Chinese Culture, American Culture, and Parenting Aspirations Among Chinese International Students of Diverse Sexual Identities

Yanbin (Barbara) Li

Advisor: Charlotte J. Patterson

Second Reader: Noelle Hurd

University of Virginia

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Abstract

Large numbers of Chinese youth of diverse sexual identities live and study across cultural boundaries between China and the United States. This study investigated parenting aspirations among Chinese international students of diverse sexual identities, attending school in the United States. We also studied associations of perceived impact of Chinese and American culture on parenting aspirations. In total, 265 Chinese international students (Mage = 23 years) participated an online survey; 210 self-identified as heterosexual (58 male and 152 female) and 55 as lesbian/gay/bisexual/pansexual (16 male and 39 female). Consistent with results of earlier research, results showed that sexual minority students were less likely than heterosexual students to desire or intend to become parents. Results also showed that, both for heterosexual and for sexual minority students, the perceived impact of Confucianism was positively associated with parenting aspirations, but that of American culture was negatively associated with them. Moreover, sexual identity moderated the association between the perceived impact of Buddhism on parenting aspirations. For heterosexual students, the association between the perceived impact of Buddhism and parenting aspirations was positive, but for sexual minority students, the associations were negative. Our findings highlighted the essential role of Confucianism in aspirations for the future among all Chinese youth. The impact of Buddhism was, however, moderated by students' sexual identities; for sexual minority students, it was associated with childfree visions of the future, but for heterosexual students, it predicted desire for parenthood. Overall, the results extend those of earlier research on the role of sexual identities in shaping young adults' aspirations for future parenthood, and they add new information about cultural influences in this regard.

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Introduction

Many young adults think about becoming parents in the future. For Chinese youth who are international students living across different cultural settings, conflicting cultural traditions may be important factors in making decisions about the future, including those about parenthood (Engebretsen, 2009; Hu et al., 2013; Steward et al., 2013; Tang, 1995; Wang, 2015). Confucianism has been the most examined component of Chinese culture. However, while Buddhism and Daoism have been suggested as the other two important components of Chinese culture, there has been little examination of how they are associated with aspirations toward future parenthood among Chinese people. As Chinese international students live in the cultural contexts of both home and host countries, the impact of Western culture might be prominent in predicting their parenting aspirations as well. Western culture, perceived as more tolerant towards LGBTQ+ people (Kam, 2019; Zhang & Brym, 2019), might play a particularly important role in predicting parenting aspirations among Chinese international students who identify as lesbian, gay or bisexual.

Sexual Minority Youth among Chinese International Students in the US

The number of Chinese international students studying and living in the United States has increased during the past decade. In the last five years, Chinese students have made up the largest portion of international students in American colleges and universities (Open Doors, 2020). According to the Open Doors report (2020), more than 400,000 Chinese international students were studying in the United States during the 2018 - 2019 academic year, making up 36% of the total number of all international students.

The exact number of Chinese international students in the United States who identify as members of sexual minorities is unknown. The estimated proportion of sexual minorities in the general population varied in reports. According to Gallup's daily tracking in 2017 in the United States (Newport, 2018), it was found that 4.5% of American adults (5.1% of women and 3.9% of men) identified as lesbian, gay, bisexual or transgender (LGBT). According to the report by the Office of National Statistics (2018) in the United Kingdom, the estimated proportion of lesbian, gay, or bisexual among people aged 16 years and older was 2.2%. If these numbers are applied to Chinese international students, the proportion of sexual minorities among this group might fall between 2 and 5% of the total number.

On the other hand, the proportion of sexual minorities among Chinese international students may actually be higher than the estimated proportion reported in the literature. Many LGBT people from countries that lack support and protection for sexual and gender minorities prefer to live in other countries – especially in those countries that are perceived as more tolerant (Binnie, 2004; Corkum, 2015). A recent study also suggested that living and studying abroad has become a preferred life option among sexual minority women in China (Kam, 2019). Thus, the percent of sexual minorities among Chinese international students may be higher than in the general population.

Parenting Aspirations among Sexual Minorities

Many young people hope to become parents. However, parenting aspirations among sexual minorities have been found to be lower than among heterosexual people in the United States. Based on the data from the 2002 National Survey of Family Growth (NSFG) in the United States that included childless participants aged 15-44 years, it was found that lesbian women and gay men had lower parenting desire than their heterosexual counterparts (Riskind & Patterson, 2010). Moreover, gay men who reported parenting desires were less likely than heterosexual men who expressed the same desires to report the intention to become parents (Riskind & Patterson, 2010). In a more recent study on 15-44 year old adults who participated in the 2011-2013 U.S. NSFG, lesbian women were less likely to report parenting desire than were heterosexual and bisexual women, but bisexual women were just as likely to express parenting desire as were heterosexual women (Riskind & Tornello, 2017). It was also found that gay men were less likely than heterosexual men to express parenting desire, and that those who had parenting desire were less likely heterosexual men to express parenting intentions. In contrast, bisexual and heterosexual men were equally likely to express parenting desire and intention (Riskind et al., 2017). In a recent online survey on 211 lesbian or gay and 157 heterosexual childless young adults living in the United States (Tate & Patterson, 2019), lesbian or gay people were less likely than heterosexual people to report parenting desire. Another recent study by Tate, Patterson, and Levy (2019), based on data from Wave IV of The National Longitudinal Study of Adolescent to Adult Health in the United States, also found that, compared to heterosexual people, fewer lesbian and gay adults intended to become parents. These studies suggest generally lower parenting aspirations among lesbian and gay than heterosexual people.

Besides, gender is a factor that might be interacting with sexual identities in parenthood aspirations. A recent study on 1,995 childless Mexican individuals, found that plurisexual women (bisexual/pansexual/queer women) reported lower parenting aspirations than plurisexual men (Salinas-Quiroz, Costa, & Lozano-Verduzco, 2020). A study of 196 lesbian, bisexual, and heterosexual women in the U. S. found that, regardless of their sexual identities, women reported strong parenting desire and intention (Simon, Tornello, Farr, & Bos, 2018).

