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## **Young people of Chinese origin in western countries: A systematic review of their sexual attitudes and behaviour**

### **Abstract**

People of Chinese origin are a growing population group in western countries. The community is seen to be marginalised, under-researched and neglected, in fact the least understood ethnic minority. This paper reports on a systematic review of sexual attitudes and behaviour among ethnic Chinese young people (mainly aged 13-25 years) living in western countries.

An extensive literature search was conducted to cover the period of 1989 and 2009 using Medline, CINAHL, PsycINFO and ScienceDirect databases. There has been a dearth of literature in this area. However, results from existing literature show that ethnic Chinese youth reported poorer sexual health knowledge than white young people in their host countries, while they were found to be more likely to disapprove of uncommitted sex, be virgins, lose their virginity at a later age, and have fewer sexual partners. Factors associated with their sexual attitudes and behaviour have also been identified.

Countries like United Kingdom, United States and Canada have become multi-cultural societies with many diverse ethnic groups. Without doubt educators and sexual health professionals need to provide sex education and services which should be culturally appropriate to people from diverse ethnic backgrounds. An understanding of their sexual values, sexual behaviour and associated factors is the first step towards achieving this goal.

**Key words:** attitudes, Chinese, ethnic minorities, sexual behaviour, systematic review, young people

## INTRODUCTION

The number of Chinese people living in western countries has risen sharply since the 1980s when China launched its reform and open-door policies. In the United Kingdom (UK), the 2001 census indicated that about a quarter of a million Chinese people lived in the country, making up approximately 0.4% of the total and 5% of the non-white population (National Statistics 2006). The US 2000 census showed that there were nearly 2.5 million Chinese people in the United States (USA), representing 0.9% of the total and 24% of the US Asian population (US Census Bureau 2004). In Canada, 1.3 million individuals identified themselves as Chinese in the 2006 census, accounting for 3.9% of the total Canadian population (Statistics Canada 2006).

Very little research on the topic of sex has been undertaken among ethnic Chinese people in western countries like UK, who are seen to be marginalised, under-researched and neglected, in fact the least understood ethnic minority (Bailey *et al.* 1994, Yu 2007). In Britain and Canada, the majority of sexual health findings on adolescents are based on research conducted with white populations (Stephenson *et al.* 2004, Henderson *et al.* 2007, Boyce *et al.* 2008). In the USA, however, focus has traditionally been placed on determining sexual health outcomes for the two largest minorities: Hispanic and African American (Friedman *et al.* 2009, Trejos-Castillo & Vazsonyi 2009, Uribe *et al.* 2009).

The negative consequences of early sexual initiation, such as increased lifetime sexual partners, unwanted teenage pregnancies and sexually transmitted infections (STIs), are issues of concern in many western countries (Wellings 1994, 2001, Health Protection Agency 2008). In the UK, over one-quarter of teenagers are reported to become sexually active before age 16 (Wellings *et al.* 2001). Similarly, the estimated percentage of 15-17-year olds who reported having had sex is 31% in the USA (Abma *et al.* 2004), 28% in Canada (Rotermann 2005). In a UN report of teenage births in 28 developed countries, it was shown that the USA had the highest rate of teenage pregnancies in the developed world, whilst the UK had the highest rate in Europe (UNICED 2001). In the UK, randomised control trials of both pupil-led (RIPPLE) and teacher-led sexual health and relationships education (SHARE) have aimed to promote positive teenage sexual health. These trials showed some positive impact on self-reported knowledge of methods to prevent STIs and skills in using condoms (Stephenson *et al.* 2004, Henderson *et al.* 2007); however no effect was seen on age of sexual initiation and unwanted pregnancies (Wight *et al.* 2002, Henderson *et al.* 2007, Tucker *et al.* 2007).

Research shows that there remain cultural and ethnic differences in teenage sexual behaviour in developed countries. For example, the proportion of UK adolescents who have had sex before the age of 16 years is lowest in the South Asian group and is highest among the black groups (Wellings *et al.* 1994). Similar findings have been reported in US and Canadian studies (Meston *et al.* 1996, 1998, Abma *et al.* 2004). There is an increasing interest in understanding the reasons why these differences exist as such information can be used to inform the development of more effective and culturally competent sexual health interventions. UK government health policy and practice stresses the need to provide accessible, inclusive and cohesive sexual health services for everyone (Department of Health 2001); however the limited information available on the sexual health behaviours of ethnic Chinese youth makes it difficult to achieve these goals.

## **THE REVIEW**

### **Aim**

This review seeks to identify and analyse studies that examined sexual attitudes and behaviour among young people of Chinese origin in western countries. The following questions are addressed:

1. What are their sexual attitudes?
2. What are their sexual behaviours?
3. Are there any differences in sexual attitudes and behaviours between Chinese youth and those from other ethnic groups in their host countries?
4. Which factors are associated with their sexual attitudes and behaviour?

### **Design**

A systematic literature review was conducted following the Centre of Review and Dissemination (2001) guidelines, with reference to Dixon-Woods *et al.* (2006) regarding conducting reviews of studies of different designs.

### **Search methods**

A literature search was conducted using Medline (1411), CINAHL (178), PsycINFO (96) and ScienceDirect (1013) databases and keywords 'Chinese', 'young people', 'teenage', 'teenager', 'adolescent', 'adolescence', 'sex', 'sexual attitude' and 'sexual behaviour' in combination. Reference lists from the studies identified were also examined. The following criteria were used.

#### *Inclusion criteria*

Studies were included if they:

- were primary research, either qualitative or quantitative
- were conducted in western countries
- included Chinese people as a sample or as a subset of a larger Asian sample
- included a majority of respondents aged between 13 and 25 years
- were published in English between 1989 and 2009.

#### *Exclusion criteria*

Studies were excluded if they:

- were literature reviews
- were doctoral theses (due to the impracticalities of retrieving and reviewing them)
- only included non-specific ethnic Chinese populations

### **Search outcomes**

Initially 2698 references were retrieved. Titles and abstracts were scanned and the full text of relevant papers obtained. Ten papers were identified as appropriate, representing eight studies.

### **Quality appraisal**

There is little consensus about how or whether to appraise complex literature although some general guidelines do exist (Dixon-Woods *et al.* 2006, 2007). Formal quality scores were not calculated due to the heterogeneity of the included studies and also because this review focuses on the scope of studies in this area. Therefore all papers that met the inclusion criteria were included irrespective of their quality.

### **Data extraction**

The data extracted comprised of: bibliographic details, country of study, aim, design, sample, data collection and key findings. These are summarised in Table 1.

