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Adolescents' and Young Adults' Perception of Homosexuality and Related Factors in Three Asian Cities

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Abstract

Purpose—Adolescents' and young adults' perception of homosexuality plays an important role in the marginalization and stigmatization of the homosexual, thereby influencing his or her health. This article aims to study that perception and to examine its predictors in three Asian cities that are culturally dominated by Confucianism.

Methods—From May 2006 to January 2007, a cross-sectional survey of 17,016 adolescents and young adults, aged 15–24 years old, in both urban and rural sites of three Asian cities (Hanoi in Vietnam, Shanghai in the mainland of China, and Taipei in Taiwan) was conducted through interview and computer-assisted self-interview for sensitive questions. Chi-square tests and multivariate logistic regression were performed to identify the predictors for their perception of homosexuality.

Results—The percentage of adolescents and young adults who hold a positive view of homosexuality (i.e., thought it was normal and/or acceptable) was low, especially in Hanoi and Shanghai; these figures increased from Hanoi to Shanghai to Taipei for both males and females. Overall, those factors significantly associated with adolescents' and young adults' perception of homosexuality included individuals' demographic characteristics (urban/rural, age, economic status, student status, and educational level), preferred origin of movies/videos, self-identified sexual orientation, sexual and reproductive health knowledge, family values, gender role values, and attitudes toward premarital sex.

Conclusions—In these three Asian cities composed of populations whose views are largely influenced by Confucianism, adolescents and young adults mainly hold a negative perception of homosexuality. The most common and important predictors for a respondent's perception of homosexuality were his or her knowledge of sexual and reproductive health and how traditional his/her values may be. Greater attention needs to be paid to the popularization of knowledge about sexual and reproductive health including homosexuality—and to efforts aimed at instilling more

liberal attitudes to improve adolescents' and young adults' perception of homosexuality. This could then reduce the marginalization and stigmatization of the homosexual, and thus improve his/her health.

Keywords

Adolescents and young adults; Homosexuality; Perception; Attitude; Asian city

Sexual orientation is generally defined by whether one is erotically attracted to males, females, or both [1]. The tenth revision of the International Statistical Classification of Diseases and Related Health Problems states “Sexual orientation alone is not to be regarded as a disorder” [2]. As a sexual orientation, homosexuality—thought of as “sexual desire or behavior directed toward a person or persons of one's own sex” [3]—has not been classified as mental illness by the American Psychiatric Association since 1973 [4,5], by the World Health Organization since 1993 [2], and by the Chinese Psychiatric Association since 2001 [6] and is now considered an alternative lifestyle.

Although with the normalization of homosexuality, people's positive perception of homosexuality has gradually increased, negative perceptions—for example, negative attitude, heterosexism, and homophobia—nevertheless widely abound. According to public opinion polls conducted from 1977 to 2004 in the United States [7], Americans' attitudes toward homosexuality (gay men and lesbians) have evolved. Public surveys on the causes of homosexuality, a critical component of people's overall perception of homosexuality, have shown the percentage of respondents who attributed same-sex attraction to biological causes has risen over time, but is still not the view of the majority. Results about attitudes toward the legalization of homosexual relations (1977–2002) indicate there had been little change over four decades. The World Values Survey and national statistics for 35 countries [8,9] also document that while positive attitudes toward homosexuality have increased from 1990 to 2002, an overall negative perception was still prevalent.

In contrast to Western countries, in East Asia extending from China across Korea and Japan and into Vietnam where Confucianism dominates the value system, people may hold a more negative view of homosexuality. Traditional family values and gender role values, important components of Confucianism, emphasize the continuity of the family lineage—regarded as the most significant duty of the family—and emphasize the cultural standards of femininity and masculinity, respectively. Thus, homosexuality may be seen to jeopardize human reproduction and the maintenance of the family line and to violate traditional standards of what men and women should be. Meanwhile, people's view of homosexuality may be largely influenced by their knowledge of sexual and reproductive health especially about sexual orientation and homosexuality, which can be learned from books, other people, Internet and movies/videos, etc. The less knowledge of homosexuality people have, the more negative view of homosexuality they hold.

As a result of these negative views from both the heterosexual and the homosexual communities, homosexuals are exposed to various forms of discrimination, prejudice, and physical and verbal abuse which have contributed to their marginalization and made them vulnerable to a variety of health problems. The homosexual might suffer a variety of

negative feelings and psychological problems such as loneliness, anxiety, and depression [10,11]. In coping with such negative feelings and the related emotional pain, the homosexual may use or abuse substances such as tobacco, alcohol, and drugs [12,13]. More seriously, the homosexual may suffer tendencies leaning to deliberate self-harm and suicide [14–16].