It has to be mentioned that another recent internet-based study on 58 gay, 66 lesbian, and 164 heterosexual childless people in the United States, lesbian and gay participants reported parenting intentions that were similar to those reported by heterosexual participants (van Houten, Tornello, Hoffenaar, & Bos, 2020). This finding was not consistent with previous studies showing lower parenting aspirations among lesbian and gay than heterosexual people.

Cultural settings that sexual minority youth live in might be associated with their parenting aspirations. Factors from multiple levels may interact and affect on the person's development (Bronfenbrenner, 1977). More specifically for sexual minorities, the minority stress model theory (Meyer, 2003; Meyer et al., 2013) suggests that both proximal factors (e.g., concealment and internalized homophobia) and distal factors (e.g., the legal status of same-sex marriage) affect the lives of sexual minority individuals. In an internet survey of adults in the U.S., religiosity and racial identities were found to be associated with likelihood of aspiring to parenthood (Tate et al., 2019); those with racial minority identities and those who were highly religious were more likely to desire parenthood. Studies in more pro-natalist countries other than the U.S. have similar or complicated findings, highlighting cultural settings' role in how sexual minorities aspires future parenthood. In a study on 257 childfree women in Portugal, regarding parenting desire, no difference was found between women of lesbian, bisexual, and heterosexual identities; for parenting intentions, lesbian and bisexual women reported lower intentions toward parenthood than heterosexual women (Gato, Leal, & Tasker, 2019). A study on 183 Israeli gay men reported a gap between fatherhood desires and their likelihood estimations, similar to what researchers had found in the U.S. (Shenkman, 2012). In particular, one study compared the parenting aspirations between people in the U.K. and Portugal found that all Portuguese participants, regardless of their sexual identity, reported stronger desires and intentions to parenthood than U.K. participants; Portuguese lesbian, gay, and bisexual participants reported stronger parenthood desires than their U.K. counterparts (Leal, Gato, & Tasker, 2019). Pro-natalist cultural values seem important for sexual minorities aspiring to future parenthood.

Parenting Aspirations among Chinese Sexual Minorities

For Chinese international students, the culture of their home country and the host country (i.e., the Chinese culture and American culture) might be both associated with their parenting aspirations. Specifically, under the Chinese cultural setting, some cultural values are important factors throughout Chinese sexual minorities' family formations. In a qualitative study on seven families of same-sex parents in China, cultural values about traditional forms of marriage and family lives were found associated with sexual minorities' thoughts, decisions, and strategies regarding family formation (Wei, 2016).

Some research has explored parenting aspirations among Chinese individuals who were members of sexual minorities. A study on 317 17-29 year old unmarried gay men in China, using questionnaires-based interviews, reported that 76% of the participants wanted to become parents in the future (Wang, Yu, Xiao, & Sun, 2011). For sexual minorities in partnerships, as illustrated by Wei (2016) through in-depth interviews with 7 families of same-sex parents in China, many same-sex couples started to pursue parenthood once their partnerships were stable. Moreover, Wei (2016) observed that gay men showed stronger interest in becoming parents, compared to lesbian women, and gay men attended more community events that were focused on prospective parenthood. Thus, gay Chinese men seem to be especially interested in parenthood.

Association between Chinese Cultural Beliefs and Parenting Aspirations

For sexual minorities living in the Chinese cultural context, cultural factors play a role in shaping their same-sex partnerships and family lives (Wei, 2010; Wei, 2016). In Wei's study (2010) on 48 gay men living in Shanghai, traditional cultural values around heterosexual family forms were perceived as sources of pressure to enter heterosexual marriage. In a later study on 7 same-sex parents in China, the traditional culture, of which filial piety was suggested as the core value, was referred to as the context under which same-sex couples pursued parenthood (Wei, 2016). However, given the considerable diversity within Chinese

traditional culture, much is unknown about how cultural factors are associated with parenthood aspirations among Chinese sexual minorities.

Diversity within the Chinese Traditional Culture

Among various components of Chinese traditional culture, Confucianism has been recognized as the most prominent (Sundararajan, 2015; Tang, 1995). Confucianism values strong ties among people and the relational-based way of thinking, and its core values, as suggested by various scholars, include but are not limited to, *ren* (benevolence or nurturance), *li* (ritual action), *he* (harmony), and *rang* (yielding) (Schwartz, 1985; Sundararajan, 2015).

Besides Confucianism, Buddhism, and Daoism are also important components of the Chinese traditional culture (Guang, 2013; Sundararajan, 2015; Tang, 1995). In Buddhism, core values include *kong* (emptiness) and *wu* (enlightenment) (Adamek, 2005; Sundararajan, 2008; Sundararajan, 2015). Daoism values transcendance, solitude, and freedom, with limited emphasis on ties between people (Sundararajan, 2015). About 18.2% of people living in China identify primarily with Buddhism (Pew Research Center, 2012). The estimated proportion of people identify with Daoism in China is unknown. The number of Buddhist temples in China is about 33,000, and the number of Daoist temples is about 9,000 (www.gov.cn, retrieved in March 2020). China has a long history of diverse philosophical ideologies and Chinese people may identify with more than one religion or philosophical value systems (e.g., Buddhism, Daoism, Christianity, Catholic, Islam, Mohist; Guang, 2013; Overmyer, 2003). Nonetheless, value systems or religions other than Confucianism, Buddhism, and Daoism are not as dominant, and are not discussed further here.

Chinese Traditional Culture and Parenting Aspirations among Sexual Minorities

Confucianism has often been viewed as pro-natalistic (Tang, 1995). Among many core values of Confucianism, filial piety (i.e., filial obligation or filial duty) has been suggested as a crucial factor affecting marital desire and parenting intentions among Chinese LGBT youth (Engebretsen, 2009; Hu & Wang, 2013; Quach et al., 2013; Steward et al., 2013; Wang, 2015). Filial piety emphasizes an individual's obligations in their relationships with family members. Researchers' definitions of filial piety differ, but generally share the following points in common (Tang, 1995; Wang, 2015): (a) respect for and obedience to older family members (e.g., parents and grandparents); (b) obligations to take care of the family, including protecting the honor of the family; (c) obligations of continuing the family bloodline. For Chinese international students studying abroad, regardless of sexual orientation, the impact of Confucianism might be expected to predict their parenting aspirations in a positive way.

