay men evaluated parental competence through internalized social discrimination.

The Present Study

Attitudes toward LGBTQ people have gradually softened in China, although their social status is vague because of the lack of legal protections for LGBTQ rights, including the right to same-sex marriage (Li et al., 2017). This lack of legal protections may significantly influence Chinese attitudes and beliefs about LGBTQ people (Hooghe & Meeusen, 2013). Moreover, the conflict with the traditional marriage and family system, with "filial piety" at its core, is one of the biggest ethical dilemmas faced by the gay and lesbian community in China and an important factor affecting social acceptance of this group (Wei, 2016). In the imagination of China's mainstream society, the important life process of starting a family and having children can only be realized in heterosexual relationships (Li, 1998). To deal with the social pressure of the traditional belief that "There are three forms of unfilial conduct, of which the worst is to have no descendants (不孝有三, 无后为 大)," for a long time, LGs could only enter into heterosexual marriages to complete the task of family continuation (Shi, Xu, & Zheng, 2020; Wen & Zheng, in press). However, legal recognition of same-sex marriage in the West and the development of modern reproductive technology have increased the likelihood of same-sex couples becoming parents in China (Wei, 2016). In this context, the discussion of Chinese attitudes, especially the attitudes of LG Chinese, toward same-sex parenting has an important impact on the decision of same-sex couples to establish families and raise children, as well as the formulation of relevant laws and policies. However, there is insufficient understanding of the Chinese beliefs about the development of children raised by same-sex parents. Such research will also significantly contribute to scientific knowledge and understanding of Chinese attitudes toward same-sex parenting. To fill existing theoretical and empirical gaps in the literature, this study investigated the influences of beliefs about the etiology of homosexuality (learned versus genetic) and ambivalent sexism (hostile and benevolent) on beliefs about child development in same-sex families in China. Based on the results of previous research, we formed four hypotheses:

H1 Heterosexual males exhibit stronger sexism (hostile and benevolent) (H1a) and are more likely to attribute homosexuality to learned etiology (H1b) than heterosexual females, gay men, or lesbians.

H2 Beliefs about children's development in same-sex families are more negative for heterosexual males than



for heterosexual females, gay men, or lesbians: Heterosexual males have stronger IO and NO than heterosexual females, gay men, or lesbians do (H2a). Given that Chinese society has a more conservative attitude toward LGs than in the West, participants' beliefs about the development of children in same-sex families are also more conservative; participants' IO subscale scores are significantly higher than their NO subscale scores (H2b). H3 Belief in a learned homosexuality etiology relates to more negative beliefs about children's development in same-sex families; higher learned etiology scores relate to more IO (H3a); and higher learned etiology scores relate to more NO (H3b).

H4 Stronger sexism is related to more negative beliefs about children's development in same-sex families. H4a: Stronger hostile sexism is related to more IO. H4b: Stronger hostile sexism is related to more NO. H4c: Stronger benevolent sexism is related to more IO. H4d: Stronger benevolent sexism is related to more NO.

Methods

Procedure and Participants

All data were collected through a Chinese survey website Wenjuanxing (http://www.sojump.com). LG respondents participated in the questionnaire via a link posted on Chinese social networking sites (SNS), such as QQ instant messaging (gay QQ groups), Blued (the most popular gay SNS in China), and online communities, such as Baidu Tieba and DouBan between March and July 2019. In order to obtain enough heterosexual data for comparison, we conducted a second data collection phase online in February 2020 through the survey website. Heterosexual participants were recruited through the site's database that comes from a wide range of sources, including students, company employees, government workers, online shoppers, gamers, and SNS users. The survey was completely anonymous to protect the privacy of the participants.

Inclusion criteria were that people (a) self-identified as lesbian, gay, or heterosexual and (b) were at least 18 years old. Considering potentially significant differences in attitudes toward parenting between bisexuals and LGs, we did not include data on bisexuals in this study to avoid influencing the results. Data on 1400 respondents were ultimately analyzed, which comprised 490 gay men (35.0%), 256 lesbians (18.3%), 266 heterosexual males (19.0%), and 388 heterosexual females (27.7%). The mean age was 24.08 (SD = 4.66 years, range: 18–52) and 1296 (92.6%) respondents reported a college or higher degree (428 gay men (30.6%), 239 lesbians (17.1%), 250 heterosexual males (17.9%), and 379

heterosexual females (27.1%)), which was relatively high for China. The respondents selected a gender and sexual orientation using drop-down menus that each offered three options ("male," "female," or "transgender," and "homosexual," "bisexual," or "heterosexual," respectively).