It is clear that homosexuals face considerable challenges from the heterosexual population as well as from themselves. Efforts to improve the perception of homosexuality require an understanding of the factors related to those perceptions. However, most studies on these issues have been conducted in Western populations [17,18], and adolescent's perceptions of homosexuality have seldom been established in non-Western societies that have been largely Confucian in orientation. The present study addresses this gap in the research literature by exploring adolescents' and young adults' perception of homosexuality and related factors in three Asian cities whose cultures are, at root, Confucian.

Methods

Sample and procedures

Data for this article come from a 2006 cross-sectional survey of 17,016 male and female, married and unmarried adolescents and young adults, aged 15–24 years, conducted in urban Hanoi, Shanghai, and Taipei and rural areas included in their large metropolitan districts by a team of researchers from the Johns Hopkins Bloomberg School of Public Health, the Population and Health Research Center in Taiwan's Bureau of Health Promotion, the Shanghai Institute for Planned Parenthood Research, and the Hanoi Institute for Gender and Women's Studies.

The sampling methodology has been described in detail in “Levels of Change in Adolescent Sexual Behavior in Three Asian Cities” [19]. Multistage sampling methods were used to ensure representativeness within each city. In Hanoi and Shanghai, both private residences and group living facilities were sampled. In Taipei, students were interviewed in school, with a small non-student subsample interviewed at their private residences and group living facilities. The survey was developed by the research team, translated, back-translated, and pilot tested in each site. Interviewers received extensive training. Most of the interview was conducted face-to-face, except that computer-assisted self-interview was used for sensitive questions. All aspects of this study received approval from the Committee on Human Research Office at the Johns Hopkins University as well as the collaborating local organizations.

Measures

Dependent variables—The dependent variables were based on a questionnaire item that sought each respondent's perception of homosexuality. The following question was asked: “What is your opinion regarding homosexuality?” and options were (1) Abnormal behavior and unacceptable, (2) Abnormal behavior but acceptable, (3) Normal behavior but unacceptable, (4) Normal behavior and acceptable, (5) Do not know.” Thus, the first dependent variable is “Whether the respondent thinks homosexuality is normal?” which is

coded as “1 = Homosexuality is normal (selecting 3 or 4) and 0 = Homosexuality is abnormal/Do not know (selecting 1, 2, or 5),” and the second dependent variable is “Can the respondent accept homosexuality?” which is coded as “1 = Homosexuality is acceptable (selecting 2 or 4) and 0 = Homosexuality is unacceptable/Do not know (selecting 1, 3, or 5).”

Control variables—Control variables, including site (Hanoi, Shanghai, Taipei) and gender (male, female), were used as stratifying factors in the analysis.

Independent variables

Demographic variables—Demographic variables consist of respondent's age (15–24 years), residence (urban, rural), education (high school or lower, college/vocational school (Hanoi), university or higher; based on students' current educational level and nonstudents' highest educational level), household economic status (low, middle, high; based on number of home appliances, then coded and grouped within each city by respective tertile), marital status (never married, ever married), and whether currently a student (student, nonstudent).

Preferred movies/videos—This independent variable was categorized into four groups—domestic (in China, it refers to the Mainland), other Asian countries and regions, Western countries, and no preference but depending on content—judged by the question “In general, where do most of the movies/videos that you like to watch come from?”.

Self-identified sexual orientation—The independent variable of sexual orientation, including heterosexual (100% or mostly attracted to people of the opposite sex) and nonheterosexual (homosexual or bisexual), was obtained by the question “Which of the following best describes your feelings when talking about attraction, not about actually having sex?”.

Sexual and reproductive health knowledge—There were 21 items related to sexual and reproductive health knowledge which were measured on 2-point ordinal scales—disagreement (0) and agreement (1): (a) “Even a very young girl can get pregnant if she has sexual intercourse after she has had her first period,” (b) “A girl can become pregnant even if she only has sex once,” (c) “A boy who has experienced a wet dream can make a girl pregnant,” (d) “A girl is most likely to get pregnant if her menstrual periods are regular in the middle of her menstrual cycle or about 14 days before menstruation,” (e)–(l) “Oral pills, Condoms, Intrauterine device, Injection, Implanon/Norplant, Emergency contraception, Creams/Suppository/Jelly, Medical sterilization are effective contraceptive methods,” (m) “Condoms can prevent STDs/AIDS,” (n) “Push out the air in the front tip bag and then put condom on penis,” (o) “Pull penis and condom out of vagina immediately after ejaculation,” (p) “Hold base of condom when withdrawing after ejaculation,” (q) “Emergency contraception must be taken within 3 days after intercourse,” (r) “Sexual intercourse can transmit HIV/AIDS,” (s) “Mother with HIV can transfer HIV to baby during delivery,” (t) “Even a single unprotected sexual intercourse may make people get HIV infected,” and (u) “A person infected with an untreated STD could become infertile.” The respondent's responses were then summed to form the index which had a maximum of 21. The higher the

score, the greater is the respondent's knowledge of sexual and reproductive health. Considering the differences across sites, the sexual and reproductive health knowledge was grouped into three categories based on their respective tertiles across sites when used for comparisons.