Buddhism has been viewed as offering considerable tolerance towards homosexuality (Cheng, 2018). Regarding childbearing, Buddhism has been suggested as anti-natalistic (Coates, 2014; Skirbekk et al., 2015). It should be noted that within Chinese Buddhism, the integration of Buddhist beliefs and Confucian beliefs has been developed since Buddhism became popular in China over centuries (Hinsch, 2002). The Buddhism in Chinese context seems not contradicting the core value of Confucianism, filial piety, that emphasizes continuing family bloodline. Hence, the impact of Buddhism might be associated with Chinese youth's parenting aspirations positively, no matter what their sexual identity is.

The indigenous Daoism values transcendance and individual freedom (Ho, 1995; Sundararajan, 2015) and sees of sex as a way to promote health and longevity, rather than procreation (Qiu, 2002). Daoism values fertility harmony and balanced marital and family lives (Jia & Ge, 2012). It is unclear if Daoism would encourage child bearing among Chinese youth of heterosexual and non-heterosexual identities. Nonetheless, Daoism is different from but shares some key commonalities with Confucianism in pursuing Dao and harmony (Kirkland, 2008; Low, 2012). Given Daoism's close relationship to Confucianism, we assumed that the impact of Daoism would also be associated with parenthood aspirations positively among Chinese youth.

Chinese Sexual Minority International Students in the American Cultural Setting

The impact of American culture on parenting aspirations among Chinese students has not been studied. Clearly, the legal status of same-sex marriage in the United States (Liptakjune, 2015, June 26) offers Chinese sexual minority international students the opportunity to marry same-sex partners, if they wish to do so. In a qualitative study of 28 Chinese lesbian women who went overseas or planned to go abroad, obtaining legal marriage with their same-sex partners in the host country was one of the main reasons that they gave for choosing to live outside of China (Kam, 2019). Moreover, attitudes in the United States are relatively tolerant towards homosexuality, according to 1981-2014 World Values Survey data (Zhang et al., 2019). For Chinese international students who are members of sexual minorities, the impact of American culture that is friendly towards sexual minorities might be expected to predict parenting aspirations in a positive way. Meanwhile, individualism is valued in the U.S. (Triandis, 2018), and childbearing is less likely being viewed as responsibility to the family and the larger society. A study on 74 women and 50 men in London, Ontario, and the surrounding region showed that delayed childbearing is preferred among more individualist-oriented people (Erfani & Beaujot, 2006). Considering the popular individualist orientation in the U.S., the impact of American culture might be associated with parenting aspirations among young Chinese students negatively rather than positively.

Hypotheses

The current study was designed to examine associations among Chinese culture, American culture, and parenting aspirations among heterosexual and sexual minority Chinese international students. We expected that perceived impact of Confucianism, Buddhism, and Daoism would be positively associated with parenting desire and parenting intention among both heterosexual and non-heterosexual Chinese international students. We also expected that the perceived impact of American culture would be negatively associated with parenting desire and parenting intention. Moreover, the perceived impact of Confucianism, Buddhism, and Daoism were expected to predict parenting desire and parenting intention in different ways as a function of sexual identity and gender.

Method

Participants

Chinese international students who were at least 18 years old, childless, and attending universities and colleges in the United States at the time of the survey were recruited to participate in this study. Among the 265 participants, 210 self-identified as heterosexual (M_{age} = 23.09 years, SD = 3.37; 58 male and 152 female) and 55 self-identified as non-heterosexual (M_{age} = 22.84 years, SD = 3.51; 16 male and 39 female). Among the 55 sexual minority participants, 14 self-identified as gay (M_{age} = 23.30 years, SD = 3.95; 14 male), 10 lesbian (M_{age} = 25.29 years, SD = 2.70; 10 female), 27 bisexual (M_{age} = 21.41 years, SD = 2.59; 2 male and 25 female), and 4 pansexual (M_{age} = 22.75 years, SD = 6.18; 4 female). Participants came from in total 30 different provinces, autonomous regions, municipalities, or special districts in China. Participants were studying in 60 different universities or colleges in the U.S. Recruitment took place from July 2019 to January 2020.

Survey Procedure

Recruitment. Recruitment methods included advertisements for the proposed study via emails, social media, and websites. The advertisement provided a brief description of the study, a website link and a QR code that linked to the online survey, as well as contact information for the researchers. Through the website link and QR code, participants who were interested in the study were directed to an online survey on the Qualtrics portal.

Online survey. Participants chose whether to complete the survey in English or in simplified Chinese. The simplified Chinese version contained scales in Chinese that had been used in previous studies at the time of the survey and also scales that did not have a version in Chinese. All the scales used in this study did not have an established Chinese version. One research team member who was a graduate student in psychology and were fluent in English and Chinese translated the scale from English to Chinese. Another research team member who was an undergraduate student in psychology major and also fluent in English and

Chinese did the back-translation, to ensure accuracy of the translation. Further, one undergraduate student and one school psychologist, both fluent in English and Chinese, helped with proof-reading the translation.

The Institutional Review Board for Social & Behavioral Sciences at the University of Virginia approved the study. The incentives of the study was a lottery drawing for one of forty-three \$30 Amazon.com eGift Cards. Participants typed in their email addresses at the end of the online survey if they wished to enter the lottery.