Measures

Scale on Beliefs about Children's Adjustment in Same-Sex Families (SBCASSF) This 14-item questionnaire (Frias-Navarro & Monterde-i-Bort, 2012) has two subscales. The IO subscale includes seven items, for example, "It is more likely that the child will experience social isolation if his/her friends know that his/her parents are gay/lesbian" and "A child adopted by a gay/lesbian couple will be the butt of jokes and rejection by his/her classmates." The other seven items comprised the NO subscale, for example, "In general, the social development of a child is better when it is raised by a heterosexual father and a heterosexual mother, and not by a gay/lesbian couple" and "In general, children raised by gay/ lesbian parents have more problems than those raised by a heterosexual father and a heterosexual mother." The response options ranged from 1 = strongly disagree to 5 = stronglyagree. The two subscale scores' means were computed, and higher scores indicated more negative individual beliefs and more negative normative beliefs about children's outcomes in same-sex families and, thus, more opposition to same-sex parenting. Cronbach's alpha values were 0.91 (total scale), 0.92 (IO), and 0.84 (NO) in the LG subsample and 0.91 (total SBCASSF), 0.87 (IO), and 0.85 (NO) in the heterosexual subsample.

Beliefs about the Etiology of Sexual Orientation The eightitem Beliefs about the Etiology of Sexual Orientation (BESO) instrument was used to measure the respondents' beliefs about the etiology of homosexuality as genetic or learned (Frias-Navarro, 2009). It has two 4-item subscales. Genetic etiology (GE) was measured with responses to the other four items, such as "The homosexual sexual orientation is an inevitable behavior that depends on genetics" and "Genetic factors are the causes of the homosexual sexual orientation." Learned etiology (LE) was measured with responses to four items, such as "Children need a father and a mother to provide them with masculine and feminine role models" and "In many cases, homosexual behaviors are learned." The response options were on a five-point Likert-type scale where 1 = stronglydisagree and 5 = strongly agree. The subscales' item responses were summed to derive total scores, and higher scores indicated stronger beliefs in genetic or learned etiology. The Cronbach's alpha values of the two subscales were 0.83 (genetic etiology) and 0.69 (learned etiology) in the LG subsample, and 0.77 (genetic etiology) and 0.66 (learned etiology) in the heterosexual subsample.



Ambivalent Sexism This study employed short versions of the Ambivalent Sexism Inventory and Ambivalence toward Men Inventory used by a previous Chinese study (Lee et al., 2010). Both instruments comprise two subscales, each of which contains six items. Examples of items measuring benevolent sexism and hostile sexism toward women are "Women, compared to men, tend to have a superior moral sensibility" and "Women exaggerate problems they have at work," respectively. Examples of items measuring benevolence toward men and hostility toward men were "Men are mainly useful to provide financial security for women" and "Men act like babies when they are sick," respectively. The six-point Likert-type scale ranged from 1 = strongly disagree to 6 =strongly agree. In this study, ambivalent sexism toward both genders was measured by combining the scores in the two indexes to create scores on benevolent sexism ideology (by summing the 12 responses to the benevolent items) and hostile sexism ideology (by summing the 12 responses to the hostile items). Higher scores meant stronger sexism ideologies (benevolent or hostile). In this study, the Cronbach's alpha values were 0.77 (total Ambivalent Sexism Inventory), 0.78 (total Ambivalence toward Men Inventory), 0.81 (hostile sexism), and 0.78 (benevolent sexism) in the LG subsample and 0.80 (total Ambivalent Sexism Inventory), 0.77 (total Ambivalence toward Men Inventory), 0.81 (hostile sexism), and 0.83 (benevolent sexism) in the heterosexual subsample.

Data Analyses

IBM SPSS Statistics, ver. 19, was used to analyze the data. Bivariate correlations were generated to explore the associations between the variables. To test H1 and H2, the relationship between gender and sexual orientation was assessed in a two (male versus female) × two (heterosexual versus homosexual) ANOVA on all variables. Last, a hierarchical linear regression analysis was performed to test H3 and H4 and estimate the influences of all the independent variables on attitudes toward children's development in same-sex parenting (the first layer is the demographic variable, and the second layer is the independent variables).

Results

Descriptive Statistics

Descriptive statistics are shown in Table 1. Learned etiology, benevolent sexism, and hostile sexism significantly and positively correlated with IO and NO. Genetic etiology significantly and negatively correlated with IO and NO. Gender, sexual orientation, and age significantly correlated with IO and NO.