### **Synthesis**

A thematic analysis was conducted, consisting of three stages. Initially, the author read and re-read the included papers to gain a thorough understanding of the literature. Next, information relevant to the area of enquiry was marked, compared and categorised. Third, categories were refined to identify underlying themes. Four themes emerged: sexual knowledge, sexual attitudes and values, sexual behaviour, and factors associated with sexual attitudes and behaviour.

## **RESULTS**

In total, eight studies were included. Six were carried out in the USA, one in Canada and one in the UK (Table 1). Five used university samples, two involved school samples and one used a community sample.

### **Sexual knowledge**

Two studies were conducted comparing the sexual knowledge between Chinese respondents and those of other ethnic groups (Horan & DiClemente 1993, Meston *et al.* 1998). Meston *et al.* (1998) surveyed 356 ethnic Asian students (70% Chinese) and 346 European students at British Columbia University, Canada. There were significant differences between the two groups in 13 of the 26 sexual knowledge items tested (F-ratio tests,  $p < 0.002$ ), with respondents of Asian ancestry demonstrating less sexual knowledge than those of European ancestry.

Similarly, in a series of bivariate tests, Horan and DiClemente (1993) found that white pupils scored significantly higher than Chinese and Filipino pupils on a HIV prevention scale ( $F_{2,1218} = 11.49$ ,  $p < 0.001$ ), with Chinese respondents significantly less able than white and Filipino respondents to communicate knowledge of HIV and its prevention ( $F_{2,1204} = 92.67$ ,  $p < 0.0001$ ). However, Chinese and Filipino respondents had significantly fewer HIV misconceptions than white respondents ( $F_{2,1225} = 4.326$ ,  $p < 0.01$ ).

### **Sexual attitudes and values**

Sexual attitudes were examined in four studies. Huang and Uba (1992) surveyed 114 unmarried US Chinese students. Of 500 postal questionnaires sent out, 30% were returned, of which over 60% approved of premarital sexual intercourse when the partners were in love or engaged. However, the generalisability of this study is limited due to the small, non-randomised sample used and the low response rate achieved. Also, the respondents were 18-31 years of age ( $M = 20$  years) and older respondents may have been more likely to indicate their approval of premarital sex due to the increased likelihood of being in a relationship themselves.

Kuo and Lawrence (2006) analysed data from the US National Longitudinal Study of Adolescent Health, using a school-based representative sample of pupils enrolled between grade 7 and grade 12. A series of t-tests revealed that Chinese respondents ( $n = 340$ ) were more likely than white respondents ( $n = 10,419$ ) to feel guilty about sex and to believe that having sex would upset their mothers ( $p < 0.001$ ), while they were less likely to perceive sex as physical pleasure ( $p < 0.01$ ), relaxing ( $p < 0.05$ ), or as a way to gain friends' respect ( $p < 0.001$ ). Similarly, a Canadian study of university students found that Asian respondents

(70% Chinese) were more conservative than European respondents in their attitudes towards uncommitted sex (F-ratio tests,  $p < 0.006$ ) and were significantly less likely to have accepted oral sex and premarital intercourse or fantasised about someone other than their steady dating partners, sex and/or masturbation (F-ratio tests,  $p < 0.002$ ) (Meston *et al.* 1998). These findings were in agreement with their earlier report (Meston *et al.* 1996).

Meston *et al.*'s (1996, 1998) findings were also echoed in a UK qualitative study, where Yu (2007, 2008) examined social influences on the attitudes to sexual behaviour of British-born Chinese teenagers in Scotland. Data were collected through in-depth interviews with 20 young people and 20 parents of Chinese origin. A traditional view of sexual behaviour was repeatedly reported, where sex was seen as something special and related to love, trust, commitment and marriage. None of the participants approved of casual sex, although teenage sex was occasionally thought to be acceptable within loving relationships. Most young participants highlighted the importance of not having sexual intercourse until they were physically mature enough and psychologically ready to deal with potential consequences of sexual engagement such as becoming pregnant and getting STIs.

### **Sexual behaviour**

Sexual behaviour was examined in relation to sexual initiation, age of first sexual intercourse and sexual risk behaviour, either among respondents of different ethnic groups or between native-born and foreign-born Chinese youth.

In a US national school survey, Kuo and Lawrence (2006) found that respondents of Chinese ancestry were significantly less likely than white respondents to report having had sex (OR=0.27, 95% CI= 0.20-0.37,  $p < 0.001$ , 13.3% vs. 36.1%). In a multivariate analysis controlling for age, gender, parental factors, depression levels, smoking, drinking, romantic involvement, and sexual attitudes, being of Chinese descent was shown to be an independent protective factor (OR<sub>adj</sub>=0.63, 95% CI=0.41-0.97). Similar findings were reported by Horan and DiClemente (1993) in a US school study, where the sexual initiation rate of Chinese respondents (13%) was shown to be significantly lower than those of white (37%) and Filipino respondents (32%) ( $F=44.45$ ,  $p < 0.0001$ ). In addition, a Canadian study of undergraduate students showed that fewer Asian respondents (70% Chinese) than non-Asian respondents (all other ethnic groups combined) reported having had sex (36% vs. 69% for females; 35% vs. 63% for males) (Meston *et al.* 1996). These findings may reflect the fact that the respondents were older (17-55 years) as age is an important factor in sexual initiation, although it is worth noting that 94% of the sample were aged 18-25 years (Edgardh 2002, He *et al.* 2004).

The reported age of first sex for Chinese respondents varied. In a US school survey, Kuo and Lawrence (2006) found that the average age of first sexual intercourse was 15.1 years for white respondents and 15.3 for Chinese respondents. Reported age at sexual debut seemed to be older in university samples, which may reflect the protective nature of educational aspiration (Bonell 2005, Yu 2007, 2008). Lam and Barnhart (2006) analysed a subset of a larger sample that included students across universities in California, USA. The subset consisted of 181 Chinese and Filipina females aged 18-30 years, who were unmarried and heterosexually active at the time of the study. The reported mean age of sexual initiation was 17 years. Another US study used a similar sample of 114 unmarried students (Huang & Uba 1992). The mean age of first sex was 18.5 years for men and 18.8 years for women. Meston *et al.* (1996) in a Canadian study of college students found that the age of first sex was significantly higher in Asian respondents (70% Chinese) than non-Asian respondents

( $F=34.51$ ,  $p<0.002$ , 18 vs. 17 years). These findings were reflected in a qualitative study of Chinese British teenagers (Yu 2008), with educational aspiration reported as a major reason for not pursuing sexual relationships.