A total of 272 participants completed the survey with valid responses. Seven participants identified themselves as transgender or non-cisgender; since this group was very small, their data were dropped from further analysis. Thus, the final sample included 265 participants. Among those who self-identified as heterosexual, 158 participants chose to take the survey in Chinese and 52 in English. Among those self-identified as sexual minorities, 36 decided to take the survey in Chinese and 19 in English. The chi-square test result showed that heterosexual participants and sexual minority participants did not differ in taking the Chinese or English version of the survey (χ^2 (1) = 2.127, p > .05).

Measures

Demographic Information

Demographic information about participants' age, ethnic group, sexual identity, gender identity, sex assigned at birth, degree program, years of study in the U.S., family income, religion, and relationship status were collected.

Parenting Aspirations

Parenting desire. Parenting desire was assessed by an item adapted from Costa and Bidell (2017), "I would like to [i.e., desire to or want to] have children in the future". Participants responded using a 7-point scale (1 = Strongly Disagree, 7 = Strongly Agree).

Parenting intention. Parenting intention was assessed by one item, "I have a real intention [i.e., plan or am going to plan] to have children in the future.", also adapted from Costa and Bidell (2017). Participants responded using a 7-point scale (1 = Strongly Disagree, 7 = Strongly Agree).

Perceived Impact of Chinese Culture and Perceived Impact of American culture

The Perceived Impact of Chinese Culture scale and the Perceived Impact of American Culture scale consist of items assessing perceived familiarity, perceived importance, perceived positive impact, and perceived negative impact. Perceived familiarity of three cultural components of Chinese culture (i.e., Confucianism, Buddhism, Daoism) and American culture were each assessed by three items (e.g., "Overall, I am familiar with Confucianism/Buddhism/Daoism/American culture") on a 7-point scale (1 = Strongly Disagree, 7 = Strongly Agree). Perceived importance of three cultural components of Chinese culture (i.e., Confucianism, Buddhism, Daoism) and American culture were each assessed using three items (e.g., "Overall, Confucianism/Buddhism/Daoism/American culture values are important to me.") on a 7-point scale (1 = Strongly Disagree, 7 = Strongly Agree). Perceived positive impact of three cultural components of Chinese culture (i.e., Confucianism, Buddhism, Daoism) and American culture were measured by three items (e.g., "Some values of Confucianism/Buddhism/Daoism/American culture have a POSITIVE influence on me.") on a 7-point scale (1 = Strongly Disagree, 7 = Strongly Agree). Perceived negative impact of three cultural components of Chinese culture (i.e., Confucianism, Buddhism, Daoism) and American culture were measured by three items (e.g., "Some values of Confucianism/Buddhism/Daoism/American culture have a NEGATIVE influence on me.") on a 7-point scale (1 = Strongly Disagree, 7 = Strongly Agree).

Preliminary factor analysis on Perceived Impact of Chinese and American Culture scales. Exploratory factor analysis was conducted to investigate the underlying factor structure of the Perceived Impact of Chinese Culture scale and the Perceived Impact of American Culture. The maximum likelihood method was used to generate the scree plot for the Perceived Impact of Chinese Culture scale, which suggested 4 possible factors. Hence, a four-factor solution was first explored using the maximum likelihood estimation and the varimax rotation. A three-factor solution was also conducted using the maximum likelihood estimation and the varimax rotation. Each items' loadings in the four-factor and the three-factor solutions are shown in Table 1. Confirmatory factor analyses were conducted to compare the model fits of the four-factor solution and the three-factor solution. For the four-factor solution, χ^2 (48) = 660.495 (p < .001), CFI = .702, TLI = .590, RMSEA = .217, SRMR = .089. For the three-factor solution, χ^2 (51) = 600.389 (p < .001), CFI = .733, TLI = .654, RMSEA = .199, SRMR = .094. Results indicated that the three-factor solution had generally better model fits than the four-factor solution.

The three-factor solution was chosen as it showed a clearer structure and better fit than did the four-factor solution. The three factors (i.e., the three dimensions of the scale) were named the Perceived Impact of Confucianism, the Perceived Impact of Buddhism, and the Perceived Impact of Daoism. A composite score of each dimension was used in the following correlational analyses, ANOVA analyses, and regression analyses.

For the factor structure underlying the Perceived Impact of American Culture scale, the scree plot was generated by using the maximum likelihood method and suggested a single factor. Thus, the one-factor solution of the Perceived Impact of American Culture scale was called Impact of American Culture. Loadings of each item of the scale was 0.698 (perceived familiarity), 0.769 (perceived importance), 0.725 (perceived positive impact), and 0.304 (perceived negative impact). Variance explained by the factor was 42.436%. For the single-factor solution, χ^2 (2) = 12.611 (p < .005), CFI = 0.957, TLI = 0.870, RMSEA = .0.140, SRMR = 0.041.

Regarding the reliability of the scales, the Cronbach's alphas of the Perceived Impact of Confucianism, the Perceived Impact of Buddhism, and the Perceived Impact of Daoism were 0.79, 0.81, and 0.85, respectively, and that of the Perceived Impact of American Culture was 0.70. The results showed acceptable reliability of the Perceived Impact of Confucianism, Buddhism, Daoism, and American Culture scales.

Depressive symptoms

We measured depressive symptoms as a potential confounding variable. Compared to heterosexual counterparts, sexual minority individuals have a higher prevalence of mental disorders including depression (Meyer, 2003; King et al., 2008). Moreover, a recent quantitative study on 449 Israeli lesbian, gay, and heterosexual participants found that a higher estimated likelihood of parenthood was associated with lower depressive symptoms, and such association was stronger in heterosexual individuals than their lesbian and gay counterparts (Shenkman & Abramovitch, 2020). Depressive symptoms might be associated with parenthood aspirations as well and thus were assessed.

