

UW Chinese and Taiwanese students' attitudes towards the use of contraception

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**Abstract**

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**Purpose:** To ascertain the influence of cultural factors on undergraduate and graduate Chinese and Taiwanese students' attitudes towards contraception.

**Methods:** Qualitative methods included a demographic survey, and in-depth, semi-structured interviews. Based on an adapted Social-Ecological Model (SEM), the interview guide contained 20 questions to capture each SEM level and measure of "culture": family structure, communication, and social environment.

**Data Collection:** 13 interviews were conducted from January to March 2020. Participants were domestic (4), international (8), and exchange (1) students. Average interview length was 36 minutes. Participants were recruited through email and digital flyers distributed to student organizations at a major academic university in the Pacific Northwest. Participants completed a demographic survey and interviewed in person. One interview was conducted online, due to the COVID-19 pandemic. Interviews were audio recorded and transcribed using Otter.

**Analysis:** A thematic analysis was conducted. Categories of data included: family structure, communication, social environment, views on premarital sex, views on contraception, and sex education. 12 themes emerged from across and within the six categories. A second coder validated the codes for inter-rater reliability. Interviews were coded using Dedoose.

**Findings:** Important themes included: intergenerational and peer communication, parent-child interactions, and traditional Confucian culture. Participants maintain positive or neutral attitudes towards contraception. While sex education topics remain taboo, students are open to learning more. Communication is the most influential cultural factor.

**Implications:** Healthcare providers should proactively address sex education topics and contraception during office visits. Public health practitioners should also partner with student organizations to deliver workshops and create open dialogue about sex education topics.

## **Introduction**

### **Background and Significance**

According to the Pew Research Center (2017), the United States (US) Asian population grew 72% between 2000 and 2015, placing the Asian population at 20.4 million. Despite being the fastest growing population in the United States, Asians and Asian Americans remain underrepresented in public health research, and are often aggregated as a single population group. This erases important cultural and linguistic differences between Chinese, Japanese, Korean, Vietnamese, Filipino, and Indian populations, groups that are often included in studies as part of the “Asian” or “Asian American” ethnic group (Okazaki, 2002; Tapales et al., 2018). Malaysian and Thai populations are sometimes included, though less frequently, and Pacific Islanders are often grouped with other Asians (Frisbie et al., 2001; Jackson et al., 2016; Ro, 2002; Yu et al., 2004). Aggregating these populations homogenizes experiences that are not only likely to differ by group, but also likely to influence individual health behavior and health outcomes (Islam et al., 2010; Ro and Yee, 2010; Tapales et al., 2018). Health risk behaviors, such as alcohol and tobacco use and physical inactivity, differ significantly between Asian populations in the US, as do reports of hypertension, diabetes, and cardiovascular disease (Gordon et al., 2019; Maxwell et al., 2012; Mui et al., 2017). For example, prevalence of diabetes tends to be higher among Koreans, Filipinos, and Indians, but lower among Japanese and Chinese populations, and Japanese and Korean populations are more likely to be smokers than Chinese and South Asian populations (*ibid*). This becomes even more problematic when data from certain Asian populations are extrapolated to other groups, such as findings of a lower risk of coronary heart disease among Chinese populations being incorrectly interpreted as a low

risk of coronary heart disease for all Asian populations (Budoff et al., 2006; Holland and Palaniappan, 2012; Holland et al., 2011).

Although aggregating Asian and Asian American populations remains problematic, recent and current public health research identifies trends in health behaviors and outcomes amongst Asian and Asian American populations that warrant further and more detailed examination. Research specifically highlights sexual behaviors and infrequent condom use as contributing to increased risk of sexually transmitted infections (STIs) (Frost et al., 2016; Gillmore et al., 2011; Hahm et al., 2012; Lee et al., 2015; Ma et al., 2009; Okazaki, 2002; Shih et al., 2011; Tung et al., 2011; Tung et al., 2012; Wong, 2012; Zhang et al., 2004; Zhao et al., 2016).

While most studies tend to focus on quantitative methods, testing predictors of STIs and risky sexual behavior among ethnic groups, the growing body of qualitative literature highlights the influence of cultural attitudes and customs, and interactions with family and peers (Chen et al., 2016; Chiao and Yi, 2011; Kao et al., 2014; Pai et al., 2010; Trinh et al., 2013; Zhang et al., 2004; Zhao et al., 2016). However, most studies continue to aggregate Asian populations and Asian American populations, which inhibits our understanding of the conditions specific to each Asian and Asian American population that contribute to these health trends (Holland and Palaniappan, 2012; Islam et al., 2010; Ro and Yee, 2010; Tapales et al., 2018). Studies among specific Asian and Asian American populations are needed to address this gap in the literature.

To contribute to addressing this gap, this study focuses on the attitudes of Chinese and Taiwanese (who, while they can and may be considered two distinct populations, share similar traditions and a cultural background) international and domestic students towards the use of contraception at the University of Washington (UW) in Seattle, WA. This may provide further

insight into why we are seeing low rates of contraception and condom use, and increased rates of STIs among these population groups specifically (Frost et al., 2016; Gillmore et al., 2011; Hahm et al., 2012; Lee et al., 2015; Ma et al., 2009; Okazaki, 2002; Shih et al., 2011; Tung et al., 2011; Tung et al., 2012; Wong, 2012; Zhang et al., 2004; Zhao et al., 2016).

## **Purpose and Research Question**

*Purpose:* To ascertain UW Chinese and Taiwanese international and domestic students' attitudes towards the use of contraception.

*Research Question:* What cultural factors are most influential in UW Chinese or Taiwanese international and domestic students' attitudes towards the use of contraception?

*Aim 1:* To what extent do these cultural factors influence Chinese or Taiwanese international and domestic students at UW in their decisions to access health services for contraception?

Here, "attitude" is defined as a feeling, emotion, or stance towards a fact, state, or action (Merriam-Webster, 2019). For the purposes of this study, the following definition of "culture" is borrowed and adjusted from earlier scholars: culture is the learned and shared beliefs and values of a particular group that provide a "tool-kit" for informing an individual's attitudes, decisions, and actions (Kao et al., 2004; Leininger, 1995; Swidler, 1986). Although beyond the scope of the current study, we must recognize that culture is a dynamic and continuously changing process (Kagawa-Singer, 2012).

## **Literature Review**

### *Traditional vs. Changing Attitudes Towards Sex: The Influence of Culture*

Chinese culture is rooted in Confucian tradition, which has dominated not only moral and ethical thought in China throughout history, but also in Japan, Korea, Vietnam, as well as in

countries with an ethnic Chinese majority such as Taiwan, Hong Kong, Macao, and Singapore (Gao et al., 2012). In this hierarchical tradition, superiors are expected to exhibit responsibility, wisdom, and benevolence, while obedience, loyalty, and respect is expected of subordinates (*ibid*). Confucianism centers on the family and the principle of filial piety, and emphasizes harmony and order in society. In order to maintain harmony and order, the interests of the collective take priority over individual needs and desires (*ibid*). Traditionally, men are viewed as superior to women, and families typically place higher value on sons as only males can carry the family name and continue the family line. Men are expected to support the family, while women remain in the home, taking on the role of caregiver (*ibid*).

In traditional Chinese society, the purpose of sex is procreation, but only within the context of marriage (Gao et al., 2012; Zhang et al., 2004). Chastity is highly valued in women, who are expected to be virgins until marriage and remain faithful to their husbands, whether alive or dead (Gao et al., 2012). Just as women hold subordinate positions to men in all aspects of daily living, they maintain such roles while engaging in sexual activity, and are expected to be submissive to men. In a tradition where morality is the ideal, sexuality is otherwise considered immoral, discussions about sex are prohibited, and sex outside of marriage is out of the question (Gao et al., 2012; Gillmore et al., 2011; Hahm et al., 2006; Zhang et al., 2004).

Although Confucianism faded from the political sphere with the fall of the Qing Dynasty in 1911, it has maintained a strong influence in the social sphere and ways of thinking (Fan and Wang, 2015; Hu, 2007). Many in Chinese society as well as Taiwanese society, where the majority of the population is ethnically Chinese and shares Chinese cultural values, uphold conservative views of sexuality stemming from Confucian tradition (Gao et al., 2012; Okazaki, 2002; Pai et al., 2010). This is particularly true of older generations. In many areas of China and

Taiwan, sex remains a taboo topic both at home and at school, and although schools devote a section of their curricula to sex education, some teachers may rush through it, ask students to study it on their own, or skip it altogether (Chen et al., 2016; Frost et al., 2016; Kao et al., 2014; Lee et al., 2015; Pai et al., 2010; Tsai and Wong, 2003; Tung et al., 2012; Tung et al., 2015; Zhang et al., 2004). In some cases, sex education focuses solely on physiological development, with very little or no information about contraception, reproductive health services, or sexual psychological health (Chen et al., 2008).

On the other hand, many studies note the changing cultural landscape in China and Taiwan, particularly among adolescents and youths and their attitudes towards premarital sex (Gao et al., 2012; Pai et al., 2010; Zhang et al., 2004). This trend has become apparent in the past few decades, as Chinese and Taiwanese adolescents and youth are increasingly exposed to Western notions of sex and sexuality (*ibid*). Research highlights that premarital sex has become more acceptable to adolescents and youth in China and Taiwan, and among Asian Americans in the US (Chen et al., 2016; Chiao and Yi, 2011; Ma et al., 2009; Pai et al., 2010; Trinh et al., 2013). This research also emphasizes the significance of peer influence as a stronger predictor in whether adolescents and youth engage in premarital sex than parental influence or communication (Chen et al., 2016; Kao et al., 2014; Lee et al., 2015; Pai et al., 2010; Trinh et al., 2013), signaling a shift from maintaining traditional values of obedience and meeting parental expectations. However, because of a reluctance on the part of adults to discuss sexuality, much of the information adolescents and youth gather about sex and sexual health comes from the internet, the media, or their peers (Chen et al., 2016; Frost et al., 2016; Zhang et al., 2004). This raises concerns among public health professionals that many adolescents and youth in China and

Taiwan maintain limited knowledge about sexual health, which can play a significant role in contributing to adverse health outcomes.

### *Increase in STIs and Risky Sexual Behavior*

Studies in China, Taiwan, and among Asian Americans in the US, indicate that youth are at an increased risk of contracting STIs when they initiate sexual relations, compared to other ethnic groups of similar age (Frost et al., 2016; Gillmore et al., 2011; Hahm et al., 2006; Lee et al., 2015; Tung et al., 2011; Tung et al., 2012; Wong, 2012; Zhang et al., 2004; Zhao et al., 2016). However, many among the sexually active of these populations demonstrate limited knowledge about STIs and their transmission, and perceive themselves to be at low risk of infection (*ibid*). Another cause for alarm is the increased incidence of HIV and AIDS in both China and Taiwan, with Taiwan witnessing a 15% increase in HIV infection each year, one of the fastest growing rates of HIV infection in Asia (Tung et al., 2011). As of 2009, young adults between 20 and 29 years of age constituted 37% of Taiwan's HIV-infected population (*ibid*). In China, those between 20 and 39 years of age account for 81% of reported cases of HIV (Ma et al., 2009).

These studies cite low rates of condom use as the primary culprit in increased STI and HIV rates (Frost et al., 2016; Gillmore et al., 2011; Hahm et al., 2006; Lee et al., 2015; Ma et al., 2009; Tung et al., 2011; Tung et al., 2012; Wong, 2012; Zhang et al., 2004; Zhao et al., 2016). In China, Taiwan, and among Asian Americans in the US, women use condoms less frequently than men (Gillmore et al., 2011; Lee et al., 2015; Ma et al., 2009; Shih et al., 2011; Tung et al., 2011; Zhao et al., 2016). Embarrassment and fear of discovery by disapproving parents were almost always cited as barriers to condom use during sexual activity (*ibid*). Studies suggest that traditional gender roles could play an important part in less frequent condom use among women

than among men, stressing that women are expected to refrain from discussing sexual matters, and thus unable to negotiate condom use during sexual activity (Frost et al., 2016; Gillmore et al., 2011; Guo, 2018; Hahm et al., 2012; Ma et al., 2009; Trinh et al., 2013; Tung et al., 2012). Other research finds that, in the US, Asian women initiate sexual activity at an earlier age than Asian men, and have a higher number of sexual partners, putting them at greater risk if they choose not to use protection due to cultural influences or the aforementioned reasons (Hahm et al., 2006; Lee et al., 2015; Tong, 2013). There are a number of other reasons that play into women's decisions to not use condoms, such as increasing pleasure or being in a committed relationship (Hahm et al., 2012).

While Chinese and Taiwanese women, and Asian American women in the US, may choose to not use condoms because they prefer alternative contraceptive methods, research indicates that women often face barriers similar to those of procuring condoms (Frost et al., 2016; Wong, 2012; Zhao et al., 2016). Namely, they may feel embarrassed to seek alternative contraceptive methods, which may require a doctor's prescription, as this implies that they will be engaging in premarital sexual activity (*ibid*). While adolescents and youth are more accepting of premarital sex, they still value privacy and maintain strong preferences that their parents remain unaware of their activity (Chen et al., 2016; Cipres et al., 2017; Frost et al., 2016; Kao et al., 2014; Lee et al., 2015; Pai et al., 2010; Zhao et al., 2016).