Gender and Sexual Orientation Differences in Genetic Etiology and Learned Etiology

Table 2 presents the means and standard deviations of all the variables by gender and sexual orientation. The two (male versus female) × two (heterosexual versus homosexual) ANOVA analysis with genetic etiology and learned etiology indicated no significant effect of gender ($F_{(1,1396)} = 0.365$, p = 0.55, $\eta_p^2 = 0.00$), but there was a significant effect of sexual orientation ($F_{(1,1396)} = 240.55$, p < 0.001, $\eta_p^2 = 0.147$) and a significant interaction effect of gender × sexual orientation on genetic etiology ($F_{(1,1396)} = 13.40$, p < 0.001, $\eta_p^2 = 0.01$). That is, the genetic etiology scores of LGs were significantly higher than for heterosexual participants. Moreover, gay participants reported higher genetic etiology scores than lesbians, while the scores of heterosexual males were lower than heterosexual females.

There were significant effects of gender ($F_{(1,1396)} = 3.825$, p < 0.001, $\eta_p^2 = 0.024$) and sexual orientation ($F_{(1,1396)} = 819.02$, p < 0.001, $\eta_p^2 = 0.37$), but no significant interaction effect of gender × sexual orientation on learned etiology ($F_{(1,1396)} = 0.054$, p = 0.817, $\eta_p^2 = 0.020$). Specifically, males had higher learned etiology scores than females, and the scores of heterosexual participants were higher than those of LGs.

Regardless of gender, the paired samples t-tests found that homosexual respondents' genetic etiology scores were significantly higher than their learned etiology scores ($t_{(745)} = 23.939$, p < 0.001), but heterosexual respondents' learned etiology scores were significantly higher than their genetic etiology scores ($t_{(653)} = -14.889$, p < 0.001).

Gender and Sexual Orientation Differences in Benevolent Sexism and Hostile Sexism

The results of the two (male v. female) × two (heterosexual v. homosexual) and benevolent sexism and hostile sexism analyses revealed significant main effects of gender and sexual orientation ($F_{(1,1396)}=137.155,\ p<0.001,\ \eta_p^2=0.089$ and $F_{(1,1396)}=686.937,\ p<0.001,\ \eta_p^2=0.330,$ respectively) and significant interaction effect of gender × sexual orientation on benevolent sexism ($F_{(1,1396)}=12.569,\ p<0.001,\ \eta_p^2=0.009$). Specifically, males showed stronger benevolent sexism than females, and heterosexual participants had stronger benevolent sexism than LGs.

The main effect of gender and sexual orientation on hostile sexism was significant $(F_{(1,1396)}=78.10,\ p<0.001,\ \eta_p^2=0.053$ and $F_{(1,1396)}=27.771,\ p<0.001,\ \eta_p^2=0.020$, respectively), but there was no significant interaction effect $(F_{(1,1396)}=0.229,\ p=0.633,\ \eta_p^2=0.000)$: males had stronger hostile sexism than females; heterosexual males reported the highest hostile sexism scores, and lesbians reported lowest

Table 1 Descriptive analysis and correlations

	$M \pm SD$	1	2	3	4	5	6	7	8	9	10
1. Gender	_	1									
2. Sexual orientation	_	.25***	1								
3. Age	24.08 ± 4.66	.13***	.08**	1							
4. Education	_	.12***	.13***	.15***	1						
5. IO	2.98 ± 0.95	16***	.26***	.09***	.00	1					
6. NO	2.23 ± 0.99	10***	.58***	.12***	.01	.64***	1				
7. GE	13.05 ± 4.10	09**	40***	.03	01	13***	32***	1			
8. LE	11.76 ± 4.20	.03	.60***	.02	01	.46***	.73***	41***	1		
9. Benevolent	35.92 ± 11.56	11***	.53***	.13***	00	.39***	.67***	21***	.57***	1	
10. Hostile	39.91 ± 10.26	20***	.08***	.08**	01	.35***	.35***	003	.31***	.51***	1

IO individual opposition; NO normative opposition; GE genetic etiology; LE learned etiology *p < .05; **p < .01; ***p < .001

scores. The scores of gay men were higher than those of heterosexual females (p < 0.001).

Gender and Sexual Orientation Differences in Individual and Normative Opposition to Same-sex Parenting

The results of the two (male v. female) × two (heterosexual v. homosexual) and IO and NO found significant gender and sexual orientation main effects on IO ($F_{(1,1396)} = 85.808, p < 0.001, \eta_p^2 = 0.058$ and $F_{(1,1396)} = 153.819, p < 0.001, \eta_p^2 = 0.099$, respectively) and NO ($F_{(1,1396)} = 155.692, p < 0.001, \eta_p^2 = 0.100$ and $F_{(1,1396)} = 921.547, p < 0.001, \eta_p^2 = 0.398$, respectively), but there was no significant gender × sexual orientation interaction effect on IO ($F_{(1,1396)} = 2.441, p = 0.118, \eta_p^2 = 0.002$) or NO ($F_{(1,1396)} = 2.679, p = 0.102, \eta_p^2 = 0.002$).