To assess depressive symptoms, we used the 10-item Center for Epidemiologic Studies Depression Scale (CESD-10; Andersen, Malmgren, Carter, & Patrick, 1994; Björgvinsson, Kertz, Bigda-Peyton, McCoy, & Aderka, 2013). The CESD scale was translated into a Chinese version and showed good reliability in a previous study on the Chinese population (Zhang, Wu, Fang, Li, Han, & Chen, 2010). This measure contains 10 items rated on a 4-point Likert scale, ranging from 0 ("rarely of none of the time (less than 1 day)") to 3 ("all of the time (5-7 days)"). The following statement is an example of the items: "I felt that everything I did was an effort." The following two statements are the items of the scale required reverse coding: "I felt hopeful about the future" and "I was happy." The total score was calculated by finding the sum of scores for all 10 items. Potential scores range from 0 to 30. Higher total scores indicate higher levels of depressive symptoms. (Cronbach's $\alpha = 0.80$ in the current study).

Data Analyses

SPSS version 26 and R were used to analyze the data. Missing values were completed using Expectation Maximization algorithm by SPSS. One-way ANOVAs were conducted to examine whether heterosexual and sexual minority participants differed in terms of their demographic characteristics. Next, correlation analysis was employed to explore the associations between variables of interest and potential covariates. One-way ANOVAs were then conducted to examine whether parenting desire and parenting intention differed as a function of sexual identity and other demographic characteristics.

Then, regression analysis was conducted to explore the association between perceived impact of Chinese culture, American culture, and parenting aspirations. Sexual identity (i.e., heterosexual or non-heterosexual) was involved in the regression analysis as a potential moderator. Controlled variables were also included in the regression analysis. The stepwise method was used to determine which variables to be entered or removed, based on the criteria that probability of F less than .05 will be entered, and probability of F equal to or higher than .10 will be removed.

Results

First, we present the demographic characteristics of participants. Second, we present the correlations between parenting aspirations and perceived impact of cultures. Third, we present the results about parenting aspirations as a function of sexual identity and demographic variables. The final set of analyses focused on the extent to which perceived impact of Chinese and American cultural ideas predicted parenting aspirations.

Demographic Characteristics of the Sample

The demographic characteristics of participants are shown in Table 2. Results showed that heterosexual participants reported higher family incomes (χ^2 (2) = 8.747, p < .05) and were more likely than sexual minority participants to have an opposite sex spouse or romantic partner (χ^2 (2) = 53.41, p < .001). No other differences were statistically significant.

Correlations between parenting aspirations and perceived impact of cultures

Pearson correlations between parenting aspirations (i.e., parenting desire and parenting intention), the perceived impact of Chinese culture, and the perceived impact of American culture, age, years of study in the U.S., and depressive symptoms are shown in Table 3. Results showed that parenting desire and parenting intention were highly correlated, r = .90, p < .001. The perceived impact of Confucianism was positively associated with both parenting desire (r = .20, p < .01) and parenting intention (r = .19, p < .01). Correlations between parenting desire and the perceived impact of Buddhism, the perceived impact of Daoism, and the perceived impact of American culture were not significant. Correlations between parenting intention and the perceived impact of Buddhism, Daoism, and American culture were not significant. Nonetheless, the perceived impact of Confucianism was positively correlated with the perceived impact of Buddhism (r = .53, p < .001), Daoism (r= .53, p < .001), and American culture (r = .22, p < .001). The perceived impact of Buddhism also positively associated with the perceived impact of Daoism (r = .63, p < .001) and American culture (r = .25, p < .001), and the perceived impact of Daoism correlated with the perceived impact of American culture positively (r = .19, p < .01).

For the demographic variables, age was positively correlated with parenting desire (r = .16, p < .01), the perceived impact of Confucianism (r = .26, p < .001), and years of study in the U.S. (r = .19, p < .01). Years of study in the U.S. was correlated with the perceived impact of Confucianism negatively (r = ..15, p < .05), but with the perceived impact of American culture positively (r = .27, p < .001). Also, depressive symptoms were associated

with parenting desire negatively (r = -.13, p < .05). In the analyses presented below, age and depressive symptoms were controlled in the regression analyses for parenting desire and the perceived impact of culture.

Parenting aspirations as a function of sexual identity

As expected, participants' parenting desire and intention differed as a function of their sexual identity (see Table 4). Heterosexual participants indicated stronger parenting desire and intention than did their sexual minority peers, F(1, 263) = 8.863, p < .01, and F(1, 263) = 12.322, p < .001, respectively. Consistent with earlier findings, participants' parenting desire and intention also differed as a function of gender, F(1, 263) = 8.563, p < .01, and F(1, 263) = 6.68, p < .05, respectively. Men had higher scores on parenting desire and parenting intention than did women Also, participants who were married or involved in a romantic relationship were more likely to report desires and intentions for parenthood, F(2, 262) = 4.417, p < .05, and F(2, 262) = 5.910, p < .05, respectively. On the other hand, participants' parenting desire and intention did not differ as a function of their status as an only child, program of study, family income (monthly), place of birth, or religion. Gender and relationship status were thus included as control variables in the following regression analyses.

Parenting aspirations and perceived impact of cultures

We found that parenting desire was predicted by relationship status, gender, perceived impact of Confucianism, and perceived impact of American culture (see Table 5). Men and those who were married or in a long-term relationship were more likely than women or single people to desire future parenthood. Those who acknowledged greater perceived impact of Confucianism also reported greater parenting desire. For perceived impact of American culture, in contrast, those who acknowledged greater impact reported less parenting desire. The interaction between sexual identity and the perceived impact of Buddhism also predicted parenting desire (see Figure 1). For heterosexual men, perceived influence of Buddhism was associated with greater interest in parenthood; for gay and bisexual men, however, perceived influence of Buddhism was associated with less interest in parenthood.

Parenting intentions were also associated with gender, relationship status, and perceived impact of Confucianism (see Table 6). As the results had shown for desire, men and those who were married or involved in relationships, and who were more influenced by Confucianism were more likely than women or those who acknowledged less influence of Confucianism to intend to have children. As for there had been for desires, there was an interaction between sexual identity and the perceived impact of Buddhism. Taken together, gay and bisexual men who were strongly influenced by Buddhism were less likely to intend parenthood, but the intentions of heterosexual men were not affected. These results are presented in Figure 2.