There are similar trends among Asians and Asian American populations in the US, particularly among children of immigrants. Use of condoms or alternative contraceptives, though higher than their counterparts in Asia, remain low (Okazaki, 2002; Shih et al., 2011; Tapales et al., 2018). While risk of contracting STIs has increased, Asians and Asian Americans have some of the lowest STI screening rates (Frost et al., 2016; Gillmore et al., 2011; Zhao et al., 2016).

Studies suggest the “Model Minority” stereotype contributes to low screening rates, and point out the deleterious effects of the stereotype on the sexual health of Asian American populations specifically, though Asian populations may also be attributed this stereotype (Clough et al., 2013; Hahm et al., 2012; Lee et al., 2015; Zhao et al., 2016). As Asian Americans are seen as academically driven, socioeconomically successful, and generally report better overall health than other ethnic groups, healthcare providers tend to brush over sexual health topics during primary care visits, assuming that members of this population are less likely to engage in sexual activity (*ibid*). At the same time, many members of the Asian American population, and girls in particular, are often too embarrassed to bring up the topic of sex with their health care providers (Frost et al., 2016; Mengesha et al., 2018; Okazaki, 2002; Zhao et al., 2016), leaving them with questions regarding their sexual health.

#### *Utilization of Reproductive Health Services in the US and Asian International Students*

Studies report the underutilization of sexual and reproductive health services (SRH) among Asian and Asian Americans in the US, often attributing low utilization rates to cultural factors and a reluctance to openly discuss sexual matters with family and with healthcare providers (Frost et al., 2016; Gillmore et al., 2011; Lee et al., 2015). Foreign-born Asians are less likely to utilize SRH services and health services more generally than their US-born counterparts, and foreign-born Asian women are less likely to use contraception (Clough et al., 2013; Foster et al., 2004; Tapales et al., 2018; Ye et al., 2012), which can have a number of implications for the health outcomes of these populations.

In their 2012 study, Tung et al. (2012) examine the sexual behaviors and experiences of Chinese students in US universities, finding that Chinese international students adopted the health behaviors of the host population. This included reports of having multiple sexual partners,

but little or no use of condoms or alternative contraceptive methods. Bae and Kim (2015) conducted a similar study among Korean international university students in the US, and found that while those students had greater sexual knowledge than their counterparts in Korean universities, there were no major differences in their sexual behavior. However, this study did report that Korean international students were less likely to utilize health services either at the university or in the community (*ibid*). Though set in Australia, a study by Burchard et al. (2011) revealed that Asian international university students were concerned that some among them became more sexually active after living in Australia, but had insufficient sexual health education. These studies, along with the literature on the sexual behavior and utilization of contraception and reproductive health services, suggest that Chinese and Taiwanese (among other Asian) international students may be at greater risk for engaging in unprotected sexual activity. Coupled with limited sexual health knowledge and an underutilization of reproductive health services, and health services more generally, could have serious health implications for international students at US universities, such as STIs, HIV, or other psychosocial conditions that may result from risky sexual behavior.

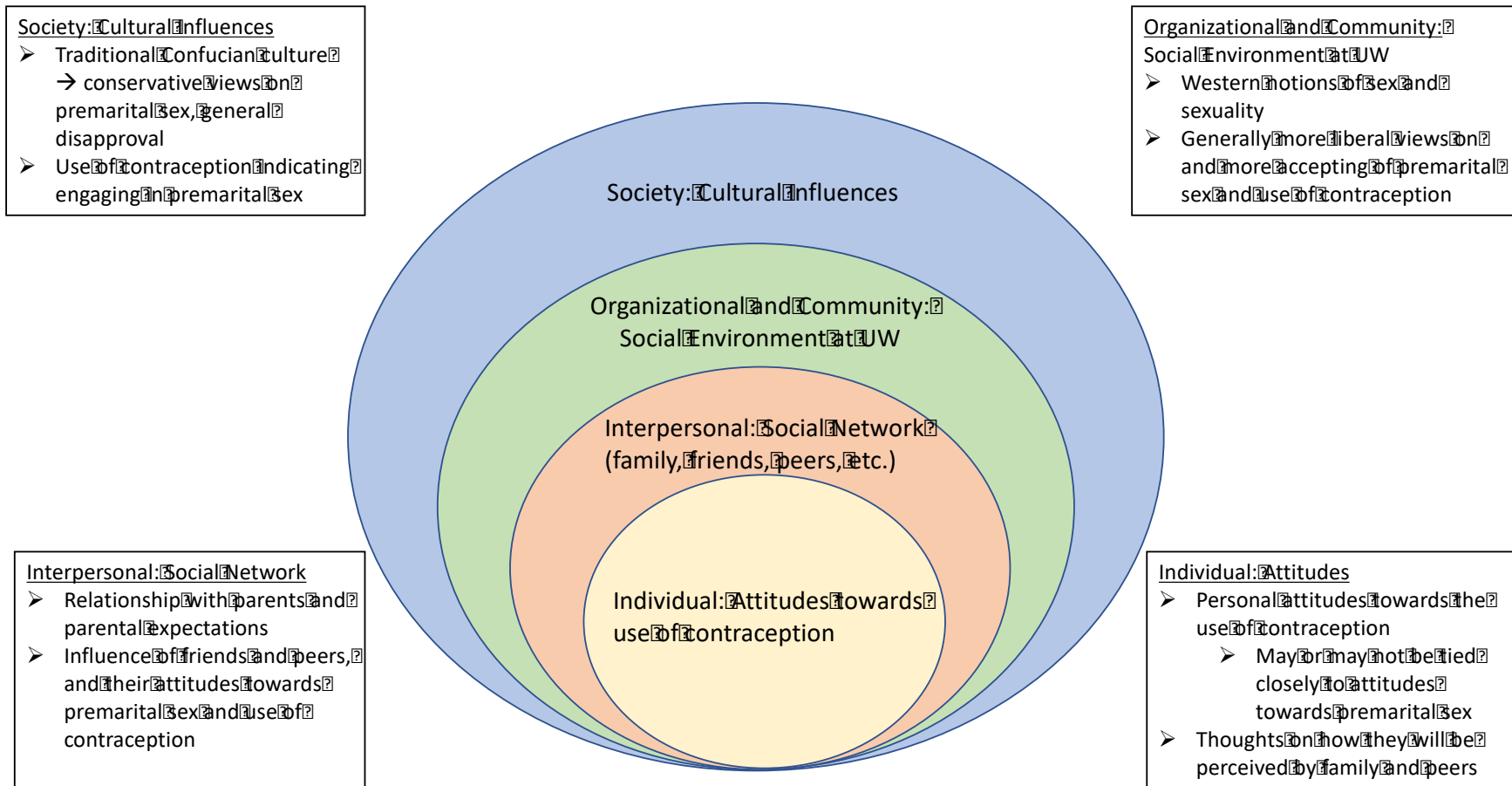
#### *Chinese and Taiwanese students at UW*

The University of Washington (UW) Seattle campus has approximately 46,000 students, 8,118 of which are international students (University of Washington, 2019). The vast majority of international students come from China, numbered at 4,127, followed by India (803) and Taiwan (457). Since the 2011-2012 academic year, the Chinese international student population has increased by an average of 9.8% each year (*ibid*). Many Chinese and Taiwanese students participate in registered student organizations (RSOs) at UW, such as the Chinese Student Association (CSA), Chinese Students and Scholars Association (CSSA), Taiwanese Overseas

Student Association (TOSA), and Taiwanese Student Association (TSA), and add to the incredible diversity of the UW community.

### **Conceptual Framework**

Many studies on the sexual behavior and use of contraception among Chinese, Taiwanese, and Asian American adolescents and youth are based on individual- or interpersonal-level theories, such as the Health Belief Model or Social Cognitive Theory. Fewer studies, however, explicitly examine social and environmental factors, or cultural factors, and their influence on individual health behavior. The Social-Ecological Model (SEM), on the other hand, offers a framework to better understand the multiple levels of influence on health behavior, examining the individual, interpersonal, organizational, community, and societal levels (Bronfenbrenner, 1994; Raneri and Wiemann, 2007). The conceptual framework for this study is based on the SEM, and while it focuses primarily on the SEM's individual and interpersonal levels, it also considers the social environment at UW on the organizational and community levels, as well as the role of culture at the societal level (see Figure 1).



**Figure 1.** Conceptual Framework based on the Social-Ecological Model (SEM)

## **Methods**

### **Study Setting and Selection of Study Subjects**

Qualitative research methods were employed to conduct this study, which took place at the UW Seattle campus. While quantitative methods provide valuable data on relationships between health behaviors and outcomes, qualitative data is needed to understand why we are seeing such trends. Qualitative methods allow us to grasp the underlying factors, such as behaviors, attitudes, and perceptions, that shape health outcomes. They equip us with the knowledge necessary to develop not only effective but also appropriate interventions to promote the health of all populations (Tolley et al., 2016).

This study qualified for exempt status (Category 2) as determined by the University of Washington Human Subjects Division (STUDY00009251).

The target population was self-identifying Chinese or Taiwanese international and domestic students, age 18 and above, attending the University of Washington (UW) in Seattle. See Table 1 below for the eligibility criteria. Students who met any of the stated criteria were eligible for participation in the study, regardless of his or her relationship status or sexual orientation.

Participants were recruited using a combination of convenience, purposive, and snowball sampling methods, with the aim of reaching Chinese and Taiwanese international and domestic students, as well as exchange students. Students who agreed to participate informed their friends about the study, further expanding recruitment.

<b>Eligibility Criteria</b>
<ul style="list-style-type: none"><li>• Undergraduate and graduate students that self-identify as Chinese or Taiwanese at UW</li><li>• This includes:<ul style="list-style-type: none"><li>○ International students that self-identify as Chinese or Taiwanese</li><li>○ Domestic students that self-identify as Chinese or Taiwanese</li><li>○ Exchange students that self-identify as Chinese or Taiwanese</li></ul></li><li>• Students must be age 18 or older</li><li>• Male and female students that meet one of the above criteria</li></ul>

**Table 1.** Eligibility criteria for participation in study.

Additionally, the Chinese Student Association (CSA), Chinese Students and Scholars Association (CSSA), Taiwanese Overseas Students Association (TOSA), and Taiwanese Student Association (TSA) groups at UW were contacted, and information about the study and next steps for members of those groups who were interested in participating was provided. The Taiwanese Overseas Student Association (TOSA) confirmed that recruitment materials were passed along to members of the group. Recruitment materials included emails and digital flyers, which contained information about the study's purpose, research question, participant eligibility criteria, and what participation entailed.

For those who were interested in participating, the emails and digital flyers contained the researcher's email address as well as a link and QR code to an online survey where students could leave their name and their preferred method of contact (either email address or phone number). The online survey also asked for their general availability. Participants responded either directly through email or by leaving their contact information in the online survey.

To compensate for their time, participants were offered either Starbucks or Amazon gift cards of \$10 in value.

### **Data Collection**

Participation entailed a demographic survey and an in-depth, semi-structured interview conducted in person. The survey and interview guide were piloted with two volunteers. Although the volunteers were not current UW students, both identified as either Chinese American or mixed race Chinese. The volunteers provided valuable feedback on the interview guide regarding the wording of certain questions, so that they were clear and would not cause participants discomfort. For example, the volunteers suggested that the question asking about parent-child interactions remain general, so that participants who might have had complicated relationships

with their parents would not feel compelled to recount negative situations. They also recommended that the researcher strongly emphasize that questions related to premarital sex and contraception focused on participant views rather than behavior, so as to avoid participants' discomfort. These comments were incorporated into the final drafts of the survey and interview guide, and taken into account during interviews.

Participants completed a brief paper demographic survey prior to beginning the interview. The survey asked for participants' age group, gender, ethnic identity, year of study, place of birth, length of residence or stay in the US, language spoken at home, religious preference, and to what extent they consider themselves religious (see Appendix A). The interview guide consisted of 20 questions, each designed to capture the different levels of the conceptual framework (individual, interpersonal, community, and society) as well as the measures of "culture" used in this study (see Appendix B). In addition to piloting the interview guide, all interviews were conducted by one researcher, who maintained a clear sense of purpose behind each interview question, and all participants were asked the same questions. The semi-structured nature of the interviews allowed the researcher to ask relevant probing questions, and the open-ended questions enabled participants to respond in their own words, without constraints imposed by the questions themselves. This has been identified by scholars as enhancing the validity of the interview guide, and allows participants to speak to what they know to be true (Guest et al., 2012).

Participants completed the demographic survey within a few minutes. Interviews took place in private study rooms in the Odegaard and Health Sciences Libraries. It must be noted that one interview was conducted by online video call through Zoom. This was due to the COVID-19 pandemic, in an effort to maintain social distancing to protect everyone's health. The UW IRB

was contacted to determine whether a modification to the study to conduct interviews online through Zoom was necessary. The IRB coordinator confirmed that a submission of a modification was not necessary, as the study had qualified as exempt, and to proceed with revisions to the interview and consent process as needed.