Sexual risk behaviour was explored in terms of condom use, anal intercourse, number of sexual partners and STIs. Cochran *et al.* (1991) studied 153 US Chinese university students, reporting that 93% respondents had sex without condoms and 15% had tried anal intercourse at least once. In a US survey of white ( $n=148$ ) and ethnic Asian students ( $n=202$ , 34% Chinese), white respondents reported significantly more sexual partners than Asian respondents ( $F_{1,345}=45.64$ ,  $p<0.001$ ,  $M_s=4.16$  vs. 1.13 for men;  $M_s=2.50$  vs. 0.92 for women) (McLaughlin *et al.* 1997). Similarly, Kuo and Lawrence (2006) showed that Chinese-American respondents were less likely to report casual or non-regular sexual partners ( $OR=0.49$ ,  $p=0.014$ ). However, among 3,774 non-virgin respondents there was no significant difference in self-reported lifetime prevalence of STIs between the two groups ( $p=0.82$ , 4.5% vs. 5.3%). This may be in part because only 45 Chinese respondents were sexually active, of which two had ever been diagnosed with any STIs. Horan and DiClemente (1993) also did not find differences in sexual risk behaviours among US white, Chinese and Filipino non-virgin respondents ( $F_{2,258}=2.78$ ,  $p>0.05$ ).

### **Factors associated with sexual attitudes and behaviour**

Sexual behaviour was also explored in relation to gender, characteristics of partners and peers, family factors, acculturation and religion.

#### *Gender differences*

Gender differences were examined in terms of sexual attitudes, sexual initiation, age of first sex and number of sexual partners (Cochran *et al.* 1991, Huang & Uba 1992, McLaughlin *et al.* 1997, Kuo & Lawrence 2006, Yu 2008).

Huang and Uba (1992) in a US study of ethnic Chinese university students did not find significant gender differences in attitudes to premarital sex. In contrast, in a Canadian survey of Asian (70% Chinese) and European students, Meston *et al.* (1998) reported that male respondents were significantly more likely than females to hold negative attitudes towards homosexual behaviour and be less conservative on all the remaining attitude items (F-ratio tests,  $p<0.02$ ). Cochran *et al.* (1991) found that male's and female's rankings from most to least important reasons for delaying sexual activity were not significantly correlated (Spearman's  $p=0.36$ ,  $p>0.10$ ). A UK qualitative study (Yu 2008) supported these findings with young people using words such as 'cool', 'boast', 'show off' and 'honour' to describe sexually active young men, whilst sexually active young women were described as 'contaminated' or 'not good'. Female participants saw getting pregnant as the main negative consequence of having premarital sex, while males were more concerned about contracting STIs. These findings may reflect traditional Chinese values stressing female purity and virginity (Ruan 1991).

Huang and Uba (1992) reported gender differences in pre-sexual intercourse among ethnic Chinese university students in the USA. Male respondents were less experienced than females in kissing ( $X^2(4)=16.77$ ,  $p=0.002$ , 75% vs. 89%), necking ( $X^2(4)=9.62$ ,  $p=0.04$ , 61% vs. 84%) and light petting ( $X^2(4)=10.30$ ,  $p=0.04$ , 55% vs. 81%). However, there was no gender difference in mean age of first sexual intercourse, which was 18.5 years for men and 18.8 years for women. About 46% of women and 37% of men had had sex, but the gender difference was not statistically significant ( $X^2(4)=7.48$ ,  $p=0.11$ ). Similar findings were

reported by Kuo and Lawrence (2006) in a study of school pupils (OR=1.43,  $p=0.27$ ) and by Cochran *et al.* (1991) in a study of university students ( $X^2(1)=0.35$ ,  $p>0.10$ ).

In a US study by McLaughlin *et al.* (1997) involving white and ethnic Chinese university students, male respondents ( $M_s=4.16$ , 1.13, white and Chinese men respectively) reported more sexual partners than females ( $M_s=2.50$ , 0.92, white and Chinese women respectively) ( $F_{1,345}=5.76$ ,  $p<0.05$ , all males vs. all females). In contrast, Cochran *et al.* (1991) found that once sexually active, Chinese females were more sexually active than males in terms of number of partners in the previous six months ( $t(60)=2.03$ ,  $p<0.05$ , 1.3 vs. 0.7) and sexual frequency in the previous month ( $t(70)=3.18$ ,  $p<0.01$ , 3.6 vs. 2.4). A US study by Kuo and Lawrence (2006) showed that females had a significantly higher rate of self-reported STIs than males (OR=3.8, 95%CI=2.7-5.3, all males vs. all females), although STI diagnoses were low in both Chinese (4.5%) and white respondents (5.3%).

#### *Characteristics of partners and peers*

Huang and Uba (1992) reported that respondents dating only white Americans had more sexual experiences than those who had dated only Chinese in kissing (93.8% vs. 72.4%), necking (93.8% vs. 72.4%), light petting (87.5% vs. 69.0%), heavy petting (87.5% vs. 34.5%) and sexual intercourse (62.5% vs. 34.5%). The effect of partners' age and ethnicity on condom negotiations was explored by Lam and Barnhart (2006), where nearly half of the respondents were dating a partner of a different ethnic background and 84% were dating a partner of an older age. Respondents dating non-Asian partners were more likely to use nonverbal-direct (e.g. putting condom on partner) condom negotiations than those dating Asian partners (OR=2.55, CI=1.10-5.90,  $p<0.05$ ). Those dating older partners were less likely than those dating same-age partners to use verbal-direct (e.g. discussion with partner) (OR=0.01, CI=0.02-0.69,  $p<0.05$ ) and verbal-indirect (e.g. dropping hints to partner) condom negotiations (OR=0.38, CI=0.15-0.97,  $p<0.05$ ).

Yu (2008) in a UK qualitative study showed uniformity of sexual values and behaviour among Chinese British adolescents and their close friends. Although most participants had friends from various cultural backgrounds, their close friends were often Chinese, with whom they shared their values and discussed problems within relationships.