Discussion

The current study investigated the association between perceived impact of Chinese cultural ideas and parenting aspirations among heterosexual and sexual minority Chinese international students. Results indicated first that, like their American counterparts, heterosexual Chinese international students were more likely than their sexual minority peers to aspire to parenthood. Moreover, perceived impact of Confucianism predicted Chinese students' parenting desires and intentions. Their perceived impact of American culture also predicted their parenting desire. Moreover, the interaction of Chinese students' sexual identity and perceived impact of Buddhism predicted their parenting desire and intention. For participants who self-identified as non-heterosexual, the higher the perceived impact of Buddhism, the lower their parenting desire and parenting intention. While for those self-identified as heterosexual, higher perceived impact of Buddhism associated with stronger parenting desire and parenting intention.

In line with the literature, Confucianism was apparently an important cultural influence on how Chinese international students envision family formation (Engebretsen, 2009; Hu et al., 2013; Quach et al., 2013; Steward et al., 2013; Wang, 2015). This was true not only for heterosexual but also for sexual minority Chinese students. Regardless of their sexual identities, students influenced by Confucian ideas about filial piety were likely to express aspirations for parenthood, and in this way to express their intention to continue family bloodlines.

In contrast to the role of Confucian ideas in students' thinking, our findings showed that acceptance of American cultural notions was associated with a lesser role of parenthood in the thinking of Chinese international students. Regardless of their sexual identities, students who acknowledged being strongly influenced by American ideas were less likely than others to aspire to parenthood. Given the markedly individualistic tendencies of American cultural traditions (Triandis, 2018), these students were perhaps drawn to focus on individual success in careers rather than on family formation (Zhang et al., 2019).

Our findings with regard to Buddhism were dependent upon students' sexual identities. For heterosexual students, the influence of Buddhism was associated with greater desire and intention to have children. For sexual minority students, however, the influence of Buddhism was fewer aspirations for parenthood. The general view that Buddhism is relatively tolerant towards homosexuality (Cheng, 2018) but anti-natalistic in general (Coates, 2014; Skirbekk et al., 2015) cannot explain these results. An alternative explanation is that within Chinese Buddhism, reconciliation of Confucian beliefs that emphasize responsibility to continue the family bloodline and Buddhist beliefs that value low ties to the secular family has been developed since Buddhism was imported from India to China over centuries (Hinsch, 2002). Hence, for heterosexual youth, Buddhism in the Chinese context seemed encouraging their childbearing, as it has much merged with Confucianism in valuing continuing family bloodline. However, the association between the impact of Buddhism and aspirations toward parenthood was negative among sexual minority Chinese youth, the mechanism of which is unclear.

Daoism, the other important component of Chinese culture, were not associated with parenting aspirations among Chinese international students. This seems likely to stem from the fact that few of the participants identified with the Daoist religion, or felt influenced by it. In addition, family formation is not a focal point for Daoism in China (Kirkland, 2008; Low, 2012).

As expected, gender was associated with both the desire and the intention to have children, and this was true for all students, regardless of sexual identities. Chinese young men were more likely than Chinese young women to aspire future parenthood, regardless of their sexual identities. It might be explained by the Chinese culture emphasis on the responsibility of the male but not the female offspring to carry on the family bloodline (Tang, 1995).

We found that students who were married or who were involved in a romantic relationship were also more likely than others to desire and intend to have children. This result might be interpreted as reflecting the idea that couples could manage the burdens of parenthood more easily than could those without partners. Since sexual minority Chinese students were less likely than their heterosexual peers to be married or engaged in a romantic relationship, this finding may also partially explain differences in parenting aspirations as a function of sexual identities.

This study had a number of strengths that should be noted. First, the study of Chinese international students allowed us to examine the impact of two different cultures on young adults' views of their own futures. Another strength was that students from many parts of China, who were living and studying in many different regions of the U.S., were included as participants, so that results cannot reflect unusual features of particular Chinese or American settings. Moreover, the study examined multiple strands of Chinese cultural traditions, and indeed found different results for each one. Overall, this study has offered a rarely seen view of how students' perceptions of cultural traditions in two places are associated with their hopes for the future.

The study also had some limitations, and these should also be acknowledged. First, the current study assessed participants' sexual identities through self-report on only a single item.

Future research may want to include various assessments of sexual attractions, behaviors, and identities (Garnets, 2002). Second, this study employed a convenience sampling procedure, which means that the sample may not be representative of the Chinese international students studying in the United States. Further, findings of the current study may not be able to generalize to other Chinese populations living in China or other countries and regions. Moreover, the study involved a cross-sectional design, so no causal interpretations of the results can be offered here.

In conclusion, our study has both replicated and extended findings from earlier research about the role of sexual orientation in aspirations for parenthood. Like earlier researchers, we found that sexual minority individuals were less likely than heterosexual participants to aspire to parenthood. Adding to this the impact of Chinese and American cultural ideas, we found that Chinese international students who were influenced by Confucian ideas were more likely to hope for parenthood while those who were influenced by American ideas were less likely to do so; and these results were independent of sexual identities. The perceived impact of Buddhism was, however, associated with parenting aspirations in different ways as a function of sexual identity. The higher impact of Buddhism perceived by heterosexual students, the stronger the parenting aspirations. In contrast, the higher impact of Buddhism perceived by sexual minority students, the lower the parenting aspirations. This study contributes to greater understanding of parenthood issues among youth of diverse sexual identities living across cultural settings in the larger context of globalization.