Informed consent was obtained from each participant. They were informed all activities were voluntary and they could decline to answer any question at any time. The data were de-identified and stored separate from the informed consent process. Demographic data was entered and stored in REDCap (Version 9.9.0), and interview audio recordings and transcripts were stored on a password protected computer that only the researcher had access to. Participant contact information was also stored separately as an Excel sheet in a separate folder on the password protected computer.

*Positionality Statement:* As the sole researcher conducting this study, I had the flexibility to design this study around my own research interests. I am of mixed race Chinese heritage, and while living in Taiwan I discovered that my experiences regarding communication about premarital sex and contraception matched those of local Taiwanese friends. Specifically, our experiences were similar in that there was a lack of communication about such topics, yet attitudes towards these topics appeared to be readily formed. Reviewing the literature and discovering similar experiences amongst Asian American populations further fueled my interest in the topic, and I was curious whether UW students with shared cultural backgrounds would also relay similar experiences. During recruitment and data collection, I was forthcoming about my background, reasons behind conducting this study, and my position as a UW student.

## **Analysis**

As stated above, this study defines “culture” as the learned and shared beliefs and values of a particular group that provide a “tool-kit” for informing an individual’s attitudes, decisions, and actions (Kao et al., 2004; Leininger, 1995; Swidler, 1986). Culture, however, is very difficult to capture, and the academic community has long debated its most appropriate measures. More recently, academics across disciplines have proposed a number of frameworks by which to measure culture. The Giger and Davidhizar Transcultural Assessment Model identifies six cultural phenomena that vary across cultural groups: communication, space, social organization, time, environmental control, and biological variations (Giger and Davidhizar, 2002). The Purnell Model for Cultural Competence not only offers a framework for healthcare providers to deliver culturally appropriate care, but also guides data collection, allowing researchers to obtain a comprehensive view of specific populations (Purnell, 2000). While the Purnell Model proposes twelve domains by which to measure culture, it overlaps with the Giger and Davidhizar Transcultural Assessment Model in identifying communication and social organization, along with spirituality, as critical components of culture (*ibid*).

Borrowing from both the Giger and Davidhizar Transcultural Assessment Model and the Purnell Model, this study measured culture by focusing on social organization, communication, and space, as the literature on Chinese and Taiwanese populations focuses specifically on these aspects of culture (Ahrold and Meston, 2010; Bae and Kim, 2015; Burchard et al., 2011; Chen et al., 2016; Clough et al., 2013; Dao et al., 2011; Frost et al., 2016; Gao et al., 2012; Gillmore et al., 2011; Hahm et al., 2006; Hahm et al., 2012; Kao et al., 2014; Lee et al., 2015; Okazaki, 2002; Pai et al., 2010; Trinh et al., 2013; Wong, 2012; Zhang et al., 2004; Zhao et al., 2016).

Social organization denotes the family structure and assigned roles, both in terms of gender and within the family, as well as priorities and views towards alternative lifestyles (Giger and Davidhizar, 2002; Kao et al., 2004; Purnell, 2000). Although the Purnell Model identifies spirituality as a domain separate from social organization, the Giger and Davidhizar model incorporates spirituality into social organization, which this study did as well. While spirituality and religion are likely to play a significant role in influencing attitudes towards the use of contraception (Ahrold and Meston, 2010; Kao et al., 2014; Trinh et al., 2013), they were beyond the scope of this study, and were accounted for in the background survey. With the family and filial piety at the center of traditional Chinese culture, studies often examine the parent-child relationship and its effect on sexual behavior and attitudes, and identify family as one of the most important cultural values among most Asian populations (Burchard et al., 2011; Chen et al., 2016; Dao et al., 2011; Gao et al., 2012; Gillmore et al., 2011; Hahm et al., 2006; Kao et al., 2014; Lee et al., 2015, Wong, 2012; Zhang et al., 2004; Zhao et al., 2016). As such, this study examined the role the family plays in participants' lives, and how this influences their attitudes towards the use of contraception.

While communication encompasses both verbal and non-verbal cues, this study focused specifically on the willingness to share thoughts and feelings, an aspect of communication identified in both models (Giger and Davidhizar, 2002; Purnell, 2000). Social structure and roles shape communication, and traditional Chinese culture emphasizes hierarchy and propriety (Gao et al., 2012). Studies highlight intergenerational communication (or a lack thereof, especially about topics considered inappropriate) as well as communication among peers as playing critical roles in adolescents' and youths' sexual behavior (Frost et al., 2016; Gao et al., 2012; Gillmore et al., 2011; Pai et al., 2010). The ways in which participants communicate with those of older

generations and those within the same generation about premarital sex and the use of contraception was another focus of analysis.

Closely related to communication is what Giger and Davidhizar (2002) refer to as “space.” They define space in terms of the distance between individuals when they interact (*ibid*), which is strongly influenced by social organization and social roles. Space also provides the context within which communication and interaction occur (*ibid*). This is equivalent to the “social environment,” which plays a critical role in public health research, and mediates communication and interaction. This in turn has implications for health behaviors and outcomes, and is a focus in studies by Burchard et al. (2011), Bae and Kim (2015), Hahm et al. (2006), and Tung et al. (2012). This was captured by ascertaining what participants believe should and should not be done or discussed, with whom, and whether participants perceived a change in their own stance based on their social environment.

A thematic analysis was conducted based on the above measures, social organization (or family structure), communication, and space (or social environment), which provided insight into Chinese and Taiwanese culture. An a priori codebook detailed the above measures, which served as primary codes, with additional codes being views on premarital sex, views on contraception, and sex education. Secondary codes explored these aspects of culture on a deeper level (see Appendix C). To ensure the reliability of the codes, a colleague trained in qualitative methods reviewed the codebook, as well as two data-rich interviews to perform an inter-rater reliability check. This colleague agreed with the codes’ definitions and categorization of quotes that fit and did not fit within the codes, and suggested an additional secondary code to capture access to contraception. This code was added under the primary code “views on contraception.” The percent agreement in the coding of the two interviews fell at 85% and 86%. Each interview was

coded using Dedoose Qualitative Analysis software (Version 8.0.35), which allowed the organization of excerpts according to code, and facilitated a smoother coding and thematic analysis process.

## **Findings**

### **Background Survey: Participant Demographics**

A total of 13 students participated in the study. Interviews were conducted from January to March 2020, and lasted an average of 36 minutes. Participants' basic demographic data, including gender, age, and year of study are presented in Table 2.

### **Interviews: Key Categories and Themes**

The key categories and themes that emerged from the interview data are displayed in Table 3. While participants identified differences in their family structures, communication dynamics between parents and peers, and in their social environments (though to a smaller degree), they share similar views on premarital sex and the use of contraception. The interviews revealed that the participants maintain generally positive or neutral attitudes towards the use of contraception, and indicated that communication styles play an important role in influencing their attitudes. While cultural taboos continue to surround sex education topics and contraception, which are at best implicitly conveyed in the classroom or at home, UW Chinese and Taiwanese students appear open to further discussion and learning more about these topics. However, many participants remain shy about bringing up topics related to sex education or contraception themselves, especially with those other than their peers, with whom they tend to have more open communication.

<b>Gender</b>	<b>Number of Participants</b>
Male	4
Female	9
<b>Age</b>	
18-20	5
21-23	4
24-26	2
27+	2
<b>Year of Study</b>	
Freshman (Undergraduate)	0
Sophomore (Undergraduate)	4
Junior (Undergraduate)	3
Senior (Undergraduate)	1
First Year (Graduate)	2
Second Year (Graduate)	2
Third Year + (Graduate)	1
<b>Length of Stay in US</b>	
<3 months	0
3-6 months	2
7-11 months	0
1-2 years	1
2+ years	10
<b>Place of Birth</b>	
US	2
China	8
Taiwan	2
Japan	1
<b>Ethnic Identity</b>	
Chinese	8
Taiwanese	2
Chinese American	3
<b>Languages Spoken at Home</b>	
Chinese (Mandarin, Cantonese, or dialect)	9
Chinese and English	3
Chinese and Japanese	1
<b>Religious Preference</b>	
Christian	1
Buddhist	1
Buddhist and Taoist	1
No religious preference	10
<b>Self-Identified Level of Religiosity</b>	
Not religious	9
Somewhat religious	3
Very religious	1
<b>Student Status</b>	
Domestic	4*
International	8
Exchange	1

**Table 2.** Summary of participants' demographic data.

\* Four students technically fall under the "domestic student" category, however, two of these students were born and lived abroad until middle school and high school, when they moved to the US. Based on their length of residence in the US, they are considered "domestic students."

Category	Explanation	Themes	Exemplar Quotes
Family Structure	Parent-child interactions and family dynamics; priorities and values in the family and those held individually by the participant; views towards expected or alternative lifestyles; references to traditional (Confucian) culture; spirituality or religion	<b>Parent-child interactions</b> , described as both strict and relaxed and changing over time, appeared to have little influence on participants' attitudes. Education, hard work, and taking care of and helping family members were <b>values</b> shared across nearly all participants' families. Many participants highlighted <b>traditional Confucian culture</b> , and discussed hierarchies within their families and expectations of obedience and respect, as well as taboos surrounding discussions of premarital sex and contraception. Only one participant specified that <b>religion</b> plays a significant role in shaping her views.	<ul style="list-style-type: none"> <li>➤ "Um, hard work is something that like my parents really tried to instill in us when we were younger..." (Chinese American female, age 18-20)</li> <li>➤ "Um, I'd say she values honesty... But besides honesty, I'd say the sense of like taking care of your family, I guess." (Chinese American male, age 18-20)</li> </ul>
Communication	Communication styles with parents as opposed to communication styles with peers; willingness to share thoughts and feelings; the types of topics participants feel they can and cannot discuss	While some participants described very open and frequent communication with their parents ( <b>intergenerational communication</b> ), others described their communication as "normal." Nearly all participants said they felt comfortable discussing with friends ( <b>peer communication</b> ) a range of topics they would not discuss with their parents, however, dating, premarital sex, and contraception were rarely discussed with friends regardless of how close their relationship.	<ul style="list-style-type: none"> <li>➤ "I would say it's quite open. They always encouraged me to talk to them, whatever problems I have." (Chinese male, age 24-26)</li> <li>➤ "There's definitely an expectation. It wasn't really open." (Chinese American female, age 18-20)</li> </ul>
Social Environment	The context within which communication and interaction occur; it plays a role in influencing what should or should not be done or discussed, and with whom	Nearly all participants described their <b>sex education</b> as minimal, lacking, or nonexistent, both in <b>Asia and North America (social environment)</b> , and sex education occurred almost entirely in school settings. Some participants noted the lack of sex education forced students to turn elsewhere for information, such as porn websites.	<ul style="list-style-type: none"> <li>➤ "...like in Beijing, I think because my friends, my classmates, my coworkers, are most of them are very good educated. So I think their thoughts, their opinions towards the world differs a lot from my, from the people in my hometown, a small town, so yeah." (Chinese male, age 27+)</li> <li>➤ "Oh, no. UW doesn't have anything to do with my views, but I think um one of my friend had a very, like, big influence on my view of thinking on this topic." (Chinese female, age 27+)</li> </ul>
Sex Education	How and where participants learned about sex and sexual health; includes both formal and informal methods of sex education; examined within the social environment context		<ul style="list-style-type: none"> <li>➤ "Very little, I would say. Yeah, very little. Teachers wouldn't say that." (Chinese female, age 27+)</li> <li>➤ "No, because our teacher is so shy, was so shy." (Chinese male, age 27+)</li> <li>➤ "Pretty much I've just been told to be abstinent, don't have sex at all." (Chinese American female, age 18-20)</li> </ul>
Views on Premarital Sex	Views towards premarital sex that are positive, negative, neutral, or have changed; from the participants' perspectives as well as those of their families and friends	The majority of participants maintain neutral views towards premarital sex, with six participants describing a change from negative to positive views ( <b>individual views</b> ). Most participants presumed that their parents also maintain neutral stances towards premarital sex, however, some indicated that their parents view it negatively ( <b>parent/family views</b> ).	<ul style="list-style-type: none"> <li>➤ "I think it's fine... if you want to have premarital sex, like that's completely fine." (Chinese American female, age 18-20)</li> <li>➤ "Well, for now, I think it's okay. It's personal choice." (Chinese female, age 27+)</li> </ul>
Views on Contraception	Views towards contraception that are positive, negative, neutral, or have changed; from the participants' perspectives as well as those of their families and friends; also includes participants' views on the ease or difficulty of accessing contraception	Nearly all participants indicated positive views towards the use of contraception, though only seven were active supporters in encouraging its use ( <b>individual views</b> ). The majority of participants presumed their parents also view contraception positively or as a "necessary" tool, four participants indicated their parents view its use negatively ( <b>parent/family views</b> ). Nearly all participants indicated that contraception is easily accessible both on- and off-campus, however, many were unsure of how to <b>access contraception</b> other than male condoms, and a few described embarrassment or awkwardness as potential barriers to accessing contraception.	<ul style="list-style-type: none"> <li>➤ "I think it's necessary to use those kind of... methods to not only prevent from pregnancy, but also illness." (Chinese female, age 27+)</li> <li>➤ "It just fine, is that people's choices." (Chinese female, age 21-23)</li> </ul>

**Table 3.** Key categories and themes identified from the interviews, their explanations, and exemplar quotes. **Bold and italicized** text indicates the themes from the findings.