#### *Family factors*

Family factors were investigated in two US quantitative studies (McLaughlin *et al.* 1997, Kuo & Lawrence 2006) and one UK qualitative study (Yu 2007, 2008). In multiple logistic regression models controlling for demographic, accultural and interpersonal variables, Kuo and Lawrence (2006) found that living with both parents at home was significantly associated with lower likelihood of sexual initiation in both white (OR<sub>adj</sub>=0.81,  $p<0.001$ ) and Chinese respondents (OR<sub>adj</sub>=0.34,  $p<0.05$ ). The relationship between levels of parents' education and sexual behaviour was not linear. Chinese respondents whose parents obtained least education (less than high school) were less likely than those whose parents had middle levels of education (high school, some college or vocational school, college graduate) to report having had sexual intercourse. Respondents whose parents were most educated (professional degree beyond college) were as likely as those whose parents were least educated to report being non-virgins. However, in a US study of university, McLaughlin *et al.* (1997) reported that four family variables, including parental education, autonomy in decision making, parental warmth and conflict with parents, were not associated with respondents being non-virgins. It might be possible that when the young people became

older they moved away from home; therefore, parental influences became not as important as when they were young.

Yu (2007, 2008) reported that family communication about sex was limited within Chinese British families, and a variety of barriers prevented such communication. These included the parents' lack of available time, language barriers, embarrassment and different values between generations. Parent participating in the study highlighted the influence of Chinese culture on their values and their desire to pass on such values to their British-born children. Speaking Chinese at home was seen as a way of maintaining their children's Chinese identity; with media items such as television programmes and books used to initiate communication about sex and values; parents also closely monitored their children's outings and friendships. These strategies were used to enhance family communication, to help teenagers to be aware of parental values, and to reinforce the protective factor of parental monitoring on adolescent sexual risk taking (e.g. McNeely *et al.* 2002, Wight *et al.* 2006).

#### *Acculturation*

Different measures were applied to examine the effect of acculturation on sexual attitudes and behaviour. Huang and Uba (1992) used Marmot's Acculturation Index (1975) which included five sub-indices to measure diverse components of acculturation (culture of upbringing index, social-structural assimilation index, cultural assimilation index, social attitudes index and cultural attitudes index). Levels of acculturation were positively related to sexual permissiveness ( $r=0.20$ ,  $n=48$ ,  $p<0.01$ ) and respondents being non-virgins ( $r=0.24$ ,  $p<0.004$ ), whereas there was a negative correlation between acculturation and age of first intercourse ( $r= -0.49$ ,  $n=48$ ,  $p<0.0001$ ). Similar findings were reported by McLaughlin *et al.* (1997), in which acculturation was measured by the language respondents used at home. Female respondents from the least acculturated families were found to be more likely to be virgins than those from moderately or highly acculturated families ( $X^2(2, n=131)=6.99$ ,  $p<0.05$ , 77%, 52%, 53% respectively), whereas this correlation was not found in male respondents.

Kuo and Lawrence (2006) used two proxy variables to measure acculturation: born in the USA and English spoken at home. Neither variable was significantly related to the likelihood of sexual intercourse. There was no difference in the rate of having had casual sexual partners between US-born and foreign-born non-virgins ( $p=0.79$ , 42.9% vs. 38.9%). Although US-born respondents reported more lifetime sexual partners than foreign-born respondents, this difference was not statistically significant ( $p=0.18$ , 4.3 vs. 3.0). The effect of place of birth was investigated in three other studies (Cochran *et al.* 1991, Meston *et al.* 1996, McLaughlin *et al.* 1997). McLaughlin *et al.* (1997) found that there was no difference in sexual initiation in terms of whether Asian respondents or their parents were native- or foreign-born. A Canadian study by Meston *et al.* (1996) revealed a similar pattern. In a US survey, Cochran *et al.* (1991) found that although there was no difference in the rate of sexual initiation ( $X^2(1)=0.24$ ,  $p>0.10$ ), native-born respondents were found to be significantly younger than foreign-born respondents when they initiated sexual intercourse ( $F_{1,52}=6.11$ ,  $p<0.05$ , 16.6 vs. 17.7 years).

In three studies, researchers examined the effect of length of residency in host countries (Huang & Uba 1992, Meston *et al.* 1996, 1998, McLaughlin *et al.* 1997). Huang and Uba (1992) found the number of years residing in the USA was not related to respondents' level of sexual permissiveness, whilst McLaughlin *et al.* (1997) found no effect of length of residency on sexual initiation. Meston *et al.* (1996) reported that although the length of



residency in Canada was not related to attitudes to petting behaviours and experiences of petting, oral sex and sexual intercourse, it was significantly positively related to the composite scores for intercourse fantasies ( $F=7.92$ ,  $p<0.002$ ) and promiscuity fantasies ( $F=7.97$ ,  $p<0.002$ ). Meston *et al.* (1998) also showed that recent immigrant Chinese students were significantly more likely than respondents who were Canadian-born or long-term residents to hold negative attitudes to homosexual behaviour ( $F=11.05$ ,  $14.63$ ,  $17.66$ ,  $p<0.002$ ), have conservative attitudes to premarital sex ( $F=6.34$ ,  $6.50$ ,  $p<0.002$ ), masturbation ( $F=6.85$ ,  $p<0.002$ ) and oral sex ( $F=6.59$ ,  $7.44$ ,  $p<0.002$ ), and have more traditional sex roles for women ( $F=7.19$ ,  $8.57$ ,  $12.76$ ,  $p<0.002$ ).

### *Religion*

McLaughlin *et al.* (1997) explored ethnic and gender differences in sexual behaviour among white and Asian students (34% Chinese) attending a state university in California, USA. They reported that females were more religious ( $F=7.22$ ,  $p<0.01$ ) and less likely than males to approve of causal sex ( $F=86.48$ ,  $p<0.001$ ). With the exception of Asian American males, virgins were found to be more religious than non-virgins ( $F=3.24$ ,  $p<0.05$ , for white males;  $F=12.47$ ,  $p<0.001$ , for white females;  $F=6.88$ ,  $p<0.01$ , for Asian females). These findings were in agreement with a UK qualitative study by Yu (2008), who found that sexually inactive participants reported that premarital sex, a key concern for them, was regarded as inappropriate and against their religion.

## **DISCUSSION**

### **Sexual knowledge, attitudes and behaviour**

There is a dearth of research in this area; however, results from the existing literature have shown some differences between ethnic Chinese youth and their peers of other ethnic groups.