To be specific, males showed stronger IO and NO than females, and heterosexuals also had stronger opposition (both IO and NO) than LGs. Last, the paired samples *t*-test indicated that the mean IO scores in the sample were significantly higher than the mean NO scores regardless of gender or sexual orientation ($t_{(1359)} = 33.759$, p < 0.001).

Influences on Individual Beliefs and Normative Beliefs Opposing Same-sex Parenting

Due to the differences between LGs and heterosexuals in IO and NO, the hierarchical regression analysis was performed separately on the two subsamples. Table 3 shows the results of the analysis of LGs. The analysis estimated the effects of the demographic variables, genetic etiology, learned etiology, benevolent sexism, and hostile sexism on IO and NO. Gender, age, and learned etiology significantly influenced IO and NO. However, hostile sexism was significant only for IO, and benevolent sexism was significant only for NO. Regarding the heterosexual subsample (Table 4), gender, age, and learned etiology significantly related to IO and NO, and hostile sexism only significantly related to IO. However, benevolent sexism significantly related to IO and NO.

Discussion

This study investigated the influences of beliefs about the etiology of homosexuality and ambivalent sexism on beliefs

Table 2 Means and standard deviations for IO, NO, GE, LE, benevolent sexism ideology, and hostile sexism ideology by gender and sexual orientation

	IO ^a	NO ^a	GE ^b	LEb	Benevolent ^c	Hostile ^c
Gay $(n = 490)$	2.93 ± 1.02	1.85 ± 0.79	14.78 ± 3.97	9.81 ± 3.81	31.68 ± 9.77	40.70 ± 11.15
Lesbian $(n = 256)$	2.40 ± 0.87	1.39 ± 0.49	14.14 ± 3.81	8.67 ± 3.18	27.44 ± 8.49	36.08 ± 9.70
Heterosexual male $(n = 266)$	3.46 ± 0.75	3.20 ± 0.82	10.80 ± 3.70	15.06 ± 2.75	47.11 ± 9.17	43.87 ± 9.49
Heterosexual female ($n = 388$)	3.08 ± 0.80	2.60 ± 0.83	11.68 ± 3.45	14.01 ± 3.16	39.20 ± 9.52	38.73 ± 8.78

IO individual opposition; NO normative opposition; GE genetic etiology; LE learned etiology



^a Absolute range, 1–5

^b Absolute range, 4–20

^c Absolute range, 12–72

Table 3 Hierarchical regression analyses for homosexual participants' demographic information, genetic etiology (GE), learned etiology (LE), and benevolent and hostile sexism ideology predicting IO and NO (n = 746)

	Individual opposition (IO)					Normative opposition (NO)					
	В	SE B	β	R^2	ΔR^2	В	SE B	β	R^2	ΔR^2	
Step 1				0.081	.081***				.099	.099***	
Gender	430	.075	203***			297	.045	192***			
Age	.024	.007	.114**			.014	.004	.091**			
Step 2				0.188	.107***				.453	.354***	
GE	.006	.009	.023			.004	.005	.020			
LE	.065	.010	.234***			.088	.006	.438***			
Benevolent	.006	.004	.057			.024	.003	.311***			
Hostile	.013	.004	.145***			002	.002	022			

The tabled values for beta reflect Bs after step 2

about children's development in same-sex families in a sample of Chinese LG and heterosexual adults. Two types of opposition to same-sex parenting were considered: IO and NO (Frias-Navarro & Monterde-i-Bort, 2012). One of this study's most significant contributions is analyzing a large sample of LGs, who have rarely been investigated by similar studies (Pistella et al., 2018). Consequently, this study touches on the psychological processes of internalizing social prejudices among members of a disadvantaged group. This study provides Chinese data for research on same-sex parenting, extending previous research, and has important implications for the decision-making processes of sexual minorities regarding parenting and the formulation of relevant policies and laws (Pacilli et al., 2011).

In support of H2a, heterosexual males, on average, had stronger IO and NO than heterosexual females or LGs, and lesbians had a more positive attitude about children's development in same-sex families than heterosexual females or gay men did. This finding is consistent with that of previous studies (Baiocco et al., 2020; Pistella et al., 2018), suggesting the influence of traditional gender ideology and stereotypes associated with traditional family patterns. Another possible explanation for this finding is that, where procreation has historically been strongly emphasized for females, women, regardless of sexual orientation, are more interested than men in childbearing and parenting. An American study on the parental intentions of childless gay, lesbian, and heterosexual individuals found that, whereas gay men's parenting intentions were weaker than those of heterosexual men, lesbians' parenting intentions were not different from those of heterosexual women (Riskind & Patterson, 2010).