Family values and gender role values—There were 11 and 10 items, respectively, aimed at measuring a respondents' family values and gender role values which were scored on 3-point ordinal scales from disagreement (0), no opinion (1), to agreement (2) (Table 1). The scores were summed up respectively by group. The higher the score, the more traditional the respondent's respective family values and gender role values. Family values and gender role values were then grouped into three categories based on their respective tertiles across sites.

Sexual attitudes to premarital sex—A Guttman scale modified by Reiss' Premarital Sexual Permissiveness (PSP) Scale [20] was used to measure attitudes toward females' premarital sexual behavior. The scale, which was composed of nine items, measures the perceived acceptance of intimate behaviors (kissing, fondling, or coitus) under different conditions (with casual acquaintance, with boy/girlfriend, or with fiancé). Similar to Reiss' PSP Scale, these items were ranked and scored based on the percent of respondents who find the behavior "acceptable" by site, and items with similar percentages were merged into one group. Then, a PSP score of 0–7 was assigned: 0-disagree with all; 1-agree with kissing with boyfriend/fiancé or fondling with fiancé; 2-agree with fondling with boyfriend; 3-agree with coitus with fiancé; 4-agree with coitus with boyfriend; 5-agree with kissing with casual acquaintance; 6-agree with fondling with casual acquaintance; 7-agree with coitus with casual acquaintance. The higher the score assigned, the more permissive the respondent. The sexual attitudes toward male's premarital sex and those toward female's were then grouped into three categories based on their respective tertiles across sites.

Statistical analysis

Before analysis, the sample was weighted according to the probability of each respondent being selected from his/her sample site (all n's reported are weighted). Considering the three Asian cities with Confucian-based cultures differ in economic development and modernization and have been open to outside influences socially, culturally, and economically for different periods and in different ways. By contrast, males and females are different in physiological and psychological characteristics, social roles and status, and these are, in turn, affected by the political and economic contexts of their nations. All analyses were gender stratified and performed separately for the three sites.

First, descriptive statistics were used to analyze the respondents' characteristics including demographic characteristics, perception of homosexuality and other related variables. Then, the Pearson's chi-square test and, for small cell counts, Fisher's exact test statistics were calculated to detect the differences in perception of homosexuality across related variables. Finally, multivariate logistic regression analysis was performed to ascertain the predictors for perception of homosexuality. Statistical analysis was conducted with Statistical Package

for Social Sciences software version 16.0. Statistical significance was judged by a p value of .05 or less.

Results

Demographic characteristics of respondents

The proportion of respondents in each city was about equally distributed by gender and age-group. In each city, over 70% of the respondents lived in urban areas; the overwhelming majority (>95%) were never married, and most were students (Table 2).

Self-identified sexual orientation and ever same gender sexual contact

The percentage of respondents who self-identified as nonheterosexual (bisexual and homosexual) for males and females were respectively 2.1% and 6.7% in Hanoi, 7.5% and 9.7% in Taipei, and 9.6% and 11.1% in Shanghai. The percentage of respondents reporting ever same gender sexual contact were 1.0% and .5 in Hanoi, 2.1% and 2.6% in Taipei, and 13.1% and 8.1% in Shanghai for males and females, respectively. Among respondents who self-identified as nonheterosexual, 1.6% of females and none of the males in Hanoi, 20.9% of males and 18.0% of females in Taipei, and 13.7% of males and 7.3% of females in Shanghai reported having ever had same gender sexual contact. It should be noted that the percentages were higher than those of their heterosexual counterparts in the three cities, with the exception of females in Shanghai and males in Hanoi.

Respondents' perception of homosexuality

The percentages of respondents who thought of homosexuality as normal were very low among both males and females. These figures increased from Hanoi (13.5%, 15.0%) to Shanghai (19.5%, 28.1%) to Taipei (33.8%, 58.6%), and the percentages of males were lower than those of females, especially in Taipei. Similarly, the percentages of respondents who thought homosexuality was acceptable, although greater than the percentage who thought it was normal, were not high, particularly in Hanoi and Shanghai: these figures increased from Hanoi (32.9%, 32.1%) to Shanghai (30.2%, 42.2%) to Taipei (55.8%, 77.4%). It should be noted that the percentages of males who found it acceptable were lower than those of females, except for Hanoi.