Ethnic Chinese young people have reported poorer sexual health knowledge than their white counterparts (Horan & DiClemente 1993, Meston *et al.* 1998). These findings are echoed in a UK study of an ethnically diverse sample of school pupils (Coleman & Testa 2007), in which Black and Asian respondents scored significantly lower than white respondents on a sexual knowledge questionnaire. This review also reported that Chinese youth were more likely than white respondents to disapprove of uncommitted sex, be virgins, initiate sex at a later age, and have fewer sexual partners (Huang & Uba 1992, Horan & DiClemente 1993, Meston *et al.* 1996, 1998, Kuo & Lawrence 2006, Lam & Barnhart 2006). These findings support studies of Chinese youth in mainland China and Hong Kong (Fan *et al.* 1995, Abdullah *et al.* 2003, Higgins & Sun 2007, Lonn *et al.* 2007), as well as studies of Asian youth living in the UK (Bradby & Williams 1999, Coleman & Testa 2007) and the USA (Schuster *et al.* 1998, Upchurch *et al.* 1998, Feldman *et al.* 1999).

It might be possible that young people in the studies reviewed were reluctant to report being non-virgins even if they did have had sex. This could be because of difficulties in sharing their experiences or adherence to perceived cultural and social norms. Chinese sexual values are mainly based on Taoist and Confucian tradition, stressing reproduction and social stability (Ruan 1991). Sex before marriage is discouraged and open discussion about sex is a taboo topic in the culture (Zhang *et al.* 1999). Chinese people are often reluctant to disclose sexual values and behaviour in case a rumour spreads in their communities which may result in damage to family reputation (Yu 2009a). This has been reflected in reported difficulties when approaching overseas Chinese people for research in this area (Yu 2009a). Respondents in the studies reviewed may also have experienced difficulties in recalling sexual experience, as did youth from the general population. For example, inconsistent

reports on timing of sexual initiation have been found in longitudinal studies (McNeely et al. 2002), while only 22.2% respondents in a study by Upchurch et al. (2002) gave consistent reports.

Being Chinese has been reported as an important protective factor for sexual initiation (Kuo & Lawrence 2006, Yu 2008). Other factors have no doubt also contributed to the differing formulation of attitudes and behaviour. The literature showed some social factors on young people including peer influences, family interactions and religious beliefs. These findings are consistent with the wider literature (Upchurch *et al.* 2001, Bonell *et al.* 2006, Coleman & Testa 2008, Lenciauskiene & Zaborskis 2008, Potard *et al.* 2008). Reviewing current literature on sex education and the role that social factors play in teenage sexual behaviour, Yu (2009b) argues that school, family, religion, peers and media all have their part to play in promoting positive sexual health. However, most studies reviewed here focused on only a narrow area of the complex social and cultural contexts in which young people shaped their values and behaviour. Future research should look at broader influences.

The concept of acculturation is difficult to measure and various measures have been used in the literature, including Marmot's Acculturation Index (1975) and proxy variables (length of residence, language spoken at home and place of birth). It appears that there is little evidence to support the effect of acculturation although a few researchers did find a negative impact of acculturation on age of first sex and traditional sexual attitudes (Cochran *et al.* 1991, Meston *et al.* 1996). It might be possible that acculturation plays its part indirectly through other variables, such as family factors, peer influences and school. Therefore, it may be needed to understand its effect in relation to other variables within broader social and cultural contexts.

### **Review limitations**

This is the first systematic review concerning sexual attitudes and behaviour among ethnic Chinese young people living in western countries. It forms a sound critical overview of the literature in this area. However, two limitations need to be acknowledged. First, the review only included papers published in English, which may have omitted some relevant work published in other languages. Second, grey literature was not searched for. This may have resulted in omission of some pertinent work which is not published. Despite these limitations, this review helps increase the knowledge base of research in this area and highlights some possible ways forward in practice and research.

### **Recommendations for practice and future research**

Several recommendations can be made. First, the findings indicate the lack of sexual health knowledge of ethnic Chinese youth. Such knowledge may be obtained from diverse resources mainly including school, family, peer, media and health professionals. Cooperation between these resources is crucial to enhance the effectiveness of sexual education for young people. Second, future research should examine adolescent sexual behaviour within its social and cultural contexts. Being Chinese could be an influential factor, but it does not reveal how and why this factor influences young people's sexual values and behaviour.

Interventions could be strengthened through qualitative research to help explain differences when the issue of ethnicity arises. Third, as with research on youth in general, researchers need to pay attention to issues around sampling, response bias, response rates and confidentiality. Maintaining confidentiality and anonymity is especially crucial to encourage young people to give honest answers and to avoid potential conflicts within families or communities. Caution must be paid to the use of participation in exchange for extra course credit, as reported in a few studies of university students (Meston *et al.* 1996, 1998,

McLaughlin *et al.* 1997). This could cause an ethical dilemma and may increase response bias due to the concern of maintaining confidentiality and anonymity. Lastly, research should be disseminated widely not only to researchers, educators and health professionals, but also to peers and lay people, so that values and behaviour of ethnic minorities can be better understood by people in their host countries.

## **CONCLUSION**

Developing effective interventions to promote positive sexual health for young people is challenging. However, an enhanced understanding of relevant factors associated with their sexual attitudes and behaviour is the first step towards achieving this goal. In a shrinking world with migrant populations in countries like UK, USA and Canada, there is no doubt that educators and sexual health professionals need to provide sex education and sexual health services relevant to people from diverse ethnic backgrounds. In this case, such education and services should be culturally appropriate to the needs of young people from ethnic minorities by considering factors that influence their sexual values and behaviour.