This study's respondents had significantly higher IO scores than NO scores, regardless of gender or sexual orientation, which contradicts the results of previous research (Baiocco

Table 4 Hierarchical regression analyses for heterosexual participants' demographic information, genetic etiology (GE), learned etiology (LE), and benevolent and hostile sexism ideology predicting IO and NO (n = 654)

	Individual opposition (IO)					Normative opposition (NO)					
	В	SE B	β	R^2	ΔR^2	В	SE B	β	R^2	ΔR^2	
Step 1				0.055	.055***				.125	.125***	
Gender	153	.057	093**			236	.054	132***			
Age	.013	.006	.072*			.021	.006	.108***			
Step 2				0.338	.283***				.504	.379***	
GE	.007	.008	.033			008	.007	031			
LE	.114	.010	.434***			.133	.009	.461***			
Benevolent	.002	.003	.025			.020	.003	.232***			
Hostile	.018	.003	.206***			.008	.003	.091**			

The tabled values for beta reflect Bs after step 2

p < .05; **p < .01; ***p < .001



^{*}*p* < .05; ***p* < .01; ****p* < .001

et al., 2020). This result validates H2b. Chinese LG and heterosexual people held relatively strong traditional conservative attitudes toward same-sex parenting; they opposed samesex parenting because they believed such parenting per se negatively affects children's development more than societal adversity to it. China's lack of a legal framework regarding sexual orientation likely had a strong influence on this result, partly because the law is silent on same-sex parenting issues, which means that the public, including sexual minorities, are led to accept negative attitudes toward same-sex parenting. Another reason for opposition to same-sex parenting could be a lack of scientifically accurate public understanding about homosexuality and same-sex parenting (Baiocco et al., 2020; Rollè et al., 2019). Attitudes and beliefs about stigmatized groups tend to be based on cultural stereotypes rather than personal experience (Gillis, 1998). People might be concerned about same-sex parenting because they simply accept stereotypes, even though many studies have found no significant developmental differences between children raised by samesex versus opposite-sex parents (Bos, Kuyper, & Gartrell, 2018; Ioverno et al., 2018).

Our results confirmed H1b and H3, because heterosexual males had higher mean learned etiology scores than heterosexual females or LGs and the effects of learned etiology on IO (H3a) and NO (H3b) to same-sex parenting were significant in the overall sample. This is generally supportive of previous studies' results, which found that people who believe homosexuality is learned are more strongly opposed to samesex parenting than those who argue on behalf of genetic etiology (Costa et al., 2018; Frias-Navarro et al., 2018; Vecho et al., 2019). Notably, the paired samples t-test revealed LGs had higher means for genetic etiology, and heterosexual participants had higher means for learned etiology, which demonstrated the sexual orientation divide between the respondents in their beliefs about homosexuality etiology. That difference partly explains heterosexuals' relatively negative attitudes about children's development in same-sex families; compared with the explanation from the perspective of attribution theory, that is, people who attribute the characteristics of the stigmatized group to the controllable will have stronger prejudice and opposition to the group (Weiner et al., 1988). The fear that the children will "learn" homosexuality from their same-sex parents should be the more likely reason to oppose same-sex parenting.

In support of H1a, this study found that heterosexual males had the highest mean sexism scores (benevolent and hostile), and heterosexual females had higher mean sexism scores than lesbians. These findings suggest that the prejudices and beliefs in sociocultural inequality were associated with the heterosexual perspective that demeans sexual minorities (Herek, 2009; Herek, Gillis, & Cogan, 2009). It is worth mentioning that gay men had lower benevolent sexism but higher hostile sexism scores than heterosexual females. This suggests that gay men

are more likely to follow and support traditional and conservative gender beliefs than heterosexual women. This finding did not fully support H4 because the effects of sexism were complex. In the LG subsample, hostile sexism was significantly and positively related to IO and benevolent sexism was significantly and positively related to NO to same-sex parenting. Similarly, in the heterosexual subsample, benevolent sexism was significantly related only to NO, but hostile sexism was significantly related to IO as well as NO.

The main difference between hostile and benevolent sexism is that hostile sexism is based on traditional conservative beliefs that women are inferior to men, whereas benevolent sexism is less traditional, although also grounded in heterosexism, and emphasizes complementary (yet unequal) gender roles (Frias-Navarro & Monterde-i-Bort, 2012; Glick & Fiske, 1996; Lee et al., 2010). Benevolent sexism is similar to NO, both of which are relatively modern positions, and hostile sexism is similar to IO, both being relatively traditional. Thus, more modern benevolent sexism has affected modern NO and, similarly, traditional IO was affected by traditional hostile sexism for heterosexuals and LGs in the sample. Meanwhile, hostile sexism had a stronger influence on heterosexuals' than LGs' beliefs about children's development in same-sex families. In sum, same-sex parenting apparently violated the respondents' heterosexual-oriented gender norms; thus, people who are more likely to accept those (more sexist) norms might be more likely to believe that same-sex parenting negatively influences child development. Therefore, establishing laws and policies aimed at reducing prejudice and discrimination and protecting the rights of LG groups is critical. This will not only improve attitudes toward same-sex parenting but also contribute to promoting gender equality and improving the social security system. In addition, social media should enhance the dissemination of accurate scientific knowledge about homosexuality and same-sex parenting through public service advertising and educational programs since increasing understanding is the key to changing attitudes.