Bivariate analyses of perception of homosexuality and variables thought to be related were performed using chi-square tests. Tables 3 and 4 present these results. They show that generally a higher proportion of respondents who live in an urban setting, come from higher economic status, are students, have a higher educational level, prefer Western movies/videos, have more sexual and reproductive health knowledge, have more open attitudes regarding family values, gender roles and premarital sex, and who report ever having had same gender sexual contact were more likely to think of homosexuality as normal and/or acceptable. Additionally, compared with their heterosexual counterparts, more of those respondents who self-identified as nonheterosexual thought of homosexuality as normal (females in Shanghai being an exception); however, they were not significantly more likely to find it "acceptable."

Factors associated with adolescents' and young adults' perception of homosexuality

Multivariate logistic regression results reveal that no factor is significantly related to the perception of homosexuality as normal or acceptable across every gender and city stratification; however, several are significantly associated across many of the stratified groups (Table 5). Considering the very small proportion of married respondents in the sample, marital status was not included in the regression analyses. Urban residents hold significantly more positive attitudes toward homosexuality than their rural counterparts for males and females in Shanghai (normal and acceptable), females in Taipei (normal), males and females in Hanoi (acceptable). Controlling for other factors, age was found to be negatively associated with the perception of homosexuality as normal only in Taipei, with no significant effect elsewhere. Higher economic status was significantly associated with perceived acceptance of homosexuality for respondents in Hanoi, females in Shanghai, and males in Taipei. Only females in Hanoi with higher economic status were more likely to consider homosexuality as normal. Only female students in Shanghai, as opposed to nonstudents, were significantly likely to see homosexuality as normal and/or acceptable. A higher education level was associated with a perception of homosexuality as normal by females with a college level of education in Shanghai and Taipei and university level in Taipei, and perceived as acceptable to university level Hanoi males and females and Shanghai females.

As shown in Table 5, males and females in Shanghai preferring Western movies/videos (reference category is movies from own country) were more likely to express a positive perception of homosexuality, and males in Hanoi preferring Western movies/ videos were more likely to think of homosexuality as acceptable. In addition, males and females in Shanghai and Hanoi and females in Taipei who had no preference with regard to the origin of movies/videos, but based their opinions on the content of the movies/videos, were more likely to have a positive perception of homosexuality. Males who self identify as nonheterosexual in all three cities tended to have a positive perception of homosexuality, whereas only females from Taipei who so identify felt the same way compared with heterosexuals.

Greater knowledge about sexual and reproductive health is significantly associated with a perception of homosexuality as normal in Shanghai and Taipei (males and females), but associated with the perception of it as abnormal among Hanoi males. It is associated with a perception of acceptable among males and females in Hanoi, males in Shanghai, and females in Taipei. Traditional family values are associated with a perception that homosexuality is unacceptable; though only among Hanoi females, family values are significantly related to the perception it is abnormal. Traditional gender roles are associated with a negative view of homosexuality (both as abnormal and unacceptable) in nearly every gender and city stratification. A liberal attitude toward female premarital sex was also associated with a positive attitude toward homosexuality among Hanoi males, both genders in Shanghai, and considered normal for males in Taipei. Attitude toward male premarital sex was not strongly related to perception of homosexuality.

Discussion

Most of research examining how homosexuality is perceived has been conducted in Western societies, and few studies have specifically targeted adolescents and young adults in Asian societies. This study explores adolescents' and young adults' views of and attitudes toward homosexuality and the factors which shape these in three Asian cities dominated by Confucian values.

Adolescents' and young adults' perception of homosexuality has been reported to be associated with demographic characteristics [18,21–23]. Results of the present study are consistent with findings in the literature: adolescents and young adults of higher economic status and educational level, whether they are students or not, and/or if from an urban area, are likely to have a more positive perception of homosexuality. Adolescents and young adults with one or more of these background characteristics may have greater exposure to various and different social norms and values, particularly those regarding sexual orientation [24], and may be more likely to come into contact with people having a variety of lifestyles and ideas from a world beyond theirs [25]. Studies have demonstrated that having friends or relatives with a homosexual orientation or having prior contact with homosexual people is positively related to positive attitudes toward homosexuality [26,27]. When it comes to the relationship between age and adolescents' and young adults' perception of homosexuality, the existing studies present conflicting results. Some studies [18,28] show that as adolescents' age, they tend to hold a more negative perception of homosexuality, whereas other studies [29] suggest that age is positively correlated with an individual's view of homosexuality. Still other studies [30] find that there are no age-related differences in perception of homosexuality. One possible explanation for these diverse results is that these studies examine different dimensions of views of homosexuality among adolescents and young adults employing a variety of measures [28]. The findings in this study are also mixed, with only adolescents and young adults in Taipei having a significantly more negative perception of homosexuality with age when controlling for other variables thought to be related to those perceptions.