## REFERENCES

- Abdullah A.S.M., Fielding R. & Hedley A.J. (2003) Understanding sexual risk taking behaviour in Hong Kong university students: A health promotion perspective. *Preventive Medicine* 37, 311-318.
- Abma J.C., Martinez G.M., Mosher W.D. & Dawson B.S. (2004) Teenagers in the United States: Sexual activity, contraceptive use, and childbearing, 2002. *Vital and Health Statistics* 23(24), 1-87. National Center for Health Statistics. [WWW document]. URL [http://www.cdc.gov/nchs/data/series/sr\\_23/sr23\\_024.pdf](http://www.cdc.gov/nchs/data/series/sr_23/sr23_024.pdf)
- Bailey N., Bowes A. & Sim D. (1994) The Chinese community in Scotland. *Scottish Geographical Magazine* 110(2), 66-75.
- Bonell C., Allen E., Strange V., Oakley A., Stephenson J. & Johnson A. (2005) The effect of dislike of school on risk of teenage pregnancy: testing of hypotheses using longitudinal data from a randomised trial of sex education. *Journal of Epidemiology & Community Health* 59, 223-230.
- Bonell C., Allen E., Strange V., Oakley A., Copas A., Johnson A. & Stephenson J. (2006) Influence of family type and parenting behaviours on teenage sexual behaviour and onceptions. *Journal of Epidemiology & Community Health* 60, 502-506.
- Boyce W.F., Gallupe O. & Fergus S. (2008) Characteristics of Canadian youth reporting a very early age of first sexual intercourse. *Canadian Journal of Human Sexuality* 17(3), 97-108.
- Bradby H. & Williams R. (1999) Behaviours and expectations in relation to sexual intercourse among 18–20 year old Asians and non-Asians. *Journal of Sexual Health and HIV* 75, 162–167.
- Centre for Reviews and Dissemination (2001) *Undertaking systematic reviews of research on effectiveness: CRD's guidance for those carrying out or commissioning reviews*, CRD report 4, 2<sup>nd</sup> edn. NHS CRD, York.
- Cochran S.D., Mays V.M. & Leung L. (1991) Sexual practices of heterosexual Asian-American young adults: implications for risk of HIV infection. *Archives of Sexual Behavior* 20(4), 381-391.
- Coleman L.M. & Testa A. (2007) Sexual health knowledge, attitudes and behaviours among an ethnically diverse sample of young people in the UK. *Health Education Journal* 66(1), 68-81.
- Coleman L.M. & Testa A. (2008) Sexual health knowledge, attitudes and behaviours: variations among a religiously diverse sample of young people in London, UK. *Ethnicity and Health* 13(1), 55-72.
- Department of Health. (2001) *Better prevention, better services, better sexual health: The national strategy for sexual health and HIV*. [WWW document]. URL <http://www.dh.gov.uk/assetRoot/04/05/89/45/04058945.pdf>

- Dixon-Woods M., Bonas S., Booth A., Jones D.R., Miller T., Sutton A.J., Shaw R.L. & Smith J.A. (2006) How can systematic reviews incorporate qualitative research? A critical perspective. *Qualitative Research* 6(1), 27-44.
- Dixon-Woods M., Sutton A., Shaw R., Miller T., Smith J., Young B., Bonas S., Booth A. & Jones D. (2007) Appraising qualitative research for inclusion in systematic reviews: a quantitative and qualitative comparison of three methods. *Journal of Health Service Research & Policy* 12, 42-47.
- Edgardh K. (2002) Sexual behaviour and early coitarche in a national sample of 17-year-old Swedish boys. *Acta Paediatrica* 91(9), 985-991.
- Fan M.S., Hong J.H., Ng L.M., Lee L.K.C., Lui P.K. & Choy Y.H. (1995) western influences on sexuality: insights from a comparison of the sexual behaviour and attitudes of Shanghai and Hong Kong freshmen at universities. *Journal of Sex Education and Therapy* 21(3), 158-166.
- Feldman S.S., Turner R.A. & Araujo K. (1999) Interpersonal context as an influence on sexual timetables of youths: gender and ethnic effects. *Journal of Research on Adolescence* 9(1), 25-52.
- Friedman S.R., Cooper H.L.F. & Osborne A.H. (2009) Structural and social contexts of HIV risk Among African Americans. *American Journal of Public Health* 99(6), 1002-1008.
- He K., Kramer E., Houser R.F., Chomitz V.R. & Hacker K.A. (2004) Defining and understanding healthy lifestyles choices for adolescents. *Journal of Adolescent Health* 35, 26-33.
- Health Protection Agency (2008) *Selected STI diagnoses and diagnosis rates from GUM clinics: 2003-2007*. [WWW document]. URL [http://www.hpa.org.uk/web/HPAwebFile/HPAweb\\_C/1215589013156](http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1215589013156)
- Henderson M., Wight D., Raab G.M., Abraham C., Parkes A., Scott S. & Hart G. (2007) Impact of a theoretically based sex education programme (SHARE) delivered by teachers on NHS registered conceptions and terminations: final results of cluster randomised trial. *British Medical Journal* 334, 33.
- Higgins L.T. & Sun C. (2007) Gender, social background and sexual attitudes among Chinese students. *Culture, Health and Sexuality* 9(1), 31-42.
- Horan R.F. & DiClemente R.J. (1993) HIV knowledge, communication, and risk behaviors among white-, Chinese-, and Filipino-American adolescents in a high-prevalence AIDS epicentre: a comparative analysis. *Ethnicity & Disease* 3, 97-105.
- Huang K. & Uba L. (1992) Premarital sexual behaviour among Chinese college students in the United States. *Archives of Sexual Behavior* 21(3), 227-240.
- Kuo W. & St. Lawrence J.S. (2006) Sexual behaviour and self-reported sexually transmitted diseases (STDs): Comparison between white and Chinese American young people. *Culture, Health & Sexuality* 8(4), 335-349.

- Lam A.G. & Barnhart J.E. (2006) It takes two: the role of partner ethnicity and age characteristics on condom negotiations of heterosexual Chinese and Filipina American college women. *AIDS Education and Prevention* 18(1), 68-80.
- Lenciauskiene I. & Zaborskis A. (2008) The effects of family structure, parent-child relationship and parental monitoring on early sexual behaviour among adolescents in nine European countries. *Scandinavian Journal of Public Health* 36, 607-618.
- Lönn E., Sahlholm K., Maimaiti R., Abdugarim K. & Andersson R. (2007) A traditional society in change encounters HIV / AIDS: knowledge, attitudes, and risk behavior among students in north-western China. *AIDS Patient Care and STDs* 21(1), 48-56.
- Marmot M.G. (1975) *Acculturation and coronary heart disease in Japanese-Americans*. Unpublished doctoral dissertation, University of California, Berkeley.
- McLaughlin C.S., Chen C., Greenberger E. & Biermeier C. (1997) Family, peer, and individual correlates of sexual experience among Caucasian and Asian American late adolescents. *Journal of Research on Adolescence* 7(1), 33-53.
- McNeely C., Shew M.L., Beuhring T., Sieving R., Miller B.C. & Blum R.W.M. (2002) Mothers' influence on the timing of first sex among 14- and 15-year-olds. *Journal of Adolescent Health* 31, 256-265.
- Meston C.M., Trapnell P.N. & Gorzalka B.B. (1996) Ethnic and gender differences in sexuality: variations in sexual behaviour between Asian and Non-Asian university students. *Archives of Sexual Behaviour* 25(1), 33-72.
- Meston C.M., Trapnell P.N. & Gorzalka B.B. (1998) Ethnic, gender, and length-of-residency influences on sexual knowledge and attitudes. *Journal of Sex Research* 35(2), 176-188.
- National Statistics (2006) *Focus on ethnicity and religion*. Office for National Statistics. [WWW document]. URL [http://www.statistics.gov.uk/downloads/theme\\_compendia/foer2006/FoER\\_Main.pdf](http://www.statistics.gov.uk/downloads/theme_compendia/foer2006/FoER_Main.pdf)
- Potard C., Courtois R. & Rusch E. (2008) *European Journal of Contraception and Reproductive Health Care* 13, 264-270.
- Rotermann M. (2005) Sex, condoms and STDs among young people. *Health Reports* 16(3), 39-45.
- Ruan F.F. (1991) *Sex in China: Studies in sexology in Chinese culture*. Plenum, London.
- Schuster M.A., Bell R.M., Nakajima G.A. & Kanouse D.E. (1998) The sexual practices of Asian and Pacific Islander high school students. *Journal of Adolescent Health* 23, 221-231.
- Statistics Canada (2008) *Canada's Ethnocultural Mosaic, 2006 Census*. [WWW document]. URL <http://www12.statcan.ca/english/census06/analysis/ethnicorigin/pdf/97-562-XIE2006001.pdf>