Limitations

This study had some limitations to be considered when interpreting the results. First, the respondents were recruited from SNS, and the vast majority was highly educated, so the results are not generalizable. Future research should adopt random sampling as far as possible. Second, the questions about opposition to same-sex parenting (based on the beliefs that the children are at risk) were basic and broad. Future studies should consider including specific questions about children's development in two-mother and two-father families to improve the field's understanding of this topic. Third, this study was a cross-sectional survey, and causal relationships could not be determined. Longitudinal studies should be



conducted to assess causality and changes over time. In addition, bisexuality data were not included in this study, and future studies should attempt to do so. Finally, significant differences in the time taken to collect data on LG and heterosexual people may have influenced the results.

Conclusion

This study revealed the influences of beliefs about the etiology of homosexuality as learned or genetic and ambivalent sexism (benevolent and hostile) on beliefs about children's development in same-sex families. It focused on the differences between homosexual and LG adults in China. Generally, males, heterosexuals, older respondents, those with stronger beliefs about learned etiology, and respondents with strong benevolent or hostile sexism attitudes were more likely than their counterparts to believe that same-sex parenting negatively influences child development. These findings improve our understanding of attitudes toward same-sex parenting in China. Further, we shed light on homosexuals' attitudes toward parenting, which is crucial for research in this area. The results provide information and support for the development of laws and policies to reduce sexism and prejudice and to protect the rights and interests of LG groups. Additionally, increasing knowledge and awareness about same-sex families and their children is required.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committees of the authors and with the 1964 Helsinki declaration and its amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

References

- Appleby, G. A. (1995). Chapter 1: AIDS and homophobia/heterosexism. Journal of Gay & Lesbian Social Services, 2, 1–24.
- Baiocco, R., Argalia, M., & Laghi, F. (2014). The desire to marry and attitudes toward same-sex family legalization in a sample of Italian lesbians and gay men. *Journal of Family Issues*, 35, 181–200.
- Baiocco, R., Carone, N., Ioverno, S., & Lingiardi, V. (2018). Same-sex and different-sex parent families in Italy: Is parents' sexual orientation associated with child health outcomes and parental dimensions? *Journal of Developmental & Behavioral Pediatrics*, 39, 555–563.
- Baiocco, R., Rosati, F., Pistella, J., Salvati, M., Carone, N., Ioverno, S., & Laghi, F. (2020). Attitudes and beliefs of Italian educators and teachers regarding children raised by same-sex parents. Sexuality Research and Social Policy, 17, 229–238.