The findings in this study show that a stated preference for Western movies/videos is positively correlated with a positive perception of homosexuality. In general, Western movies/videos are more complex both in form and content regarding sexuality, including homosexuality. As Schiappa [31] has noted, increased media viewing is correlated with a more favorable perception of homosexuality, and this relationship is most pronounced for those with the least amount of social contact with lesbians and gay men. Media may be able to influence the beliefs of adolescents and young adults, particularly, for those who have little direct social contact. Newman [32] also underscores that media experiences may increase acceptance of sexual minorities.

Consistent with previous research [30,33], our results demonstrate that adolescents and young adults who self-identified in the survey as nonheterosexual, when compared with their heterosexual counterparts, are more likely to express a positive perception of homosexuality, notwithstanding that the percentage of nonheterosexuals was so low that it alone explained little variance in how positively or negatively homosexuality is perceived.

Nonheterosexuals are clearly in the minority and may face negative attitudes and even persecution resulting in negative self-image and other negative outcomes unless these issues are addressed. Additionally, this study found that increased sexual and reproductive health knowledge tends to be predictive of more positive views of homosexuality. Adolescents and young adults who have greater sexual and reproductive health knowledge may be better informed and be aware that homosexual orientation is not a disorder but is as normal as heterosexuality and is biologically based, inborn, and established early in life. Various research studies [34,35] have found that acceptance of a biological basis to homosexuality was related to respondents' positive attitudes toward homosexuality.

Researchers [18,36,37] have also consistently found that the more traditional and conservative an individual adolescent's or youth's beliefs, the more negative a perception of homosexuality he or she has. The results of the present study show that adolescents and young adults who scored as more traditional on family values, gender role values, and/or attitude to premarital sex tend toward a more negative perception of homosexuality. Confucian tenets characterize an individual's way of viewing the world—including homosexuality. Family values, gender role values, and premarital sexual attitudes are elements of traditional Confucian values. Therefore, an individual's values and attitudes about family, gender role, and premarital sex directly reflect how liberal one's beliefs are. Individuals who hold more traditional Confucian values would be likely to have a more negative perception of homosexuality because they see homosexuality as threatening the traditional values they hold dear, and consider that homosexuals violate the established ideals of what men and women should be (cultural standards of femininity and masculinity) as well as traditional role relationships, that is, homosexuals are perceived as being gender inconsistent and violating social norms [38–40]. As important, homosexuality threatens the principle of human reproduction: Confucianism emphasizes that people should procreate to carry on their family bloodline.

In summary, the predictors of adolescents' and young adults' perception of homosexuality varied between males and females and between the three cities in this study. This variation may be attributed to the differences between genders as well as to the different rates of modernization and economic growth to which the three cities have been exposed. By contrast, males and females are different in physiological and psychological characteristics, social roles and status, and these are, in turn, affected by the political and economic contexts of their nations. By contrast, as has already been discussed, Hanoi (Vietnam), Shanghai (the Chinese mainland), and Taipei (Taiwan) are three Asian cities with Confucian-based cultures, which differ in economic development and modernization and have been open to outside influences socially, culturally, and economically for different periods and in different ways. As one of the most developed regions in Asia, Taiwan seems to parallel many developed countries in several social aspects. The Chinese mainland, where increasingly open policies have been adopted since the late 1970s, has experienced considerable change in economy and globalization of social culture. Vietnam has experienced considerable social change owing to economic reform since 1986.

The current study has several strengths. This was a multi-center project using multistage sampling to ensure that the subjects were representative. Sensitive questions obtained by

computer-assisted self-interview enhanced the confidentiality and reliability of data. However, some potential limitations of this study should be considered. First, we cannot determine the causal relationships, as this was a cross-sectional study. Second, owing to the self-report interview format, both underreporting and overreporting bias may exist. Third, no distinction was made between attitudes toward gay men and lesbians. As has been documented in other research [27], attitudes toward gay men are very different from those toward lesbians. Finally, this study did not fully investigate adolescents' and young adults' prior homosexual contact which might be likewise no less important. Given the aforementioned limitations, further studies are needed to examine the far more comprehensive predictors of adolescents' and young adults' perception of homosexuality using a more persuasive design, such as a cohort study or an intervention study.