### *Family Structure*

Family structure is defined by parent-child interactions, priorities and values, traditional Confucian culture, and religion or spirituality. Parent-child interactions varied across participants' families, with nearly equal numbers of participants characterizing interactions as relaxed as there were participants characterizing interactions as strict. Others noted that their mothers played strict roles while their fathers were more relaxed, and that interactions changed from strict to relaxed over time. While family values and priorities varied to some extent, education, hard work, and taking care of and helping family members were values shared across nearly all participants' families. Although most participants maintain their family values, a few noted that they take a more liberal approach to these values or define them differently (such as differing definitions of "hard work"). Many participants mentioned traditional Confucian cultural traits as playing an important role in their family structures. This included family hierarchy, where participants were expected to demonstrate obedience and respect to their parents, as well as taboos surrounding discussions of premarital sex and contraception. Only one participant specified that she is "very religious," and that religion plays a significant role in shaping her views. The majority of participants indicated they have no religious preference.

### *Parent-Child Interactions*

Five participants described open and relaxed interactions with their parents. One participant described her relationship with her parents as "more like friends, not really like parents and children" (Chinese female, age 21-23). Two participants mentioned having very close relationships and open interactions with their mothers, who provided comfort, courage, and advice when needed. Others relayed how, while they were always encouraged to perform their best academically, their parents never pressured them about their grades or potential future career

choices. For example, one participant said her dad “will really listen and be open-minded” (Taiwanese female, age 18-20). Another participant described his mother as “more open-minded than others” (Chinese American male, age 18-20), and though she wanted him to be successful, she wanted him to “enjoy” the activities he engaged in more.

Nearly all participants did mention that their parents emphasized and encouraged academic achievement. However, only seven of the participants directly linked emphasis on academic achievement to “strict” interactions with their parents, where their parents’ strictness primarily pertained to getting good grades. For example, one participant said, “when I’m like younger student, they were really strict on me, especially for like the grade stuff” (Chinese female, age 24-26), which reflects interactions that seven of the participants experienced with their parents.

Four participants considered their parents to be strict, and not only in terms of academic achievements. As one participant said,

“I wish they were just less strict in pretty much a lot of the things that they were pretty strict [about]. And like, we don’t have much freedom growing up. Like, I was expected to be home at like six...if I had like after school activities, like I had to be home by six. I couldn’t really go out with my friends as much.” (Chinese American female, age 18-20).

Another participant discussed how, in comparison to many of her friends’ parents, her own parents were considered “pretty strict” about “a lot of weird things” (Chinese American female, age 18-20). She was not allowed to stay out late when she was growing up, or have sleepovers with her friends, until she reached middle school. Two participants related strict interactions with their parents in terms of “control,” both of their opinions and life choices. One participant said, “They were pretty strict. But then as I grew up, they can’t like control my mind, you know, so like, I won’t listen to them like, on a lot of stuff” (Taiwanese male, age 21-23). In a similar vein, the other participant said, “He just want to control everything about me. He wants to plan my life

as he, what he expects” (Chinese male, age 27+). Both participants tied this aspect of parent-child interactions to their parents’ traditional upbringings and values.

Three participants said that parent-child interactions differed based on whether the interaction was with their mothers or their fathers. For the participants who identified a difference in interactions between their parents, almost all of them (3) said that their mothers were the “strict ones” while growing up, while their fathers were more relaxed and “laid back.” Only one of those participants identified her father as being more strict than her mother. Another participant described the dynamics of her interactions with her father as compared to her mother when she was young:

“My mom was always the strict one and my father was the relaxing one. I can remember that many times, like my mom, um kind of like, punish me for something that I don’t think was that important. Yeah, but um like after she went to the other city for work I lived with my dad, and my dad never like punished me or shouted at me.” (Chinese female, age 27+)

Many participants noted a change in their interactions with their parents as they grew up. One participant, who had described interactions with her father as “paternalistic” when she was young, said,

“I would say the interactions really changed a lot after I attended high school, which is around age 15. And my dad really start to learn how to be around with me from his observations of how his friends interact with their children.” (Chinese female, age 21-23)

Another participant, who had also said her parents were strict when she was young, said that her parents are now more relaxed, and that there are fewer restrictions regarding her parents’ expectations of her (Chinese female, age 24-26).

### *Priorities and Values*

Education, in its traditional sense, was mentioned by six participants as one of the most important values held by their families and themselves. According to one participant, who said

that his family's values are similar to many others in China, a good education is the basis for finding a good job in the future. He and three other participants described how in their parents' views, education should always take priority, particularly over relationships. They explained that their parents and other adults, such as teachers, discouraged dating while in school so that they could focus on their studies. Two additional participants also brought up the importance of education, but in terms of enjoying the educational process for personal fulfillment rather than for conventional success. Another participant discussed her parents' emphasis on education in terms of obtaining an "international viewpoint," the process of which would challenge her to grow and extend her potential. Two participants also discussed how their parents stressed the value of a moral education, which includes honesty, respect for others, and not taking advantage of others. One of these participants said that "being a behaved child, and not being rude to anyone" (Taiwanese male, age 21-23) are critical components of one's moral education.

Hard work and doing one's best are also values shared across a number of participants' families. As one participant said, "hard work is something that like my parents really tried to instill in us when we were younger, I think because they had to work really hard to come here from China" (Chinese American female, age 18-20). Another participant described how for many people in China of her parents' generation, success was determined almost entirely by an individual's hard work, which is why her parents place such a high value on it. She also mentioned that, because of this, resilience and persistence are also highly valued in her family, which was echoed by other participants.

Stability, which is closely related to education and hard work, was another value identified by three of the participants. For their families, hard work and education are the means

by which to attain stability. According to these participants, stability includes holding a steady job as well as having a family.

Five participants identified family as a top priority, which includes taking care of one's family, and supporting and helping family members when needed. One participant said,

“I'd say the sense of like taking care of your family, I guess. That's a pretty common thing in Asian culture as well. So where like, I take care of my family after they take care of me, you know... [If] they ever [get] sick or, you know, just getting old, I'll take care of them in their older days.” (Chinese American male, age 18-20)

For another participant, valuing family means being there and being present. He said, “Um, so like, my uncles, they host like family gatherings kind of every weekend, and we have to be there. Yeah. So I guess that's family first” (Taiwanese male, age 21-23).

Nearly all participants said that they hold the same values as their families. Some expressed appreciation for their families' values, and described how they have helped guide them over the years. As one participant said,

“...now like to think back, I feel like all makes sense, and then I really appreciate how they have these kind of values. So that, because of that value I was able to, you know, live like another life than like all the other Taiwanese students in Taiwan.” (Taiwanese female, age 18-20)

However, a few participants said that while they maintain the same values, they tend to be “more open-minded” or “liberal” about them, as opposed to “traditional.” Other participants said that their definitions of certain values differ slightly. For example, one participant said,

“I will say more core values are pretty similar, but for stability, like my definition of stability might be slightly different from my parents', because stability for them, it also means having a family. But like for me, I'm just pretty good, just [as] myself.” (Chinese female, age 24-26)

### *Traditional Confucian Culture*

Two participants, who had described interactions with their parents as strict in the sense that their parents wanted to “control” them and their views, mentioned the hierarchical structure

of their families. For example, one participant said, “But then they think there is a hierarchy in the family, like I should listen to my mom like no matter what. At least, my mom thinks that” (Taiwanese male, age 21-23). The other said that his father wanted to plan his life down to which courses he took in college (Chinese male, age 27+). Both participants noted that this more traditional concept of the family led to disagreements and clashes with their parents. Another participant related a similar experience with her father before they reached an understanding:

“And my dad wanted me to study more popular choices like financing and economics, which you can imagine from an Asian family, especially that he’s also in that kind of industry. And we were having a lot of quarrelling at the beginning of the time we were making that kind of decision...” (Chinese female, age 21-23)

Two other participants emphasized filial piety as a critical component of their family structure, which is among the defining aspects of traditional Confucian culture. This includes observing the hierarchy within the family, and obeying one’s elders. As one participant said of her parents, “...they’re like my superiors and I have to respect them...just kind of like respecting my elders. Like, I have to respect their decisions before I make my own” (Chinese American female, age 18-20).

In terms of premarital sex or the use of contraception, participants highlighted that such topics largely remain taboo in their culture. One participant said, “Premarital sex is still something which is like taboo in China...there’s still some cultural impact, inherent judgments on it, at least in China or Taiwan” (Chinese male, age 24-26). Another participant described how relationships between boys and girls were viewed in school when he lived in China, regardless of whether they were just friends: “...having a relationship, whether sexual or non-sexual, is really negative, has really negative connotations...like people got really demonized...” (Chinese American male, age 18-20). He emphasized that anything related to sex in formal settings was “negatively saturated.” Other participants emphasized the value placed on women’s virginity,

with one stating that there are “many guys that kind of consider like women who have engaged in premarital sex as second hand” (Chinese female, age 24-26), and notions of superiority and inferiority are based on whether a woman’s virginity is intact when she marries. Another participant described how most of her friends’ parents would “become crazy” if they knew their children had engaged in premarital sex. However, despite generally negative views towards premarital sex in China and amongst families, one participant pointed out that the responsibility for obtaining and using contraception is placed on the woman in a relationship.

### *Religion or Spirituality*

The majority of participants said they had no religious preference, and a few even pointed out that their lack of religious affiliation allowed for more liberal views towards premarital sex and contraception. Four participants indicated a religious preference or a sense of spirituality, generally Buddhist or Taoist. One participant feels a sense of spirituality without a religious preference, and one identifies as Christian. Only the participant who identifies as Christian considers herself to be “very religious.” She discussed how her religion, after converting during high school, has directly influenced her views on premarital sex and contraception:

“...because I’m like a Christian, but before being a Christian, I feel like, it doesn’t matter. But like, after, I was like trying to adjust this kind of like concept, because churches always say like you can’t have, you know, pre-marriage sex. But personally, I feel like...eh...I don’t know, I feel like it’s okay, but like because I’m very religious, and it’s not like someone forced me to be religious, and I really try to like following what the Bible says, and what the right thing is...” (Taiwanese female, age 18-20)

### *Communication*

As with parent-child interactions, communication between participants and their parents varied to some degree. While some participants described very open communication with their parents and a relatively high frequency of communication, others indicated that their communication was neither “good” nor “bad,” but what they considered “normal” for a parent-

child relationship. Nearly all participants said they felt comfortable discussing with their friends a range of topics that they would not discuss with their parents. Most participants noted, however, that dating, premarital sex, and the use of contraception were topics usually not discussed with friends, regardless of how close their relationship.

### *Intergenerational Communication*

Most participants considered communication with their parents to be “good,” and remarked that their parents encouraged them to communicate openly. However, nearly all participants preferred not to discuss personal or sensitive matters with either of their parents. Personal or more sensitive matters primarily concerned relationships and dating, though they also included grades, stress related to school, and future careers. While a few participants were reluctant to discuss topics related to school or careers for fear it would burden their parents, most participants preferred to discuss important choices such as those related to their careers with their parents. In terms of relationships and dating, most participants indicated that this would either be too awkward or too personal, or that they would prefer to wait until their relationship developed to a more serious stage before bringing it up with their parents. Only three participants, all female and who had described close relationships with their mothers, felt comfortable discussing intimate details of their relationships and dating experiences with their mothers. All female participants mentioned that relationships and dating were not topics they would consider discussing with their fathers.

Two participants described a certain “expectation” in communication with their parents, much of which was implicitly understood. For example, one participant said, “...my mom like, wants something, and I already knew that, so I don’t have to her ask like what her opinion is towards something” (Taiwanese male, age 21-23). Another participant said, “There’s definitely

an expectation. It wasn't really open. Um, pretty much I'd say things they pretty much want to hear at times" (Chinese American female, age 18-20). These experiences are similar to those of other participants, who mentioned that many topics were understood without being explicitly discussed, most of which pertained to relationships, dating, and sexual activity. This will be revisited in the "Views on Premarital Sex" section below.

### *Peer Communication*

Participants' communication with peers tended to differ from communication with parents, with a general indication that communication with peers was more open. One participant said that topics she could share with her friends included "pretty much anything" that she feels uncomfortable sharing with her parents (Chinese American female, age 18-20). Most participants relayed similar sentiments, while clarifying that they are willing to share more with friends with whom they have closer relationships. One participant described her conversations with her friends: "We just talk about whatever the conversation leads to" (Chinese female, age 18-20), even if it leads to a more personal topic. This reflects how most participants appeared to feel about communication with their friends.