Stephenson J.M., Strange V., Forrest S., Oakley A., Copas A., Allen E., Babiker A., Black S., Ali M., Monteiro H., Johnson A. & the RIPPLE study team. (2004) Pupil-led sex education in England (RIPPLE study) cluster-randomised intervention trial. *Lancet* 364(9431), 338-346.

Trejos-Castillo E. & Vazsonyi A.T. (2009) Risky sexual behaviors in first and second generation Hispanic immigrant youth. *Journal of Youth and Adolescence* 38(5), 719-731.

Tucker J.S., Fitzmaurice A.E., Imamura M., Penfold S., Penney G.C., Teijlingen E., Shucksmith J. & Philip K.L. (2007) The effect of the national demonstration project healthy respect on teenage sexual health behaviour. *European Journal of Public Health* 17, 33-41.

UNICEF (2001) *A league table of teenage births in rich nations*. [WWW document]. URL <http://www.unicef-irc.org/publications/pdf/repcard3e.pdf>

Upchurch D.M., Levy-Storms L., Sucoff C.A. & Aneshensel C.S. (1998) Gender and ethnic differences in the timing of first sexual intercourse. *Family Planning Perspectives* 30, 121-127.

Upchurch D.M., Aneshensel C.S., Mudgal J. & McNeely C.S. (2001) Sociocultural contexts of time to first sex among Hispanic adolescents. *Journal of Marriage and the Family* 63(4), 1158-1169.

Upchurch D.M., Lillard L.A., Aneshensel C.S. & Li N.F. (2002) Inconsistencies in reporting the occurrence and timing of first intercourse among adolescents. *Journal of Sex Research* 39(3), 197-206.

Uribe C.L., Darrow W.W., Villanueva L.P., Obiaja K.C., Sánchez-Braña E. & Gladwin H. (2009) Identifying HIV risk-reduction strategies for Hispanic populations in Broward County. *Annals of Epidemiology* 19(8), 567-574.

US Census Bureau (2004) *We the people: Asians in the United States*. [WWW document]. URL <http://www.census.gov/prod/2004pubs/censr-17.pdf>

Wellings K., Field J., Johnson A. & Wadsworth J. (1994) *Sexual behaviour in Britain: the national survey of sexual attitudes and lifestyles*. Penguin Books, London.

Wellings K., Nanchahal K., Macdowall W., McManus S., Erens B., Mercer C.H., Johnson A.M., Copas A.J., Korovessis C., Fenton K.A. & Field J. (2001) Sexual behaviour in Britain: early heterosexual experience. *Lancet* 358, 1843-1850.

Wight D., Williamson L. & Henderson M. (2006) Parental influences on young people's sexual behaviour: A longitudinal analysis. *Journal of Adolescence* 29, 473-494.

Wight D., Raab G.M., Henderson M., Abraham C., Buston K., Hart G. & Scott S. (2002) Limits of teacher delivered sex education: interim behavioural outcomes from randomized trial. *British Medical Journal* 324, 1430-1435.

Yu J. (2007) British-born Chinese teenagers: the influence of Chinese ethnicity on their attitudes towards sexual behaviour. *Nursing and Health Sciences* 9(1), 69-75.

Yu J. (2008) Perspectives of Chinese British adolescents on sexual behaviour within their socio-cultural contexts in Scotland. *Diversity in Health and Social Care* 5, 177-186.

Yu J. (2009a) Qualitative research on the attitudes toward teenage sexual behaviour of Chinese British families: Methodological issues. *Journal of Transcultural Nursing* 20(2), 156-163.

Yu J. (2009b) Sex education beyond school: implications for practice and research. *Sex Education* in press.

Zhang K., Li D., Li H. & Beck E.J. (1999) Changing sexual attitudes and behaviour in China: implications for the spread of HIV and other sexually transmitted diseases. *AIDS Care* 11, 581-589.



**Table 1: Summary of the studies included**

Reference, country	Aim	Design	Sample & size	Data collection	Key findings of relevance
Cochran <i>et al.</i> (1991) USA	To explore rates of sexual activity and patterns of sexual behaviour in Asian American young people	Survey	Unmarried, heterosexual young people aged 18-25, attending a university in California  153 ethnic Chinese youth  No reported response rate	Questionnaire	44% of males and 50% of females had had sex. There were no significant differences in respondents being virgins in terms of gender ( $X^2(1)=0.35$ , $p>0.10$ ), place of birth ( $X^2(1)=0.24$ , $p>0.10$ ) or age ( $F(1, 148)=0.26$ , $p>0.10$ ). Women had more sexual partners than men in the previous 6 months ( $t(60)=2.03$ , $p<0.05$ , 1.3 vs. 0.7) and had sex more frequently in the previous month ( $t(70)=3.18$ , $p<0.01$ , 3.6 vs. 2.4). 93% had sex without condoms and 15% had ever tried anal intercourse. Age of first sex was younger for native-born respondents than for foreign-born respondents ( $F(1, 52)=6.11$ , $p<0.05$ , 16.6 years vs. 17.7 years). Men's and women's rankings from most to least important reasons for delaying sexual activity were not correlated (Spearman's $\rho=0.36$ , $p>0.10$ ).
Horan & DiClemente (1993) USA	To compare HIV knowledge, communication, and risk behaviours among white, Chinese, and Filipino American adolescents	Survey	School pupils in grade 10 and grade 11 in San Francisco  832 Chinese pupils 152 Filipino pupils 288 white pupils	Questionnaire	White pupils scored significantly higher than Chinese pupils on HIV prevention knowledge ( $F_{2,1218}=11.49$ , $p<0.001$ ). Chinese pupils (13%) were less likely than white (37%) and Filipino pupils (32%) to have had sex ( $F=44.45$ , $p<0.0001$ ). There were no differences in sexual risk behaviours among the three groups ( $F_{2,258}=2.78$ , $p>0.05$ ). Chinese pupils had significantly less ability than white and Filipino pupils to communicate of knowledge of HIV disease and prevention of HIV ( $F_{2,1204}=92.67$ , $p<0.0001$ ). Significant fewer HIV