In conclusion, given that in these three Asian cities with Confucian cultures, sexual and reproductive health knowledge, and gender role values are consistent predictors of adolescents' and young adults' perception of homosexuality, an improvement in the perception of homosexuality to change the marginalization and vulnerability of the homosexual requires that greater attention be paid to the popularization of knowledge about sexual and reproductive health including homosexuality and to effecting a more liberal attitude.

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Table 1

Score sheet for attitudes to family and gender role values

Statement	Point		
	Disagree	No opinion	Agree
Family values			
One's family must be the main source of trust and dependence	0	1	2
One need not conform to one's family's or society's expectations	2	1	0
One's achievements should be viewed as family's achievements	0	1	2
The worst thing one can do is to bring disgrace to one's family reputation	0	1	2
Occupational failure does not bring shame to the family	2	1	0
Regardless of what faults one's parents may have, one must always respect them	0	1	2
I had a lot of respect for my parents' ideals and opinions when I was growing up	0	1	2
Even if one disagrees with one's parents, one must always do what they suggest	0	1	2
When choosing husband/wife, who do you think should make decision? (code is disagree if decision was made independently by the couple themselves, else agree.)	1		0
It is important to you that your parents are proud of you	0	1	2
Children needn't care for parents when they are unable to care for themselves	2	1	0
Gender role values			
Woman should follow her husband no matter what his lot	0	1	2
It is acceptable for a husband to beat his wife in some situations	0	1	2
A woman should not be the first to show a man she likes him	0	1	2
A household should be headed by a man	0	1	2
Children suffer when mothers work away from home	0	1	2
In general, boys should get more schooling than girls	0	1	2
When jobs are scarce, men should have more right to a job than women	0	1	2
Women should have the same opportunities as men to leadership positions	2	1	0
Husbands should share childcare and housework responsibilities equally with their wives	2	1	0
Women should tell their partners what they like or do not like to do during sex	2	1	0

Table 2

Demographics of adolescents and young adults (%) across the three sites

Characteristics (weighted n's)	Hanoi (n = 6,363)	Shanghai (n = 6,299)	Taipei (n = 4,913)
Gender			
Male	51.6	49.3	51.0
Female	48.4	50.7	49.0
Age (years)			
15–17	23.0	30.7	27.2
18–20	35.0	35.8	32.8
21–24	42.0	33.4	40.0
Residence			
Urban	71.5	71.4	87.6
Rural	28.5	28.6	12.4
Education			
Senior high school or lower	50.9	59.9	47.7
College	24.0	17.3	5.1
University or higher	25.1	22.8	47.1
Student or not			
Yes	64.4	64.5	81.9
No	35.6	35.5	18.1
Marital status			
Never married	96.7	95.9	98.7
Ever married	3.3	4.1	1.3
Economic status			
Below average	31.5	17.0	22.4
Average	40.5	43.3	38.1
Above average	28.0	39.7	39.5

Table 3

Percent of respondents thinking of homosexuality as normal for males and females (%)

Variable (weighted n's)	Hanoi		Shanghai		Taipei	
	Male (n = 3,285)	Female (n = 3,078)	Male (n = 3,103)	Female (n = 3,196)	Male (n = 2,507)	Female (n = 2,406)
Residence		*	***	***	***	***
Urban	14.4	15.9	22.1	32.9	35.2	60.8
Rural	12.3	12.9	13.3	16.0	24.6	41.3
Age (years)			***	**		
15-17	12.0	13.3	14.7	24.0	34.0	59.5
18-20	14.2	15.4	20.8	31.5	36.0	60.5
21-24	13.8	15.7	22.6	28.3	31.9	56.4
Economic status		**	***	***		
Low	12.5	12.2	15.4	23.5	34.7	56.3
Middle	15.2	15.1	16.9	22.6	33.4	57.3
High	12.4	18.7	24.3	36.0	33.7	61.4
Student or not			*	***	***	***
Yes	13.5	15.3	20.9	31.9	36.4	61.0
No	13.6	14.4	17.3	20.8	22.4	47.8
Education		*	***	***	***	***
High school or lower	12.7	13.2	15.4	21.8	30.7	52.5
College	14.8	16.4	21.3	33.1	23.4	54.6
University or higher	14.1	17.5	30.4	39.1	38.3	64.7
Preferred movies/videos	*		***	***	*	
Domestic	11.3	15.3	12.1	16.7	18.9	55.4
Other Asian countries	13.0	14.7	16.3	26.2	30.6	55.8
Western countries	13.3	18.3	31.4	40.6	35.3	60.6
No preference but depending on content	17.9	13.3	20.2	32.7	34.4	56.5
Orientation	*			*	***	***
100% or mostly heterosexual	13.7	15.6	19.3	28.7	32.5	57.4
Nonheterosexual	23.4	16.8	22.1	23.3	49.7	70.5
Sexual and reproductive health knowledge	*		***	***	***	***
Below average	14.7	15.4	15.9	19.9	29.4	56.2
Average	17.0	16.0	20.5	33.0	37.6	65.0
Above average	13.0	18.0	31.0	37.5	42.9	64.6
Attitudes to family values		***			***	**
Traditional	13.2	10.7	19.0	25.9	27.9	58.4
Moderate	13.0	15.0	18.7	30.0	34.2	55.2
Open	14.1	17.4	20.7	27.7	37.8	62.5