However, despite the general feeling that peer communication is more open, seven of the 13 participants said that they do not often discuss relationships or dating, sex, or the use of contraception with their friends. One participant said, "...there's sometimes we like seriously talk about relationships and stuff, but most of the time we don't talk about this stuff, this topic either" (Chinese American male, age 18-20). Another participant said she only talks about these topics if they happen to come up during conversation, but that this is rare and it is never something she or her friends make a point to discuss (Chinese female, age 18-20). While referencing premarital sex, a third participant said:

“Because among my Chinese friends, we never talk about the issue because most of the people, some people just, they just don’t want to talk about the issue because they feel kind of weird. And then yeah, it’s not a topic to discuss.” (Chinese female, age 21-23)

Two other participants described these topics as “embarrassing” (both Chinese females, both age 21-23) to share even with close friends. A third participant said that even when she is with her best friend, with whom she feels very comfortable, they “still don’t talk about it that much anyway” (Chinese American female, age 18-20).

### ***Social Environment and Sex Education***

Aside from the two participants who were born and raised in the US, and one who had moved to the US as an infant, all other participants had spent at least half, if not the majority, of their lives in Asia (primarily in China, but this also includes Taiwan, Singapore, and Japan). Nearly all participants described their sex education as minimal, lacking, or nonexistent, regardless of whether it had been received in Asia or in North America. Any sex education participants received occurred almost entirely in school settings, and only three participants had ever discussed topics related to sex education with their parents at home.

#### *Asia (China, Taiwan, Singapore, and Japan)*

Eight participants received their sex education while in Asia, and an additional two participants received sex education while living in Asia as well as after moving to the US. All ten of these participants said that any sex education they received occurred primarily at school, and seven of these participants said that their parents had never talked to them about anything related to sex education. Two of these participants, both Chinese females and age 21-23, explained that their mothers had discussed matters relating to sex education with them, such as condom use and staying safe while engaging in sexual activity. However, they described these discussions as “brief” and “implicit,” and they “didn’t get detailed.”

In terms of sex education received at school, all ten participants described it as “minimal” and “vague.” For most of these participants, it occurred (or was meant to) in middle school or high school. It also occurred at the end of primary school for two participants, though that primarily concerned menstruation, as girls were starting to hit puberty. One participant described a picture of a volcano that was used to represent relationships in her sex education classes in high school, with the eruption indicating engaging in sexual intercourse. She said, “Yeah, they’re just like imply it, never just say it out loud. Like ‘genital,’ this word never appear in my sex lessons” (Chinese female, age 21-23). Her next statement reflects the experiences of most participants who received their sex education in Asia: “I think it’s like, Asian culture. They have a thing about sex. It’s just like, you have to talk about it, but not explicitly talk about it” (Chinese female, age 21-23). Three other participants, one of which grew up in a rural area and the other two in cities, said that their teachers avoided talking about it, likely due to embarrassment. One participant said of his sex education,

“It was virtually nonexistent. The truth is that in middle school there is a class called—there’s a biology class, and so in the textbook of that biology class there is some content on sex and by birth or things like that. But whenever it comes to a part of class, the teacher will try to avoid it or like say it in kind, or mentioned in some kind of elusive ways. Because I guess they are kind of embarrassed, and I guess they also see that students will get embarrassed. So, and [this topic] never actually in tests or exams...” (Chinese male, age 24-26)

Another participant, who lived in China until middle school, described how teachers in China “dictate” students’ time in school, which leads to the “elimination of anything they don’t think is necessary” (Chinese American male, age 18-20). According to this participant, sex education and health topics are often considered unnecessary, and therefore eliminated from the curriculum. Two other participants described confusion over what exactly their sex education classes were trying to teach them. One participant said, “...they didn’t really explain like, what’s going on,

like why are you learning these?” (Chinese female, age 24-26). The other reported feeling “ignorant” about most things related to sex, such as how a woman gets pregnant, until she was a sophomore in high school (Chinese female, age 27+). If contraception was mentioned during sex education classes, it related almost entirely to condoms. A few participants described seeing pictures of condoms, and one participant said that while she heard about different types of contraception, she never actually learned how to use it or how it works. She said, “[The] teacher in high school, they taught us about contraception. But they just say it’s important to do contraception, but they didn’t tell us like how to do that” (Chinese female, age 21-23). Another participant said that before coming to the US, she was unaware of what different types of contraception looked like.

A few participants suggested that the structure of sex education in China forces students to turn to other sources or methods for information relating to sex. One participant emphasized that unless students take biology courses in high school, which are not required, then “they might have to just figure out another way” (Chinese female, age 24-26). Two other participants maintained that a lot of what students learn about sex is from “interactions with peers,” rather than from teachers or in sex education classes. Indicating some concern for this trend, one participant said,

“...most of the Asian cultures I guess, we don’t talk about this explicitly. We think this topic is too personal, too intimate to talk with, with people. And so we don’t talk about it. The younger generation just don’t get enough information from the older generation. So they just need to find other methods to figure this out, which is not very good, because usually they would learn it from porn websites.” (Chinese female, age 27+)

#### *North America (US or Canada)*

Of the five participants who received their sex education, at least partially, in North America, only one participant had discussed anything related to sex education with his parents.

This also primarily concerned the benefits of using condoms while engaging in sexual activity. The four other participants had never had discussed such topics with their parents. As one participant said, reflecting other participants' experiences as well, "Any sex education I've ever had has just come from school" (Chinese American female, age 18-20). For these participants, their sex education occurred at three different points: primary school, middle school, and high school. Though none of these participants described it as extensive or in-depth.

While one participant found the sex education she received helpful, two others described it as lacking, highlighting that it was presented with underlying stigma and that they were essentially told to remain abstinent. Two of these participants, who had also received some sex education in Asia, said that the sex education in North America was more open than what they had experienced in Asia. One participant compared a demonstration for how to use a condom in her class in the US to pictures of condoms in her class in Taiwan, accompanied with little explanation. She noted the different ways of teaching in the US might be helpful, but would be difficult to implement in Taiwan because parents would "complain to the school" that it is too inappropriate (Taiwanese female, age 18-20). However, another participant who grew up in the Seattle area said that contraception "pretty much got mentioned," without further information about it. She said of her sex education classes, "It wasn't as serious as I thought it was going to be...they pretty much just informed us like...trying to not get pregnant at a young age" (Chinese American female, age 18-20).

### ***Views on Premarital Sex***

Participants discussed their own individual views towards premarital sex, as well as those of their parents. The majority of participants maintain neutral views towards premarital sex, and six described a change in their views, from negative to positive. For nearly all participants,

premarital sex was not explicitly discussed in their families. Many guessed that their parents also maintain neutral stances towards premarital sex, however, some participants indicated that their parents view it negatively.

### *Individual Views*

Of the 13 participants, ten had neutral views towards premarital sex. These participants described their views towards premarital sex as “just fine,” “normal,” and “everyone’s choice.” Participants felt that premarital sex is a “personal matter,” and therefore not something they can judge one way or the other. As one participant said,

“Because my view is that having sex is ultimately in one’s personal matters. So it’s his or her freedom... So I think, from my own perspective, I think that’s—so I won’t, I will not impose a value judgment of it.” (Chinese male, age 24-26)

This quote reflects sentiments relayed by most of these participants, who view premarital sex neither negatively nor positively, saying that people “can do whatever [they] want.”

Two of the participants, both male, indicated that they view premarital sex positively. They described it as “essential” and “necessary,” and as something that people cannot and should not refrain from engaging in. Two other participants expressed rather negative views towards premarital sex, one of which identifies as Christian, and whose thoughts were discussed above. While the other participant does not view premarital sex favorably, he does not wish to impose his opinion on anyone else:

“Um, well, actually I don’t [think] is very, very good choice. But that’s okay. I don’t have any specific thing about it. But I think traditionally we don’t value pre-married sex behavior.” (Chinese male, age 27+)

Six participants described a change in their views. With the exception of the participant who identifies as Christian, all participants indicated that their views changed from negative to neutral. Three participants had previously viewed premarital sex as “irresponsible,” and as

something they were “against” or “couldn’t accept.” One participant attributed this view to her sex education: “I think I was completely against premarital sex, just because at my school they were just like, don’t have sex, it’s bad for you” (Chinese American female, age 18-20). Four of these participants said that their views changed after beginning their studies at UW, becoming more of an adult, and being exposed to more people. One participant said:

“And then like coming to UW I think because I’m becoming more of an adult, I have to make some decisions [about] my life, and I have been hearing different stories from a lot of people. It’s—I just became like, really open to it. Like it’s fine, like you can make decisions for yourself and figure out what you want to do for the future and how that will affect you.” (Chinese American female, age 18-20)

Another participant attributed her change in view to discussions with a close friend, and said that her friend’s opinion influenced her to be more accepting of premarital sex. Other participants, however, did not identify a change in view despite changing social environments, whether that was a change in schools, in rural vs. urban areas, or a different country.

### *Parent and Family Views*

Participants provided their best guesses as to how they believed their parents or other family members view premarital sex. For nearly all participants, opinions on premarital sex was not something that their parents explicitly discussed. Some participants made clear that their parents’ opinions were conveyed implicitly, while other participants admitted they had very little knowledge as to how their parents truly felt about it.

Nine participants, while qualifying that they did not know how their parents truly felt, assumed that their parents maintain neutral views towards premarital sex. One participant said, “I don’t think they like mind it either. They’ve never explicitly said like, can’t do whatever” (Chinese female, age 18-20). Another participant said she assumes her parents are “probably fine with it,” as long as she is “not like hooking up or anything” (Chinese American female, age 18-

20). Two other participants believe that their parents also would not take issue with it, provided that it is not “too frequent,” and another guessed her parents would accept it more as social norms continue to change. Another participant said that because her parents had her before they were married, she presumes they are fine with it, though in her culture, “it’s really out of the norm to have premarital sex” (Chinese American female, age 18-20).

Four participants assumed that their parents hold negative views towards premarital sex. Only one participant was certain about her parents’ views, and cites their Christian identity as the reason. Two participants attributed their parents’ negative views to them being “too traditional,” while another participant expanded on this notion:

“My guess is that they will not accept it. In terms of sex or marriage, they are still quite conservative...they will say that you have to have a long and stable relationship between you before you can get married. They will say that you cannot have child before you, so you cannot have children before you get married. And they will also prohibit so-called ‘early dating.’” (Chinese male, age 24-26)

### ***Views on Contraception***

While discussing contraception, nearly all participants indicated positive views towards its use. Although almost all participants view contraception as beneficial to both parties engaging in sexual activity, only seven were active supporters of its use. The majority of participants presumed that their parents also view contraception positively, or at least as a “necessary” tool for engaging in sexual activity. However, four participants did suggest that their parents view its use negatively. Nearly all participants indicated that contraception is easily accessible both on- and off-campus. Many participants, however, were unsure of how to access contraception other than male condoms. A few also described embarrassment or awkwardness as potential barriers to accessing contraception.

### *Individual Views*

Nearly all participants regard the use of contraception favorably. Participants view it as “good,” citing its use as a form of protection against unintended pregnancy, as well as against STIs in the case of condoms. One participant summed up seven of the participants’ views: “Like, everyone should use it, yeah” (Chinese female, age 18-20). While nearly all participants’ attitudes towards contraception were positive, only seven participants were more enthusiastic in their support for its use. Of the more enthusiastic participants, one said, “Um, I think it’s very important, because no one wants to get pregnant” (Chinese American male, age 18-20). Another participant, also stressing the importance of contraception, said, “I think it’s necessary to use those kind of methods to not only prevent from pregnancy, but also illness” (Chinese female, age 27+). A few other participants echoed the perception that contraception use is “necessary” if engaging in sexual activity.

Five participants maintained rather matter-of-fact attitudes regarding the benefits of contraception, and refrained from declaring support for or opposition to its use. As one participant said, “...it’s a personal freedom and personal choice...I don’t think anyone has the right or power to allow it or to prohibit it” (Chinese male, age 24-26). Another participant, reflecting this general sentiment, said, “I think it’s okay. It just fine, is that people’s choices” (Chinese female, age 21-23).

Only one participant holds a negative view towards the use of contraception. While she admits contraception is a “useful tool,” she said, “But I also feel like this also encouraged people to do more of this kind of activity. If there’s not this kind of stuff, then people wouldn’t do it...” (Taiwanese female, age 18-20). This view is closely related to her Christian beliefs.

### *Parent and Family Views*

As with views on premarital sex, participants provided guesses as to how their parents or other family members feel about the use of contraception. This was another topic that was not discussed explicitly within participants' families. Only one participant felt that she could not accurately guess her parents' stance on contraception, if they have one at all, and left it at that.

Six participants presumed that their parents maintain positive views on contraception, and feel that it is "necessary" if one wishes to engage in premarital sex. One participant demonstrated this point, saying,

"I think they [*parents*] like me, this thing is necessary if you want it, it's necessary measure. I think Chinese culture, we don't think contraception is kind of evil thing. It's okay." (Chinese male, age 27+)

Two other participants speculated that their parents would tell them to use contraception if they were to engage in premarital sex. However, parents' positive views on contraception did not necessarily mean they encouraged its use. One participant said,

"I think they would say it's necessary. But instead of going into details of the advantages and disadvantages of using contraceptive tools, they may go into detail about you not having that kind of thing that often. You just don't have sex that often, altogether, then you don't have to, avoid that trap of taking pills and using condoms. That's my impression, because I haven't talked to them about it in recent years, I don't know." (Chinese female, age 21-23)

Three participants presumed their parents hold neutral views on contraception, and do not feel strongly one way or the other about it. These participants said their parents view it "as something that people use," and that they are "just okay with it."