- Bos, H., & Sandfort, T. G. M. (2010). Children's gender identity in lesbian and heterosexual two-parent families. Sex Roles, 62, 114– 126
- Bos, H. M., & Van Balen, F. (2008). Children in planned lesbian families: Stigmatisation, psychological adjustment and protective factors. *Culture, Health & Sexuality*, *10*, 221–236.
- Bos, H. M., Kuyper, L., & Gartrell, N. K. (2018). A population-based comparison of female and male same-sex parent and different-sex parent households. *Family Process*, 57, 148–164.
- Boysen, G. A., & Vogel, D. L. (2007). Biased assimilation and attitude polarization in response to learning about biological explanations of homosexuality. Sex Roles, 57, 755–762.
- Clarke, V. (2001). What about the children? Arguments against lesbian and gay parenting. Women's Studies International Forum, 24, 555– 570
- Costa, P. A., Carneiro, F. A., Esposito, F., D'Amore, S., & Green, R.-J. (2018). Sexual prejudice in Portugal: Results from the first wave European study on heterosexual's attitudes toward same-gender marriage and parenting. Sexuality Research and Social Policy, 15, 99–110.
- Cunningham, G. B., & Melton, E. N. (2013). The moderating effects of contact with lesbian and gay friends on the relationships among religious fundamentalism, sexism, and sexual prejudice. *Journal of Sex Research*, 50, 401–408.
- Farr, R. H., Bruun, S. T., Doss, K. M., & Patterson, C. J. (2018). Children's gender-typed behavior from early to middle childhood in adoptive families with lesbian, gay, and heterosexual parents. Sex Roles, 78, 528–541.
- Frias-Navarro, D. (2009). Scale of beliefs about the etiology of sexual orientation (BESO). Valencia, Spain: University of Valencia Retrieved from https://www.uv.es/friasnav/FriasNavarroBESOspain.pdf.
- Frias-Navarro, D., García, L., García-Banda, G., Pascual-Soler, M., & Badenes-Ribera, L. (2018). Attitudinal change toward same-sex parents: The effect of the explanation of the etiology of the homosexual sexual orientation. Sexuality Research and Social Policy, 15, 516– 529.
- Frias-Navarro, D., & Monterde-i-Bort, H. (2012). A scale on beliefs about children's adjustment in same-sex families: Reliability and validity. *Journal of Homosexuality*, 59, 1273–1288.
- Frias-Navarro, D., Monterde-i-Bort, H., Pascual-Soler, M., & Badenes-Ribera, L. (2015). Etiology of homosexuality and attitudes toward same-sex parenting. A randomized study. *Journal of Sex Research*, 52, 151–161.
- Gato, J., & Fontaine, A. M. (2013). Anticipation of the sexual and gender development of children adopted by same-sex couples. *International Journal of Psychology*, 48, 244–253.
- Gato, J., & Fontaine, A. M. (2016). Attitudes toward adoption by samesex couples: Effects of gender of the participant, sexual orientation of the couple, and gender of the child. *Journal of GLBT Family Studies*, 12, 46–67.
- Gillis, J. R. (1998). Cultural heterosexism and the family. In C. J. Patterson & A. R. D'Augelli (Eds.), Lesbian, gay and bisexual identities in families (pp. 249–269). New York: Oxford University Press.
- Glick, P., & Fiske, S. T. (1996). The Ambivalent Sexism Inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology*, 70, 491–512.
- Glick, P., & Fiske, S. T. (1999). The Ambivalence toward Men Inventory: Differentiating hostile and benevolent beliefs about men. Psychology of Women Quarterly, 23, 519–536.
- Golombok, S. (2015). *Modern families: Parents and children in new family forms*. Cambridge University Press.
- Golombok, S., & Tasker, F. (1996). Do parents influence the sexual orientation of their children? Findings from a longitudinal study of lesbian families. *Developmental Psychology*, 32, 3–11.



- Haider-Markel, D. P., & Joslyn, M. R. (2008). Beliefs about the origins of homosexuality and support for gay rights: An empirical test of attribution theory. *Public Opinion Quarterly*, 72, 291–310.
- Herek, G. M. (2000). The psychology of sexual prejudice. *Current Directions in Psychological Science*, *9*, 19–22.
- Herek, G. M. (2009). Sexual stigma and sexual prejudice in the United States: A conceptual framework. In D. A. Hope (Ed.), Contemporary perspectives on lesbian, gay, and bisexual identities (pp. 65–111). New York: Springer-Verlag.
- Herek, G. M., Gillis, J. R., & Cogan, J. C. (2009). Internalized stigma among sexual minority adults: Insights from a social psychological perspective. *Journal of Counseling Psychology*, 56, 32–43.
- Herek, G. M., & McLemore, K. A. (2013). Sexual prejudice. *Annual Review of Psychology*, 64, 309–333.
- Hollekim, R., Slaatten, H., & Anderssen, N. (2012). A nationwide study of Norwegian beliefs about same-sex marriage and lesbian and gay parenthood. Sexuality Research and Social Policy, 9, 15–30.
- Hooghe, M., & Meeusen, C. (2013). Is same-sex marriage legislation related to attitudes toward homosexuality? Sexuality Research and Social Policy, 10, 258–268.
- Ioverno, S., Baiocco, R., Lingiardi, V., Verrastro, V., D'Amore, S., & Green, R.-J. (2019). Attitudes towards same-sex parenting in Italy: The influence of traditional gender ideology. *Culture, Health & Sexuality*, 21, 188–204.
- Ioverno, S., Carone, N., Lingiardi, V., Nardelli, N., Pagone, P., Pistella, J., et al. (2018). Assessing prejudice toward two-father parenting and two-mother parenting: The beliefs on same-sex parenting scale. *Journal of Sex Research*, 55, 654–665.
- Lee, T. L., Fiske, S. T., Glick, P., & Chen, Z. (2010). Ambivalent sexism in close relationships: (Hostile) power and (benevolent) romance shape relationship ideals. Sex Roles, 62, 583–601.
- Li, X., Zhang, B., Wang, J., Li, Y., Li, X., Yu, P., Liu, M., & Liu, X. (2017). Sexual health status of women who have regular sexual relations with men who have sex with men in mainland China. BMC Public Health, 17, 168–179.
- Li, Y. (1998). Homosexual subculture (in Chinese). Beijing: China Today Press.
- Mange, J., & Lepastourel, N. (2013). Gender effect and prejudice: When a salient female norm moderates male negative attitudes toward homosexuals. *Journal of Homosexuality*, 60, 1035–1053.
- Meezan, W., & Rauch, J. (2005). Gay marriage, same-sex parenting, and America's children. *The Future of Children*, 15, 97–115.
- Pacilli, M. G., Taurino, A., Jost, J. T., & van der Toorn, J. (2011). System justification, right-wing conservatism, and internalized homophobia: Gay and lesbian attitudes toward same-sex parenting in Italy. Sex Roles, 65, 580–595.
- Paige, R. U. (2005). Sexual orientation, parents, & children: APA policy statement. American Psychologist, 60, 436–511.
- Patterson, C. J. (1992). Children of lesbian and gay parents. Child Development, 63, 1025–1042.
- Patterson, C. J., & Riskind, R. G. (2010). To be a parent: Issues in family formation among gay and lesbian adults. *Journal of GLBT Family* Studies, 6, 326–340.
- Pistella, J., Tanzilli, A., Ioverno, S., Lingiardi, V., & Baiocco, R. (2018). Sexism and attitudes toward same-sex parenting in a sample of heterosexuals and sexual minorities: The mediation effect of sexual stigma. Sexuality Research and Social Policy, 15, 139–150.