Variable (weighted n's)	Hanoi		Shanghai		Taipei	
	Male (n = 3,285)	Female (n = 3,078)	Male (n = 3,103)	Female (n = 3,196)	Male (n = 2,507)	Female (n = 2,406)
Attitudes to gender role values	**		***	***	***	***
Traditional	10.4	14.0	17.3	20.7	23.7	46.9
Moderate	15.7	14.1	17.4	23.0	39.8	54.7
Open	14.2	16.1	24.3	32.6	44.5	65.2
Sexual attitudes to premarital sex		*		***	*	
Traditional	13.0	13.3	12.9	21.7	31.5	57.2
Moderate	12.8	15.4	19.7	34.5	34.4	61.4
Open	16.1	19.2	28.7	37.2	38.1	63.9
Ever same gender sexual contact		*	**	*	***	***
Yes	12.5	33.3	24.5	33.8	74.5	81.0
No	13.5	14.9	18.8	27.6	32.9	58.0

Chi-square test was performed after being stratified by site and gender.

*
p .05

**
p .01

p .001.

Table 4

Percent of respondents thinking of homosexuality as acceptable for males and females (%)

Variable (weighted n's)	Hanoi		Shanghai		Taipei	
	Male (n = 3,285)	Female (n = 3,078)	Male (n = 3,103)	Female (n = 3,196)	Male (n = 2,507)	Female (n = 2,406)
Residence	***	***	***	***	***	*
Urban	37.3	36.4	32.8	46.8	57.8	78.1
Rural	20.9	22.0	23.7	30.4	43.4	71.7
Age (years)	***	***	**	**		
15-17	24.2	25.4	26.6	38.0	57.3	76.7
18-20	33.0	34.0	30.7	44.7	55.2	79.0
21-24	37.3	34.3	32.8	43.4	55.2	76.4
Economic status	***	***	***	***	***	
Low	27.1	26.6	23.7	30.8	49.4	74.9
Middle	30.2	29.3	28.9	37.4	55.2	77.0
High	41.9	43.9	34.4	52.2	59.9	79.2
Student or not		***	***	***	***	
Yes	33.5	35.0	32.9	46.7	59.0	77.9
No	32.0	26.7	25.5	33.5	41.6	74.8
Education	***	***	***	***	***	**
High school or lower	26.6	23.0	25.6	35.2	51.7	75.9
College	32.8	37.5	32.3	43.9	38.7	68.3
University or higher	45.8	45.3	42.1	57.5	61.9	79.8
Preferred movies/videos	***	***	***	***	**	
Domestic	25.0	28.2	20.8	25.5	32.4	69.6
Other Asian countries	27.5	27.7	26.1	39.3	56.6	73.8
Western countries	43.3	53.0	39.5	59.8	56.5	78.6
No preference, depends on content	47.2	41.0	37.4	49.8	56.6	78.4
Orientation				***		
100% or mostly heterosexual	34.4	33.8	30.4	43.5	55.4	77.0
Nonheterosexual	28.1	35.5	28.4	32.0	60.4	82.0
Sexual and reproductive health knowledge	***	***	***	***	**	**
Below average	26.7	26.3	25.6	36.5	57.5	77.8
Average	37.0	34.4	32.9	47.1	60.8	82.6
Above average	45.8	43.7	45.1	54.3	66.8	84.8
Attitudes to family values	***	***		*	***	**
Traditional	23.4	21.3	28.6	39.1	50.4	72.5
Moderate	30.3	29.6	29.5	44.9	53.5	76.3
Open	39.6	39.8	31.9	41.6	62.6	81.2

Variable (weighted n's)	Hanoi		Shanghai		Taipei	
	Male (n = 3,285)	Female (n = 3,078)	Male (n = 3,103)	Female (n = 3,196)	Male (n = 2,507)	Female (n = 2,406)
Attitudes to gender role values		***	***	***	***	***
Traditional	32.4	23.6	24.5	29.2	47.4	66.1
Moderate	33.4	29.1	29.2	39.3	60.6	77.4
Open	32.7	37.2	38.7	47.6	64.9	81.2
Sexual attitudes to premarital sex	***	***	***	***	**	***
Traditional	30.7	28.6	23.3	30.8	52.8	75.6
Moderate	29.0	30.6	29.9	54.0	62.2	80.2
Open	45.5	48.3	39.8	58.2	56.8	84.9
Ever same gender sexual contact			**	**	***	**
Yes	31.2	50.0	37.1	51.9	80.4	93.7
No	32.9	32.0	29.1	41.3	55.3	77.0

χ^2 test was performed after being stratified by site and gender.