Four participants guessed that their parents view contraception and its use negatively. One of these participants, who identifies as Christian and whose parents are also Christian, attributes their negative view to their religion. Other participants, however, believe their parents "will not accept it" due to their more traditional beliefs. As one participant said,

“I would say of course they wouldn’t accept it, and they wouldn’t allow me to do it. That’s their hope, I guess. Because I think for their generation, it is the right thing to do.” (Chinese female, age 27+)

Another participant described how her mother is cautious about the use of contraception because of fears of how it might affect the reproductive system and fertility, and advises against its use until after bearing the desired number of children. The participant did, however, qualify that otherwise her mother is “not really opposed to it...like how people use it kind of like pretty freely” (Chinese American female, age 18-20).

### *Access to Contraception*

There was a general assumption amongst most participants that contraception is easily accessible both on-campus at UW and off-campus. Three participants mentioned the availability of free condoms at Hall Health at UW, and others cited easy access to condoms at convenience stores nearby. Three other participants discussed how while condoms are easily accessible, both in terms of the locations at which they are available and cost, other forms of contraception are likely more difficult to access, as they require prescriptions, provider administration, or are more expensive.

Despite the general assumption that contraception is easily accessible, six participants noted that they were unsure of where or how to access contraception should they need it. One participant asked, “Like I don’t know how to get birth control – like don’t you need a prescription?” (Chinese American female, age 18-20). However, these participants also indicated that they are not at a point at which they feel they need it, with one saying, “I haven’t actually looked out for it, so I don’t know” (Chinese female, age 21-23).

Three participants also brought up feeling embarrassed or awkward about obtaining contraception, both condoms and oral contraceptive pills. One participant, whose parents are

Chinese but grew up in Japan, mentioned the embarrassment of being “seen” by peers while purchasing condoms, as contraception is not discussed even among friends. However, she felt obtaining contraception at a hospital or clinic could maintain her privacy. She said that “most people use it,” but they “don’t talk about it” (Chinese female, age 21-23). Another offered the explanation that buying condoms “implies something,” and the cashier may be judgmental (Taiwanese female, age 18-20). The third participant said, “I felt embarrassed of buying contraceptive pills myself,” and expressed a preference to purchase non-prescription contraception online (Chinese female, age 21-23).

## **Discussion**

This study revealed a number of interesting findings, which both reflect and contradict previous research. Communication, specifically communication amongst peers, appears to be the most influential cultural factor in shaping UW Chinese and Taiwanese student attitudes towards the use of contraception. Cultural factors seem to have little influence in most participants’ decisions to access health services for contraception. For the participants in which they do play a role, family structure appears to be more influential. However, participants’ apparent preference for male condoms indicates that they might be less likely to access health services for contraception.

When detailing family life, and individual views as compared to parent or family views, many participants highlighted certain aspects of traditional Confucian culture, suggesting that it continues to play a significant role in their family structures. This highlights the influence of culture, which falls at the societal level the adapted Social-Ecological Model (SEM) used as the framework for this study. Some participants described hierarchical relationships between themselves and their parents, the importance of demonstrating filial piety, and the taboo

surrounding not only discussions about sex, but also engaging in premarital sex. Only three participants had talked over anything related to sex with their parents, while the topic had never been broached with all the other participants. This extended to many participants' school settings, where they described their sex education as "virtually nonexistent" because the matter could not be explicitly discussed, their teachers were too shy to teach it, or it was deemed unimportant or unnecessary. In some cases, participants were asked to study the subject on their own by reading a chapter in a textbook, and discussions of sex were avoided altogether. These experiences reflect the findings in studies conducted by Chen et al. (2016), Frost et al. (2016), and Kao et al. (2014), among many others (Lee et al., 2015; Pai et al., 2010; Tsai and Wong, 2003; Tung et al., 2012; Tung et al., 2015; Zhang et al., 2004). Parent-child interactions in this study varied to a greater degree than those presented in the literature, which tends to place a strong emphasis on strict interactions and pressure to meet parental expectations (Chen et al., 2016; Kao et al., 2014; Lee et al., 2015; Pai et al., 2010; Trinh et al., 2013). While a few participants mentioned that their parents conveyed implicit expectations, several participants described close relationships with one or both of their parents, with little pressure to meet expectations.

Family values also play an important role in participants' lives, though they maintain these values with a more liberal and open-minded approach compared to their parents. Participants viewing themselves as more liberal likely contributes to their generally accepting views of premarital sex and the use of contraception, as does their communication with peers, which participants depicted as much more open as compared to communication with their parents. Differences in participants' communication styles and the topics they discuss with their parents compared to with their friends reflect those described in the literature (*ibid*). There is

some evidence in this study suggesting that peer influence plays a stronger role in shaping attitudes towards premarital sex and contraception than parental influence, one of the findings in the literature (*ibid*). A few participants attributed a change in their views to discussions with friends and exposure to peers' diversity of experiences. This occurred despite their parents maintaining more traditional, and sometimes negative views towards premarital sex and the use of contraception. Other participants presumed that while their parents did not have particularly negative views towards premarital sex or contraception, they preferred that the participants not engage in such activities. However, this did not seem to influence participants' views towards premarital sex or the use of contraception. This underscores the significance of individuals' social network at the interpersonal level of the adapted SEM. Specifically, it highlights the highly influential role of peers and friends, as opposed to parents and other family members. Though it must be noted that most participants do not explicitly or often discuss premarital sex or the use of contraception with their friends, serving as a reminder of the lingering influence of traditional Confucian culture at the societal level of the SEM.

The majority of participants grew up in Asia, in school and home social environments that for the most part discouraged discussion about premarital sex and the use of contraception. During the interviews, most of these participants explained that they rarely, if ever, discuss relationships, sex, or contraception with their friends or parents. Even after moving to Seattle to study at UW, this continues to be the case. It was similar for those who were raised in the Seattle area, where attitudes towards premarital sex and contraception are remarkably liberal, in that these participants also rarely talk about these topics with friends or family members. Most participants did not perceive a change in their views, or a change in the types of topics they discuss, based on a change in their social environment. Most were also unsure as to whether their

views on these topics were similar or different from those of their friends at UW, as this was not something they had discussed. This was rather unexpected, as almost all participants (except for two) have resided in the US for more than two years, and contradicts the literature suggesting that length of stay correlates with the adoption of local views, attitudes, and behaviors (Burchard et al., 2011; Tung et al., 2012). This suggests that while the social environment, which represents the organizational and community level of the adapted SEM, may have substantial explanatory power for the attitudes and behaviors of certain populations, it plays a less significant role among UW Chinese and Taiwanese student populations.

Family structure, communication, and the social environment served as measures for culture in this study. Based on this study's findings, family structure and social environment appear to have little influence over UW Chinese and Taiwanese students' attitudes towards the use of contraception. There is some evidence that suggests communication style weighs the most heavily in shaping attitudes towards the use of contraception. Specifically, differences between communication styles with peers as opposed to parents, which were largely similar across all participants, appeared to have a stronger effect on their attitudes. However, this warrants a further examination of communication to gain a greater understanding of the role it plays in influencing attitudes.

Based on participants' discussion about the accessibility of contraception, either on-campus at UW or off-campus in the Seattle area, it appears that cultural factors might influence only a few participants in their decisions to access health services for contraception. As opposed to communication, which seems to shape participants' attitudes towards contraception, aspects of family structure, specifically taboos surrounding premarital sex rooted in traditional Confucian culture, appear to be most influential in decisions to access health services. These participants

described feeling embarrassed by or awkward about obtaining contraception, as they may be seen or judged by people they know. For them, obtaining contraception implies sexual activity, a matter they would prefer to keep private. This reflects previous literature that cites such experiences as a barrier to accessing contraception (Frost et al., 2016; Wong, 2012; Zhao et al., 2016). However, aspects of family structure, as well as communication and social environment, do not appear to factor into other participants' decisions to access health services for contraception. According to most participants, contraception is easily accessible, and there was no indication that these cultural factors might play into whether they access health services for it. A number of participants implied that they are not at a point where they feel they need contraception, and though some were unsure as to where or how to obtain contraception, they did not allude to any hesitation or reluctance to access health services should they need it. Participants did, however, express a general preference for condoms, which may be linked to the ease with which condoms can be procured. This also suggests that they may be less likely to access health services for contraception, as they may just as soon obtain condoms at a grocery or convenience store.

The adapted Social-Ecological Model (SEM) proved useful for examining attitudes towards contraception, and acknowledges the multiple levels of influence on individuals, their attitudes, and their behaviors. However, according to the findings of this study, not all levels exert equal influence on individuals. While the interpersonal (social network) and societal (cultural traits, such as Confucian traditions) levels of the framework played important roles in shaping attitudes, the organizational and community level (social environment) did not appear to form student attitudes to perhaps the extent expected. Despite this finding, this study

demonstrates the importance of examining multiple levels of influence to gain a better understanding of the drivers of individual attitudes.

### **Limitations**

There are a few limitations that must be noted. First, the COVID-19 pandemic prevented the recruitment of additional participants, as everyone did their best to maintain social distancing guidelines, and many students left the UW campus once classes were moved to an online format at the end of winter quarter. Therefore, it is difficult to know whether data saturation was reached, and additional interviews may have provided further insight or further reinforced points made by participants in this study.

The data is also subject to selection bias, as students who agreed to participate in the study are likely to possess traits or characteristics that are inherently different from those who would prefer not to participate. Participants in this study are likely more outgoing and comfortable with sharing their opinions, attitudes, and experiences, especially regarding sensitive topics, compared to students who opted not to participate. Participants may also have an interest in the study subject matter and have researched or given some thought to it, which is likely to influence their opinions and attitudes, as opposed to students who would rather not discuss such topics or have no interest. These traits are likely not representative of the larger population. It is difficult to say whether Chinese and Taiwanese students at UW who chose not to participate share similar views. International or exchange students who choose to study abroad and have the means to do so are also likely to exhibit differences compared to those without the means or who choose to remain within their countries. Given that most participants had the opportunity to study abroad, they likely come from families of a higher socioeconomic status, have had greater opportunities for education, and likely maintain more liberal views towards certain political and

social issues. At the end of their interviews, two Chinese participants noted that they felt their generally positive and accepting views towards premarital sex and the use of contraception are the “exception,” and that these do not reflect the views of others who share their cultural background. They were also uncertain as to whether other Chinese and Taiwanese students at UW hold similar views.

This brings up issues of external validity. Given the qualitative nature of this study, these findings cannot be generalized to larger Chinese and Taiwanese populations, whether living in the US or in Asia. This study does, however, provide valuable insight into the attitudes of Chinese and Taiwanese student populations in a university setting, and may be transferable to Chinese and Taiwanese student populations at other universities in the US.

A fourth limitation was that only one other coder was available to perform an inter-rater reliability check. Although the percent agreement was high (above 80%), suggesting that the codebook is reliable, having additional coders weigh in may have reinforced the robustness and reliability of the codebook and coding.

## **Implications**

Based on this study’s findings, communication is an influential factor in shaping UW Chinese and Taiwanese student attitudes towards the use of contraception. While students are open to communicating about topics such as contraception and premarital sex, they may be hesitant to do so. This suggests that health care providers should proactively address these subjects during visits, even if students themselves do not bring them up. Although students may not necessarily have an immediate need for contraception, it is likely that they would find this information valuable, and it may prove useful at a later date. Additionally, participants’ discussion about contraception demonstrated that they were generally unsure or unaware of

contraceptive options other than male condoms and how they work, as well as where and how to access them. This could contribute to their general preference for the use of male condoms if engaging in sexual activity, and suggests that health care providers should, if possible, spend additional time during visits to review alternative contraceptive methods. Handouts providing information and graphics about the various contraceptive methods should also be made available for students in clinic waiting rooms, such as at Hall Health, and in places like the Husky Union Building.

Given participants' general feeling that there is a gap in their knowledge surrounding sex education topics and contraception, it may prove worthwhile for public health practitioners to develop workshops that students can attend on campus. Public health practitioners could partner with Chinese and Taiwanese student organizations, as well as with other student organizations, to reach these populations and hold workshops. Workshop material could include showings of American, Chinese, and other foreign films in which romantic relationships play an important role, and facilitated discussions on the way in which sexual encounters are presented and their implications. In addition to films, workshops could examine other popular culture material, such as TV shows, music videos, manga or comic books, or short graphic novels. Workshops could also take a more educational approach, such as information sessions about the variety of contraceptive options, how they work, and how and where to obtain them should they be needed.

This study provides a stepping stone for future research, and a number of findings warrant further examination. For example, conducting this study with a greater number of participants may provide additional insight into the role of communication in influencing Chinese and Taiwanese students' attitudes towards the use of contraception, and is more likely to reach data saturation. While family structure and social environment appear to have little

influence on participant attitudes, a more detailed examination of these as well as of communication can enable a deeper understanding of culture, and how these factors play into student attitudes. Additionally, future studies could shift from student attitudes to student behavior, and survey directly whether students are accessing health services for contraception, and whether they feel they need it.