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Table 1

Loadings of Items of the Perceived Impact of Chinese Culture scale

		Four-facto	or solution		Three-factor solution			
	1	2	3	4	1	2	3	
1. Overall, I am familiar with Confucianism.	-0.037	0.723	0.316	0.338	0.951	0.114	0.129	
2. Overall, Confucianism values are important to me.	0.089	0.668	0.178	0.097	0.574	0.076	0.209	
3. Some values of Confucianism have a POSITIVE influence on me.	0.303	0.835	0.077	0.103	0.617	0.308	0.154	
4. Some values of Confucianism have a NEGATIVE influence on me.	0.389	0.383	0.072	0.140	0.351	0.339	0.159	
1. Overall, I am familiar with Buddhism.	0.142	0.288	0.27	0.858	0.519	0.548	0.194	
2. Overall, Buddhism values are important to me.	0.446	0.144	0.137	0.590	0.215	0.636	0.297	
3. Some values of Buddhism have a POSITIVE influence on me.	0.678	0.19	0.065	0.583	0.191	0.959	0.208	
4. Some values of Buddhism have a NEGATIVE influence on me.	0.529	0.099	0.131	0.165	0.083	0.380	0.315	
1. Overall, I am familiar with Daoism.	0.139	0.293	0.838	0.294	0.487	0.154	0.679	
2. Overall, Daoism values are important to me.	0.412	0.191	0.688	0.088	0.248	0.179	0.826	
3. Some values of Daoism have a POSITIVE influence on me.	0.616	0.184	0.596	0.151	0.222	0.421	0.717	
4. Some values of Daoism have a NEGATIVE influence on me.	0.659	0.076	0.255	0.065	0.046	0.385	0.491	
Variance explained by each factor	18.436%	17.712%	15.430%	14.383%	20.396%	19.816%	18.958%	

Note. The sample of 272 participants that included the seven non-cisgender participants was used for preliminary factor analyses.

Table 2

	Heterosexual ($n = 210$)	Sexual Minority ($n = 55$)	ANOVA or x^2 test	
Mean Age (in years)	23.09 (3.37)	22.84 (3.51)	F(1, 263) = .234	
Years of Study in the U.S.	2.98 (2.22)	3.34 (2.63)	F(2,252) = 1.011	
Sex Assigned at Birth				
Male	58 (27.62%)	16 (29.09%)	$x^{2}(1) = .047$	
Female	152 (72.38%)	39 (70.91%)		
Gender Identity				
Male	58 (27.62%)	16 (29.09%)	$x^{2}(1) = .047$	
Female	152 (72.38%)	39 (70.91%)		
Only Child	169 (80.86%)	45 (83.33%)	$x^{2}(1) = .173$	
Degree of Study				
Bachelor	89 (43.00%)	26 (47.27%)	$x^{2}(2) = 1.136$	
Master	56 (27.05%)	11 (20.00%)		
Doctoral/Postdoc	62 (29.95%)	18 (32.73%)		
Family Income (Monthly)				
Less than 20,000 CNY	62 (36.47%)	21 (51.22%)	$x^{2}(2) = 8.747*$	
More than 20,000 and less than 200,000 CNY	101 (59.41%)	15 (36.59%)		
More than 200,000 CNY	7 (4.12%)	5 (12.20%)		
Level of Place Grew Up				
Municipality/Special District	68 (32.85%)	21 (38.89%)	$x^{2}(3) = 2.357$	
Prefecture-level City/Autonomous Prefecture/League	98 (47.34%)	21 (38.89%)		
County/County-level City	28 (13.53%)	10 (18.52%)		
Township/Village	13 (6.28%)	2 (3.70%)		
Religion				

46 (23.23%)

Agnostic

Demographics of the heterosexua	and sexual minority Chinese international st	udents (n = 265)

 $x^{2}(4) = 6.156$

21 (39.62%)

76 (38.38%)	18 (33.96%)	
9 (4.55%)	2 (3.77%)	
12 (6 060/)	2(2.770/)	
12 (0.0076)	2 (3.7770)	
55 (27.78%)	10 (18.87%)	
110 (52.38%)	32 (58.18%)	$x^{2}(2) = 53.41***$
1 (0.48%)	13 (23.64%)	
99 (47.14%)	10 (18.18%)	
	9 (4.55%) 12 (6.06%) 55 (27.78%) 110 (52.38%) 1 (0.48%)	9 (4.55%) 2 (3.77%) 12 (6.06%) 2 (3.77%) 55 (27.78%) 10 (18.87%) 110 (52.38%) 32 (58.18%) 1 (0.48%) 13 (23.64%)

Note. Standard deviations or percentages are given in parentheses. ANOVA means analysis of variance. 1 USD ≈ 7 CNY. The data regarding religion presented in the table is only considering participants who identified with only one religion or irreligion category. The data regarding relationship status is only considering participants identified with only one romantic relationship or marital status. Missing cases are not counted for each variable. * means p < 0.05, *** means p < 0.001.

Table 3

	M (SD)	1	2	3	4	5	6	7	8	9
1. Parenting Desire	4.65 (1.95)	1.00								
2. Parenting Intention	4.58 (1.98)	0.90***	1.00							
3. Perceived Impact of Confucianism	16.26 (5.05)	0.20**	0.19**	1.00						
4. Perceived Impact of Buddhism	15.44 (5.10)	0.10	0.10	0.53***	1.00					
5. Perceived Impact of Daoism	14.18 (5.16)	0.07	0.08	0.53***	0.63***	1.00				
6. Perceived Impact of American Culture	18.16 (3.85)	-0.09	-0.08	0.22***	0.25***	0.19**	1.00			
7. Age	23.03 (3.39)	0.16**	0.08	0.26***	0.09	0.08	0.07	1.00		
8. Years of Study in the U.S.	3.05 (2.31)	0.000	-0.003	-0.15*	0.10	-0.04	0.27***	0.19**	1.00	
9. Depressive symptoms	21.09 (5.45)	-0.13*	-0.12	0.01	0.11	0.02	0.08	0.02	0.06	1.00

Correlations between parenting desire and intention, perceived impact of Confucianism, Buddhism, and Daoism, perceived impact of American culture, age, years studied in U.S., and depressive symptoms (n = 265)

Note. * means p < 0.05, ** means p < 0.01, *** means p < 0.001.