- Rees-Turyn, A. M., Doyle, C., Holland, A., & Root, S. (2008). Sexism and sexual prejudice (homophobia): The impact of the gender belief system and inversion theory on sexual orientation research and attitudes toward sexual minorities. *Journal of LGBT Issues in Counseling*, 2, 2–25.
- Riskind, R. G., & Patterson, C. J. (2010). Parenting intentions and desires among childless lesbian, gay, and heterosexual individuals. *Journal of Family Psychology*, 24, 78–81.
- Rollè, L., Chinaglia, L., Curti, L., Magliano, A., Trombetta, T., Caldarera, A. M., et al. (2018). Attitudes of Italian group toward homosexuality and same-sex parenting. *Journal of Psychology and Psychotherapy Research*, 5, 10–25.
- Rye, B. J., & Meaney, G. J. (2010). Self-defense, sexism, and etiological beliefs: Predictors of attitudes toward gay and lesbian adoption. *Journal of GLBT Family Studies*, 6, 1–24.
- Scandurra, C., Bacchini, D., Esposito, C., Bochicchio, V., Valerio, P., et al. (2019). The influence of minority stress, gender, and legalization of civil unions on parenting desire and intention in lesbian women and gay men: Implications for social policy and clinical practice. *Journal of GLBT Family Studies*, 15, 76–100.
- Shi, X., Xu, W., & Zheng, Y. (2020). Heterosexual marital intention: Effects of internalized homophobia, homosexual identity, perceived family support, and disclosure among Chinese gay and bisexual men. *Journal of Homosexuality*, 67, 452–467.
- Sloane, J. L., & Robillard, L. M. (2018). Factors affecting heterosexual attitudes to same-sex marriage in Australia. Sexuality Research and Social Policy, 15, 290–301.
- Swim, J. K., & Hyers, L. L. (2009). Sexism. In T. D. Nelson (Ed.), Handbook of prejudice, stereotyping, and discrimination (pp. 407–430). New York: Psychology Press.
- Trub, L., Quinlan, E., Starks, T. J., & Rosenthal, L. (2017). Discrimination, internalized homonegativity, and attitudes toward children of same-sex parents: Can secure attachment buffer against stigma internalization? *Family Process*, 56, 701–715.
- Vecho, O., Gross, M., Gratton, E., D'Amore, S., & Green, R.-J. (2019).
 Attitudes toward same-sex marriage and parenting, ideologies, and social contacts: The mediation role of sexual prejudice moderated by gender. Sexuality Research and Social Policy, 16, 44–57.
- Voultsos, P., Zymvragou, C., Raikos, N., & Spiliopoulou, C. C. (2019). Lesbians' experiences and attitudes towards parenthood in Greece. *Culture, Health & Sexuality*, 21, 108–120.
- Watkins, C. S. (2018). School progress among children of same-sex couples. *Demography*, 55, 799–821.
- Wei, W. (2016). Reproduction in same-sex couples families: Ways to achieve, family life, and social adjustment (in Chinese). Shandong Social Science, 12, 77–84.
- Weiner, B., Perry, R. P., & Magnusson, J. (1988). An attributional analysis of reactions to stigmas. *Journal of Personality and Social Psychology*, 55, 738–748.
- Wen, G., & Zheng, L. (in press). Relationship status and marital intention among Chinese gay men and lesbians: The influences of minority stress and culture-specific stress. Archives of Sexual Behavior.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