* p .05

** p .01

*** p .001.

Table 5Multivariate logistic regression model predicting respondents' perception of homosexuality: β

	Hanoi		Shanghai		Taipei	
	Male (n = 3,285)	Female (n = 3,078)	Male (n = 3,103)	Female (n = 3,196)	Male (n = 2,507)	Female (n = 2,406)
Variable (normal/abnormal [ref]) (weighted n's)						
Residence (ref: rural)	.129	.055	.485 ***	.784 ***	.046	.392 *
Age	-.016	.004	.021	.022	-.064 *	-.122 ***
Economic status (ref: low)						
Middle	.196	.336 *	-.069	-.198	-.115	-.010
High	-.127	.526 **	.154	.097	-.201	.097
Whether or not a student (ref: nonstudent)	-.149	-.009	.249	.570 ***	.081	-.091
Education (ref: high school or lower)						
College	-.055	-.071	-.079	.274 *	.143	.687 ***
University or higher	.170	.137	.279	.251	.287	.794 ***
Preferred movies/videos (ref: domestic)						
Other Asian countries and regions	.068	-.114	.184	.344 *	-.111	.085
Western countries	.166	-.256	.745 ***	.521 **	.111	.086
No preference but depending on content	.532	-.633 *	.241	.457 *	.239	.077
Self-identified sexual orientation (ref: heterosexual)	.693 *	.295	.802 ***	.168	1.174 ***	.899 ***
Sexual and reproductive health knowledge	-.049 *	.028	.035 **	.054 ***	.047 **	.030 *
Attitudes to family values	.003	-.106 ***	-.025	-.033	-.029	-.009
Attitudes to gender role values	-.053 *	-.015	-.040 *	-.047 **	-.124 ***	-.118 ***
Sexual attitudes to female's premarital sex	.128 **	.071	.225 ***	.073 *	.181 ***	.029
Sexual attitudes to male's premarital sex	.000	-.024	.016	.032	-.076	.031
Variable (acceptable/unacceptable [ref]) (weighted n's)						
Residence (ref: rural)	.450 ***	.393 **	.420 ***	.514 ***	.007	-.521
Age	-.028	-.011	-.018	.033	-.009	-.037
Economic status (ref: low)						
Middle	.139	.074	.057	.177	.296 *	-.113
High	.582 ***	.291 *	.093	.487 ***	.438 ***	-.009
Whether or not a student (ref: nonstudent)	-.344	-.101	.254	.478 ***	.172	-.334
Education (ref: high school or lower)						

	Hanoi		Shanghai		Taipei	
	Male (n = 3,285)	Female (n = 3,078)	Male (n = 3,103)	Female (n = 3,196)	Male (n = 2,507)	Female (n = 2,406)
College	.207	.486 [*]	-.062	-.055	-.167	-.231
University or higher	.538 ^{**}	.477 [*]	.221	.303 [*]	.253	.087
Preferred movies/videos (ref: domestic)						
Other Asian countries and regions	.023	-.225	.139	.382 [*]	.283	.423
Western countries	.484 [*]	.385	.444 ^{**}	.769 ^{***}	.224	.480
No preference but depending on content	1.006 ^{***}	.091	.506 ^{**}	.656 ^{***}	.490	.902 [*]
Self-identified sexual orientation (ref: heterosexual)	-.253	.170	.505 ^{**}	-.039	.722 ^{***}	.618 ^{**}
Sexual and reproductive health knowledge	.062 ^{***}	.088 ^{***}	.052 ^{***}	.022	.023	.045 [*]
Attitudes to family values	-.108 ^{***}	-.151 ^{***}	-.028	-.043 [*]	-.054 ^{**}	-.084 ^{***}
Attitudes to gender role values	.002	-.073 ^{***}	-.064 ^{***}	-.071 ^{***}	-.087 ^{***}	-.148 ^{***}
Sexual attitudes to female's premarital sex	.135 ^{**}	.067	.107 ^{**}	.147 ^{***}	.054	.107 [*]
Sexual attitudes to male's premarital sex	-.030	.057	.040	.061 [*]	-.012	.001

^{*}
p .05

^{**}
p .01

^{***}
p .001.