Table 4

	Parenting Desire			Parenting Intention			
	M(SD)	ANOVA	Post Hoc	M(SD)	ANOVA	Post Hoc	
Sexual Identity							
Heterosexual	4.83 (1.85)	<i>F</i> (1, 263) = 8.863**		4.80 (1.90)	F (1, 263) = 12.322***		
Sexual Minority	3.96 (2.15)			3.76 (2.08)			
Gender							
Male	5.20 (1.73)	F (1, 263) = 8.563**		5.08 (1.82)	F (1, 263) = 6.68*		
Female	4.43 (1.99)			4.39 (2.01)			
Only Child							
Yes	4.68 (1.90)	F (1, 261) = .239		4.64 (1.93)	F(1, 261) = .780		
No	4.53 (2.19)			4.37 (2.20)			
Degree of Study							
Bachelor	4.49 (1.89)	F (2, 259) = .821		4.60 (1.85)	F(2, 259) = .090		
Master	4.62 (1.98)			4.48 (2.09)			
Doctoral/Postdoc	4.85 (1.99)			4.59 (2.09)			
Family Income (Monthly)							
Less than 20,000 CNY	4.65 (2.03)	F (2, 208) = .495		4.38 (2.12)	F (2, 208) = .582		
More than 20,000 and less than 200,000 CNY	4.60 (1.99)			4.64 (2.00)			
More than 200,000 CNY	3.92 (2.15)			4.17 (2.33)			
Level of Place Grew Up							
Municipality/Special District	4.67 (1.83)	F (3, 257) = .650		4.68 (1.81)	F (3, 257) = .726		

ANOVA and Post Hoc analyses of parenting desire and intention as a function of sexual identity and demographic variables (n = 265)

Prefecture-level City/Autonomous Prefecture/League	4.65 (1.97)			4.58 (2.03)		
County/County-level City	4.76 (2.03)			4.58 (2.15)		
Township/Village	4.47 (2.36)			4.47 (2.26)		
Religion						
Agnostic	4.19 (1.84)	F (4, 246) = 1.639		4.12 (1.83)	F (4, 246) = 1.368	
Atheist	4.80 (2.00)			4.67 (1.99)		
Buddhist	4.55 (2.38)			4.73 (2.49)		
Catholic/Christian Orthodox/Protestant	4.93 (2.30)			4.79 (2.36)		
Other/Not sure	4.97 (1.68)			4.86 (1.89)		
Relationship Status						
Single	4.33 (1.97)	F (2, 262) = 4.417*	Single < In Romantic	4.20 (2.01)	F (2, 262) = 5.910*	Single < In Romantic
In Romantic Relationship or married with Same-Sex Partner	5.21 (2.01)		Relationship or married with Same-Sex	4.71 (2.30)		Relationship or married with
In Romantic Relationship			Partner			Same-Sex
or married with	5.00 (1.84)			5.05 (1.81)		Partner
Opposite-Sex Partner						

Note. Standard deviations are presented in parentheses. ANOVA means analysis of variance. Tukey HSD post hoc analysis was conducted when the F value was significant for variables that have more than two levels. For religion, only those participants who identified with only one religion, irreligion, "other", or "not sure" category were considered. For relationship status, it was regrouped as single, relationship with same-sex or other-gender partner, relationship with opposite-sex partner. * means p < 0.05, ** means p < 0.01, *** means p < 0.001.

Table 5

Predictor	В	SE	β	t	р	Total R^2	Adjusted R ²	ΔR^2	ΔF	df
Constant	4.589	0.608		7.551	0.000	0.163	0.143	0.019	5.898	(1, 258)
Relationship Status 1 (Dummy)	-0.691	0.223	-0.177	-3.093	0.002					
Gender (Dummy)	0.624	0.25	0.144	2.498	0.013					
Sexual Identity (Dummy)	1.173	0.83	0.245	1.413	0.159					
Perceived Impact of Confucianism	0.095	0.023	0.246	4.142	0.000					
Perceived Impact of American Culture	-0.063	0.03	-0.124	-2.095	0.037					
Sexual Identity * Perceived Impact of Buddhism	-0.122	0.05	-0.421	-2.428	0.016					

Regression of parenting desire on the perceived impact of Chinese and American culture with moderation by sexual identity (n = 265)

Note. For Relationship Status 1 (Dummy), 1 = single, 0 = in relationship with same-sex, other-gender, or opposite-sex partners. For Gender (Dummy), 1 = Male/Man, 0 = Female/Woman. For Sexual Identity (Dummy), 0 = heterosexual, 1 = lesbian/gay/bisexual/pansexual. Stepwise method was used, and only the final model was presented. Stepwise method was used, and only the final model was presented.

Table 6

Predictor	В	SE	β	t	р	Total R^2	Adjusted R ²	ΔR^2	$\varDelta F$	df
Constant	4.644	0.618		7.515	0.000	0.165	0.145	0.015	4.572	(1, 258)
Relationship Status 1 (Dummy)	-0.799	0.227	-0.202	-3.518	0.001					
Gender (Dummy)	0.55	0.254	0.125	2.165	0.031					
Sexual Identity (Dummy)	0.808	0.844	0.166	0.957	0.339					
Perceived Impact of Confucianism	0.089	0.023	0.228	3.84	0.000					
Perceived Impact of American Culture	-0.058	0.03	-0.113	-1.918	0.056					
Sexual Identity * Perceived Impact of Buddhism	-0.109	0.051	-0.37	-2.138	0.033					

Regression of parenting intention on the perceived impact of Chinese and American culture with moderation by sexual identity (n = 265)

Note. For Relationship Status 1 (Dummy), 1 = single, 0 = in relationship with same-sex, other-gender, or opposite-sex partners. For Gender (Dummy), 1 = Male/Man, 0 = Female/Woman. For Sexual Identity (Dummy), 0 = heterosexual, 1 = lesbian/gay/bisexual/pansexual. Stepwise method was used, and only the final model was presented.



Figure 1. Parenting desire regressed on the perceived impact of Buddhism for heterosexual and sexual minority participants.



Figure 2. Parenting intention regressed on the perceived impact of Buddhism for heterosexual and sexual minority participants.