## **Conclusion**

The public health community has recognized that Asian and Asian American populations remain underrepresented in the literature. However, despite the growing body of research with a focus on these populations, few studies disaggregate “Asian” and “Asian American” populations, and most continue to group these populations together (Frisbie et al., 2001; Jackson et al., 2016; Okazaki, 2002; Ro, 2002; Tapales et al., 2018; Yu et al., 2004). This is problematic not only because it erases important cultural differences between the wide variety of “Asian” groups, but also because it homogenizes these groups’ different experiences that are likely to influence individual health behavior and health outcomes (Islam et al., 2010; Okazaki, 2002; Ro and Yee, 2010; Tapales et al., 2018).

By focusing on UW Chinese and Taiwanese student populations, who share a culture rooted in Confucian tradition, this study contributes to addressing the gap in the literature. The exploratory, qualitative nature of this study also provides insight into the cultural factors influencing UW Chinese and Taiwanese students’ attitudes towards the use of contraception. Family structure, communication, and social environment can be used as measures of “culture,” as these factors differ between populations (Giger and Davidhizar, 2002; Purnell, 2000). As this study suggests, communication, and how it differs based on with whom the participant is communicating (specifically, whether it was with parents or those of older generations, or with

peers and friends), may be a more influential cultural factor than family structure or social environment. Finally, this study offers a foundation upon which future studies can build to gain a deeper understanding of cultural influences on attitudes, behaviors, and ultimately health outcomes.

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## Appendices

### Appendix A: Demographic Survey

#### Demographic Survey

Thank you for participating in this study. Before we begin the interview, it would be very helpful if you could fill out this short survey. There are nine questions, and the survey should only take a couple of minutes. You do not have to answer all of the questions if you do not wish to. All survey information will be de-identified, so that this information cannot be traced back to you.

1. What is your age?
  - a) 18 – 20
  - b) 21 – 23
  - c) 24 – 26
  - d) 27+
  
2. What is your gender?
  - a) Male
  - b) Female
  - c) Non-Binary
  - d) Prefer not to say
  - e) Other:
    - 1) \_\_\_\_\_
  
3. What year of study are you currently in?
  - a) Undergraduate:
    - 1) Freshman
    - 2) Sophomore
    - 3) Junior
    - 4) Senior
  - b) Graduate:
    - 1) First year
    - 2) Second year
    - 3) Third year or higher
  
4. How long have you been in the US?
  - a) < 3 months
  - b) 3 – 6 months
  - c) 7 – 11 months
  - d) 1 – 2 years
  - e) 2+ years
  
5. Where were you born?
  - a) China
  - b) Taiwan

- c) The US
- d) Other:
  - 1) \_\_\_\_\_

6. Please indicate which of the following you identify most closely with:

- a) Chinese
- b) Taiwanese
- c) Both Chinese and Taiwanese
- d) American
- e) Chinese American
- f) Taiwanese American
- g) Chinese and Taiwanese American
- h) Other:
  - 1) \_\_\_\_\_

7. What language do you speak at home?

- a) English
- b) Chinese
- c) Both English and Chinese
- d) Other:
  - 1) \_\_\_\_\_

8. What is your religious preference?

- a) Buddhist
- b) Hindu
- c) Jewish
- d) Christian
  - 1) Roman Catholic
  - 2) Protestant
- e) Muslim
- f) Taoist
- g) No religious preference
- h) Other:
  - 1) \_\_\_\_\_

9. To what extent do you consider yourself to be religious?

- a) Not religious
- b) Somewhat religious
- c) Moderately religious
- d) Very religious
- e) Not sure

## Appendix B: Interview Guide

### Interview Guide

We will now begin the interview. As with the Background Survey, you do not have to answer all of the questions if you do not wish to. We can skip any of the questions if you do not wish to answer them. All the information you provide during the interview will be de-identified, so that this information cannot be traced back to you.

Family (social organization) and communication:

1. Could you tell me about yourself?
2. Where did you grow up?
3. What was it like growing up?
4. Could you tell me about your family?
5. What are some of your family's values, or what does your family find most important?
6. Do you share those values (or do you also find those things important)? Why or why not?
7. Generally speaking, how would you describe parent-child interactions in your family? For example, were your parents strict while you were growing up, or were they more relaxed, etc.?
8. How would you describe communication between your family members? For example, is it very open, or is a lot left unsaid, etc.?
9. What types of topics do you feel you can share with your parents?
10. What types of topics would you rather keep to yourself?
11. What about when communicating with your friends? What types of topics do you feel you can or can't share with them?

Views on premarital sex and contraception:

12. How would you describe the sex education you received while growing up?
13. Where did it take place (at school, home), and who was involved (teachers, parents)?
14. What are your views on premarital sex?
15. What are your parents' or family's views on premarital sex?

16. What do you think about the use of contraception?

17. How do your parents (or how does your family) feel about it?

Social environment at UW (space):

18. Do you feel your views on premarital sex or the use of contraception have changed since coming to UW? In what ways?

19. Do you feel that contraception is easily accessible either at UW or off-campus? Why or why not?

Culture:

20. Do you feel your views on premarital sex or the use of contraception differ from those of your peers at UW with different backgrounds (e.g., from a non-Chinese or non-Taiwanese background)? In what ways?

## Appendix C: Codebook

### PRIMARY CODES

Primary code	1.0 Family Structure (Social Organization)
Detailed description	Comments related to family structure and social roles within the family (whether based on gender, parent/child/sibling roles), about family priorities or values, views towards expected or alternative lifestyles, and spirituality or religion.
Inclusion criteria	Usually associated with questions 5, 6, and 7 (sometimes with 3 and 4 as well), when participants discuss daily and family life, family values or what they find important, and how they interact with their parents (or other members of their family).
Exclusion criteria	When participants discuss communication with their parents, other members of their family, or friends, including discussions of “explicit” vs. “implicit” modes of communication.
Typical exemplars	<p>“Um, hard work is something that like my parents really tried to instill in us when we were younger...”</p> <p>“And they value more about like, the international viewpoint, like I don’t know how to say it, they just like they want us to explore more instead of just staying at, you know, the comfort zone.”</p> <p>“Um, I'd say she values honesty... But besides honesty, I'd say the sense of like taking care of your family, I guess.”</p>
Close, but no	“She wants to be like more open minded so that my brother will want to talk to her more, you know?” (2.0 Communication)
Secondary codes	1.1 Values/Priorities 1.2 Parent-child interactions 1.3 Spirituality/Religion 1.4 Traditional Confucian culture

Primary code	2.0 Communication
Detailed description	Comments related to how participants communicate with their family members and friends, specifically the willingness (or unwillingness) to share thoughts and feelings. This also includes the types of topics they feel comfortable (or uncomfortable) with sharing (both with family and friends).
Inclusion criteria	Usually associated with questions 8, 9, 10, and 11, when participants specifically talk about communication dynamics within their families and friend groups, and the types of topics they feel they can and can’t share with their parents and friends.
Exclusion criteria	When participants discuss interactions with family members, such as whether their parents are/were strict (1.2 Parent-Child

	<i>Interactions</i> ), or describe what daily and family life was like while growing up or currently.
Typical exemplars	“I would say it’s quite open. They always encouraged me to talk to them, whatever problems I have.” “It’s been pretty open for the recent years...” “There’s definitely an expectation. It wasn’t really open.”
Close, but no	“So the only way we can really talk to each other is through the LINE, we have like a group chat.” ( <i>Method of communication rather than communication dynamics</i> )
Secondary codes	2.1 Intergenerational communication 2.2 Peer communication

Primary code	3.0 Social Environment (Space)
Detailed description	The context within which communication and interaction occur; the social environment mediates communication and interaction, and can influence what should and should not be done and/or discussed, and with whom.
Inclusion criteria	Usually associated with questions 2, 3, 13, 18, and 19. This is when participants discuss the environment they grew up in, including their childhood/adolescent home and school environment, as well as their current environment at UW.
Exclusion criteria	Physical aspects of the environment unrelated to social interaction.
Typical exemplars	“...like in Beijing, I think because my friends, my classmates, my coworkers, are most of them are very good educated. So I think their thoughts, their opinions towards the world differs a lot from my, from the people in my hometown, a small town, so yeah.” “Oh, no. UW doesn’t have anything to do with my views, but I think um one of my friend had a very, like, big influence on my view of thinking on this topic.”
Close, but no	“...because a lot of people are moving there for like tech jobs, it’s like developing really fast...” ( <i>Addresses the physical aspects of participant’s hometown, rather than social environment participant grew up in</i> )
Secondary codes	3.1 Home 3.2 School

Primary code	4.0 Views on Premarital Sex
Detailed description	Comments related to the participants’ individual views, opinions, or perceptions towards premarital sex, as well as those of their family members, friends, or teachers.

Inclusion criteria	Usually associated with questions 14 and 15, when participants discuss their own views and their parents' or family's views towards premarital sex.
Exclusion criteria	When participants discuss whether they, their parents, or their friends have engaged in premarital sex without addressing particular views on premarital sex.
Typical exemplars	<p>"Well, for now, I think it's okay. It's personal choice."</p> <p>"Um, well, actually I don't [think] is very, very good choice. But that's okay. I don't have any specific thing about it."</p> <p>"I think it's fine... if you want to have premarital sex, like that's completely fine."</p>
Close, but no	<p>"And I don't even know whether they have premarital sex or not. I just don't ask."</p> <p>"I have already did it."</p> <p><i>(Both quotes do not address views towards premarital sex)</i></p>
Secondary codes	<p>4.1 Individual views on premarital sex</p> <p>4.2 Parent/family views on premarital sex</p>

Primary code	5.0 Views on Contraception
Detailed description	Comments related to the participants' individual views towards contraception, as well as those of their family members, friends, or teachers.
Inclusion criteria	Usually associated with questions 16 and 17, when participants discuss their own views and their parents' or family's views towards the use of contraception. It may come up in question 12 when participants discuss the sex education they received while growing up.
Exclusion criteria	When participants bring up abortion, discuss different contraceptive methods and their mechanisms of action objectively rather than views towards them, or discuss methods they or their parents have used.
Typical exemplars	<p>"I think it's necessary to use those kind of...methods to not only prevent from pregnancy, but also illness."</p> <p>"I still [think] it's a personal freedom and personal choice."</p> <p>"It just fine, is that people's choices."</p>
Close, but no	"I used condoms... Um, but I see my friends taking contraceptive pills..." <i>(Does not address views towards contraception)</i>
Secondary codes	<p>5.1 Individual views on contraception</p> <p>5.2 Parent/family views on contraception</p> <p>5.3 Access to contraception</p>

Primary code	6.0 Sex Education
Detailed description	Comments related to how and where participants learned about sex and sexual health, whether formally or informally.
Inclusion criteria	Usually related to questions 12 and 13, when participants describe the sex education they received, where it took place, and who was involved.
Exclusion criteria	When participants discuss whether they or anyone they know (family, friends) have engaged in premarital sex or used contraception.
Typical exemplars	<p>“Very little, I would say. Yeah, very little. Teachers wouldn't say that.”</p> <p>“No, because our teacher is so shy, was so shy.”</p> <p>“Pretty much I've just been told to be abstinent, don't have sex at all.”</p>
Close, but no	“...like people got really demonized...if you're just friends with your classmate that could be really negatively viewed.” ( <i>1.4 Traditional Confucian culture</i> )
Secondary codes	<p>6.1 At school: from teachers or other adults in school settings</p> <p>6.2 At home: from parents</p> <p>6.3 Other informal methods (including talking with friends, using the internet)</p>

## SECONDARY CODES

### 1.0 Family Structure (Social Organization)

Secondary code	1.1 Family Structure (Social Organization): Values/Priorities
Detailed description	Comments related to participants' family's values and priorities, or what they find most important. This includes the parents' or family's values and priorities, as well as the participants' own individual ones.
Inclusion criteria	Usually related to questions 5 and 6, when the participants discuss the values and priorities of their families, and whether they share those values or hold different ones.
Exclusion criteria	When participants talk about relationships between family members without any implications about values or priorities the family or they themselves may hold.
Typical exemplars	<p>“And what I value most is my study, my development, my career.”</p> <p>“I still hold that hard work and resilience is really important, really important characteristics, but I will say I value flexibility more, because how I grew up, I really tried to be flexible.”</p>

Close, but no	“And then I have a lot of hobbies when I was like, pretty young, so they kind of like financially support all my hobbies.” ( <i>Does not address values or priorities; participant rather describes what life was like growing up</i> )
Possible subcodes	1.1.1 Family values/priorities 1.1.2 Individual values/priorities

Secondary code	1.2 Family Structure (Social Organization): Parent-Child Interactions
Detailed description	Comments related to parent-child interactions, which is largely influenced by social roles within the family and the relationships between family members.
Inclusion criteria	Usually associated with question 7, when participants describe general parent-child interactions in their families, and discuss the nature of their interactions.
Exclusion criteria	When participants discuss communication between parents and children ( <i>2.1 Communication: Intergenerational communication</i> )
Typical exemplars	“...before I attended boarding school, interactions would be more paternalistic, especially between me and my dad...” “...my mom was always the strict one and my father was the relaxing one...” “I would say like they're like my superiors and I have to respect them, kind of like, I guess you can say kind of like filial piety...”
Close, but no	“Um, I was I was reading, okay, my mom read a lot of like child development or like a parenting book...” ( <i>Does not address participant's interactions with parent; code 1.4 Traditional Confucian culture a better fit</i> )
Possible subcodes	1.2.1 Strict 1.2.2 Relaxed/open

Secondary code	1.3 Family Structure (Social Organization): Spirituality/Religion
Detailed description	Comments related to any religion, spirituality, or faith that the participants might participate or engage in.
Inclusion criteria	Usually associated with questions 3, 14, and 16, when participants discuss what life was like growing up and their views on premarital sex and contraception, which are both often heavily influenced by religious or spiritual beliefs.
Exclusion criteria	When participants discuss values or priorities that are not connected to religious or spiritual beliefs.
Typical exemplars	“...because churches always say like you can't have, you know, pre-marriage sex... I really try to like follow what the Bible says, and what the right thing is...”

	“I sometimes have that cultural installation, where you're growing up you can internalize something that was supposed to be religious, but you don't see as a religion preference. So I don't have a religious preference, but I consider myself somewhat religious.”
Close, but no	“...certain religions can have a lot of restrictions on sexual activities... which I understand, I respect different religions.” ( <i>Does not refer to participant's own spirituality or religion</i> )
Possible subcodes	None

Secondary code	1.4 Family Structure (Social Organization): Traditional Confucian Culture
Detailed description	Comments related to growing up in a “traditional” household, which will almost always refer to Confucian tradition. This includes an emphasis on family hierarchy, filial piety, respect, obedience, responsibility, and morality. Traditionally, sexual activity outside of marriage is considered immoral.
Inclusion criteria	Usually associated with questions 4, 5, and 7, when participants discuss family life, values, and interactions with their parents.
Exclusion criteria	When participants discuss family life but make no mention of “traditions,” “traditional culture,” or of different ways that their parents may have been raised (as opposed to how the participants themselves were raised).
Typical exemplars	“...my family is kind of like traditional, I would say... so I've been raised in that way, I would say.” “...my mom's very open minded actually, for being you know, growing up in traditional Chinese family.” “I think my father was very, is very, very traditional. He just want to control everything about, about me.”
Close, but no	“We're not those family that like the children is afraid of speaking up or like afraid of talking some- like discussing some sort of issue with my parents, so I'm just fine.” ( <i>2.1 Communication: Intergenerational communication</i> )
Possible subcodes	None

## 2.0 Communication

Secondary code	2.1 Communication: Intergenerational communication
Detailed description	Comments related to communication between different generations, such as between participants and their parents, aunts and uncles, and/or grandparents.

Inclusion criteria	Usually associated with questions 8, 9, and 10, when participants discuss communication between their family members, and the types of topics they feel they can and can't share with their parents.
Exclusion criteria	When participants discuss communication with others of their same generation, such as their siblings, friends, or peers.
Typical exemplars	"So we [ <i>participant and parents</i> ] basically talk every day, and then we're um pretty good at communication in our home. So we are more like friends, not really like parents and children."
Close, but no	"But then as I grew up, they can't like control my mind, you know, so like, I won't listen to them like, on a lot of stuff." ( <i>1.2 Family Structure: Parent-Child Interactions</i> )
Possible subcodes	2.1.1 Topics can share/communicate 2.1.2 Topics can't share/communicate 2.1.3 Explicit communication with parents 2.1.4 Implicit communication with parents

Secondary code	2.2 Communication: Peer communication
Detailed description	Comments related to communication within the same generation, between the participants and their peers, siblings, and/or friends.
Inclusion criteria	Usually associated with question 11, when participants discuss communication between the peers, including friends and siblings.
Exclusion criteria	When participants discuss communication with those in other generations (such as their parents, or grandparents).
Typical exemplars	"Pretty much anything that I can't share with my parents." "So yeah, sometimes I will share with my close friends, but not all my emotional breakdown." "I could talk about anything with my friends."
Close, but no	"Discord... It's just like WeChat. It's more gamer." ( <i>Method of communication rather than communication dynamics</i> )
Possible subcodes	2.2.1 Topics can share 2.2.2 Topics can't share 2.2.3 Explicit communication with peers 2.2.4 Implicit communication with peers

### 3.0 Social Environment (Space)

Secondary code	3.1 Social Environment (Space): Home
Detailed description	Comments related to life or the way things are at the participant's home, wherever that may be. This includes a home with parents as well as grandparents.

Inclusion criteria	Usually associated with question 3, when participants discuss what it was like growing up.
Exclusion criteria	When participants discuss daily life, interactions, or communications outside of the home setting.
Typical exemplars	<p>“I grew up mostly with my dad because my mother worked in a different city.”</p> <p>“So I spent my first six years with my grandparents...”</p> <p>“So most time after school, while I was in primary school, I spent the time either by myself reading books or playing piano.”</p>
Close, but no	<p>“Um, people just say like a lot of like, you know, a lot of foreigners love to hang out in Tianmu, because there’s like a Taipei American School around there. But I didn’t go to Taipei American School.”</p> <p><i>(Addresses neighborhood, but not home environment)</i></p>
Possible subcodes	<p>3.1.1 Asia (specifically, China, Taiwan, Singapore, and Japan)</p> <p>3.1.2 North America (specifically, the US and Canada)</p>

Secondary code	3.2 Social Environment (Space): School
Detailed description	Comments related to the way things are at school, wherever that may be and at any point in the participant’s life. This could be primary or secondary schools, or university and higher education.
Inclusion criteria	Usually associated with question 3, 12, 13, 18, 19, and 20. With these questions, the participants discuss what it was like growing up, the sex education they received (often describing a school setting), and life at UW.
Exclusion criteria	When participants discuss daily life, interactions, or communication outside of the school setting.
Typical exemplars	<p>“I lived in the school, so I didn't get to see my mom that often. But whenever I went back to home on weekends, my dad would be there to visit us.”</p> <p>“I have one year like, final year of junior high that I have to, that I can only like be at home for like one day of the week, because we were trying to get through critical exams.”</p>
Close, but no	<p>“So even when I decided to come to UW for school, for business school, they [parents] just really respect my choice...” <i>(1.2 Family Structure: Parent-Child Interactions)</i></p>
Possible subcodes	<p>3.2.1 Asia (specifically, China, Taiwan, Singapore, and Japan)</p> <p>3.2.2 North America (specifically, the US and Canada)</p>

#### 4.0 Views on Premarital Sex

Secondary code	4.1 Views on Premarital Sex: Individual
Detailed description	Comments related to the participant's own views towards premarital sex.
Inclusion criteria	Usually associated with question 14, when participants are asked about their views on premarital sex.
Exclusion criteria	When participants discuss their parents' views, or anyone else's views (such as friends, teachers, etc.).
Typical exemplars	"This entirely one's choice. But when I was in college I couldn't accept it." "Um, well, actually I don't is very, very good choice. But that's okay."
Close, but no	"...if you're someone who's like really, really religious then, and you don't, I think everyone just follows what they really believe in..." ( <i>Does not address participant's own view towards premarital sex</i> )
Possible subcodes	4.1.1 Positive 4.1.2 Negative 4.1.3 Neutral 4.1.4 Change in view

Secondary code	4.2 Views on Premarital Sex: Parent/Family
Detailed description	Comments related to the participant's parent's or family's views towards premarital sex.
Inclusion criteria	Usually associated with question 15, when participants are asked how their parents or family members view premarital sex.
Exclusion criteria	When participants discuss the views of their teachers or friends, or their own views towards premarital sex.
Typical exemplars	"I would assume my parents are okay with that. As long as it's not like that frequent..." "I think they're probably fine with it. Just like, not like hooking up or anything."
Close, but no	"The funny thing is my parents actually had me before they got married." ( <i>Does not explicitly address parent or family views on premarital sex; only addresses whether parents have engaged in it</i> )
Possible subcodes	4.2.1 Positive 4.2.2 Negative 4.2.3 Neutral 4.2.4 Change in view 4.2.5 Don't know

## 5.0 Views on Contraception

Secondary code	5.1 Views on Contraception: Individual
Detailed description	Comments related to the participant's own views towards the use of contraception.
Inclusion criteria	Usually associated with question 16, when participants are specifically asked to discuss their views towards contraception.
Exclusion criteria	When participants bring up their parents', teachers', or friends' views towards the use of contraception.
Typical exemplars	"So although I don't know much about this, but I don't think that anyone has the right or power to allow it or to prohibit it." "I think is necessary if you want, if you think you need to just use it."
Close, but no	"But there's really not that much options, if you really think about it." ( <i>Does not address participant's views towards the use of contraception; only addresses whether participant thinks contraception is available</i> )
Possible subcodes	5.1.1 Positive 5.1.2 Negative 5.1.3 Neutral 5.1.4 Change in view

Secondary code	5.2 Views on Contraception: Parent/Family
Detailed description	Comments related to the participant's parent's or family's views towards the use of contraception.
Inclusion criteria	Usually associated with question 17, when participants are asked how their parents feel about the use of contraception.
Exclusion criteria	When participants discuss the views of their teachers or friends, or their own views towards contraception.
Typical exemplars	"I think they will not accept it either because first of all, they will not accept the pregnancy before marriage." "I think they would say that it's necessary."
Close, but no	"Um, how can I, um I guess they [ <i>parents</i> ] use condoms mostly..." ( <i>Does not explicitly address parent or family views towards contraception; only addresses whether they have used it</i> )
Possible subcodes	5.2.1 Positive 5.2.2 Negative 5.2.3 Neutral 5.2.4 Change in view 5.2.5 Don't know

Secondary code	5.3 Views on Contraception: Access to contraception
Detailed description	Comments related to the participant's views on the ease or difficulty of accessing contraception.
Inclusion criteria	Usually associated with question 19, when participants are asked whether they feel they can easily access contraception should they need to.
Exclusion criteria	When participants discuss the different types of or preferences for certain contraception, but make no mention of its accessibility.
Typical exemplars	<p>"Yeah, yeah. I think it's pretty accessible. There are places like Hall Health, they can pick up free condoms."</p> <p>"I think condoms are really accessible, I see that in most convenience store on campus. But uh, I think anything besides that, it's quite hard to get to."</p>
Close, but no	"And no guy likes to use in condom, that's a very, I know it's very broad statement but everyone I know that had sexual experience, they don't like condoms."
Possible subcodes	5.3.1 Easy 5.3.2 Difficult 5.3.3 Don't know

## 6.0 Sex Education

Secondary code	6.1 Sex Education: At school
Detailed description	Comments related to sex education that participants received in a school setting, whether from teachers or guest speakers.
Inclusion criteria	Usually associated with questions 12 and 13, when participants discuss the sex education they received, where it took place, and who was involved. Specifically, if the sex education took place at school with teachers or guest speakers.
Exclusion criteria	When participants bring up any sex education or discussions about sexual activity that occurred outside of a school setting.
Typical exemplars	<p>"So up until this point, my sexual education is, I had a someone, like a guest speaker came, when I was in my middle school I think."</p> <p>"I think I've had like, sex ed or health in fourth or fifth grade or maybe even both, and then seventh grade."</p>
Close, but no	"So my classmates were like laughing... they seem to know something about it." ( <i>Does not describe the sex education itself; only describes what was happening in the classroom</i> )
Possible subcodes	None

Secondary code	6.2 Sex Education: At home
Detailed description	Comments related to sex education that participants received in a home setting, specifically from their parents.
Inclusion criteria	Usually associated with questions 12 and 13, when participants discuss the sex education they received, where it took place, and who was involved. Specifically, if the sex education took place at home with their parents.
Exclusion criteria	When participants bring up any sex education or discussions about sexual activity that occurs outside of a home setting with their parents.
Typical exemplars	“My parents like never talked about it. Like my mom, or my parents honestly like don’t want me to have sex, but like they never said anything in particular.”
Close, but no	“Um, once with my sister in my life.” ( <i>Talked about sexual activity, but not in an educational sense</i> )
Possible subcodes	None

Secondary code	6.3 Sex Education: Other informal methods
Detailed description	Comments related to sex education that participants received in an informal way and not from their parents, such as through talking with friends or using the internet to search for information related to sexual activity.
Inclusion criteria	Usually associated with questions 12 and 13, when participants discuss the sex education they received, where it took place, and who was involved. Specifically, if participants mention that the information came from conversations with their friends or peers, or from the internet.
Exclusion criteria	When participants discuss any sex education received at school or from their parents.
Typical exemplars	<p>“So um only after I talked to one of my friend in high school, second grade high school, so that I like, know, yeah, it was like that.”</p> <p>“So um like I would, I would insist that we should do it after marriage, but they wouldn’t accept it, so maybe they, their opinions like influenced mine.”</p> <p>“So they just need to find other methods to figure this out, which is not very good, because usually they would learn it from porn websites.”</p>
Close, but no	“It had very explicit contents and actually people called it, it was just watching porn in class—which we are, but you know, with

	educational addings to it.” ( <i>Participant likened class material to porn; though it was not actually porn, rather it was material covered in a formal classroom setting</i> )
Possible subcodes	None