			No reported response rate		misconceptions were found among Chinese and Filipino pupils than white pupils ( $F_{2,1225}=4.326$ , $p<0.01$ ).
Huang & Uba (1992) USA	To examine the attitudes to premarital sex and sexual behaviour among ethnic Chinese college students; the effect of acculturation; the relationship between sexual experience and interracial dating	Survey	Ethnic Chinese students aged 18-31 (85% aged 18-21 years), unmarried, heterosexual, attending the University of California  114 ethnic Chinese students  30% response rate	Postal questionnaire	Over 60% approved of premarital sex when people were in love or engaged. There were no significant gender differences in sexual attitudes, but male respondents were less experienced than females in kissing ( $X^2(4)=16.77$ , $p=0.002$ , 75% vs. 89%), necking ( $X^2(4)=9.62$ , $p=0.04$ , 61% vs. 84%) and light petting ( $X^2(4)=10.30$ , $p=0.04$ , 55% vs. 81%). There were no differences between women and men in sexual initiation ( $X^2(4)=7.48$ , $p=0.11$ , 46% vs. 37%) or the age of first sex (18.8 vs. 18.5 years). Level of acculturation was positively related to sexual permissiveness ( $r=0.20$ , $p<0.01$ , $n=114$ ) and participants having had sex ( $r=0.24$ , $p<0.004$ , $n=48$ ), and was negatively related to age of first sex ( $r(1, 48)=-0.49$ , $p<0.0001$ ). The number of years residing in the USA was not associated with sexual attitudes. Participants dating only white people had more sexual experience from holding hands to sexual intercourse than those who dating only Chinese people.
Kuo & Lawrence (2006) USA	To examine the sexual behaviour and self-reported incidence of STIs of white and Chinese American young people in a nationally representative sample	Survey	Pupils between grade 7 and grade 12 (a sub-sample of the National Longitudinal Study of Adolescent Health)	Face-to-face interviews	A series of t-tests showed that Chinese respondents were more likely than white respondents to feel guilty about sex ( $p<0.001$ ) and believe that having sex would upset their mother ( $p<0.001$ ), and were less likely to perceive sex as physical pleasure ( $p<0.01$ ), relaxing ( $p<0.05$ ), and as a way to gain friends' respect ( $p<0.001$ ). They were significantly less likely than white respondents to report having had sex (OR=0.27, 95% CI= 0.20-0.37, $p<0.001$ ,

			10419 white pupils 340 Chinese pupils  No reported response rate		13.3% vs. 36.1%) and having casual or non-regular sexual partners (OR=0.49, p=0.014, 41.3% vs. 59.1%). 15.6% of Chinese girls and 11.4% of Chinese boys were non-virgins (OR=1.43), but the difference was not significant. The average age of first sex was 15.1 years for white respondents and 15.3 for Chinese respondents, but the difference was not significant (t=-0.197, p=0.85). There were no significant differences among non-virgins in self-reported lifetime prevalence of STIs between the two groups (p=0.82, 4.5% Chinese vs. 5.3% white respondents).
Lam & Barnhart (2006) USA	To explore whether partner ethnicity and age were associated with condom negotiations in sexually active Chinese and Filipina American college women	Survey	A sub-sample of a larger study of sexual attitudes and behaviours of Asian and white universities students in California  181 Chinese and Filipina women aged 18-30 years, unmarried, heterosexual, sexually active in the previous year  No reported response rate	Online questionnaire	The mean age of sexual initiation was 17 years. 46% of women were dating a partner of a different ethnic background and 84% were dating a partner of an older age. Women with non-Asian partners were more likely than those with Asian partners to use nonverbal-direct condom negotiations (OR=2.55, CI=1.10-5.90, p<0.05). Those with older partners were less likely than those with same-age partners to use verbal-direct (OR=0.01, CI=0.02-0.69, p<0.05) and verbal-indirect condom negotiations (OR=0.38, CI=0.15-0.97, p<0.05).
McLaughlin	To explore ethnic	Survey	Students aged 18-	Questionnaire	White respondents reported more lifetime sexual

<p><i>et al.</i> 1997 USA</p>	<p>and gender differences in sexual behaviour among white and Asian American college students</p>		<p>22, attending a state university in California</p> <p>148 white Americans 202 Asian Americans (34% Chinese, 25% Koreans and other Asian groups)</p> <p>No reported response rate</p>		<p>partners than Asian participants (<math>F(1,345)=45.64</math>, <math>p&lt;0.001</math>, <math>M_s=4.16</math> vs. <math>1.13</math> for men; <math>M_s=2.50</math> vs. <math>0.92</math> for women). Males reported so than females (<math>F(1,345)=5.76</math>, <math>p&lt;0.05</math>). There was no difference in Asian respondents being virgins in terms of generational status, years of residence in the USA or country of origin. Females, but not males, from the least acculturated families were more likely to be virgins than those from moderately or highly acculturated families (<math>X^2(2, n=131)=6.99</math>, <math>p&lt;0.05</math>, 77%, 52%, 53% respectively). Females were more religious (<math>F=7.22</math>, <math>p&lt;0.01</math>) and less likely than males to approve of casual sex (<math>F=86.48</math>, <math>p&lt;0.001</math>). With the exception of Asian males, virgins were more religious than non-virgins, and less likely to approve of casual sex or engage in risk behaviour (<math>F</math>-ratio tests, <math>p&lt;0.05</math>, <math>0.01</math>, <math>0.001</math>).</p>
<p>Meston <i>et al.</i> (1996) Canada</p>	<p>To examine differences in sexual behaviour in terms of interpersonal sexual behaviour, intrapersonal sexual behaviour and socio-sexual restrictiveness between students of Asian and non-Asian descent</p>	<p>Survey</p>	<p>Undergraduates aged 17-55 (94% 18-25 years) attending the British Columbia University</p> <p>356 Asian ancestry (70% Chinese) 346 non-Asian ancestry</p> <p>No reported response rate</p>	<p>Questionnaire</p>	<p>Asian respondents were more likely than non-Asian respondents to have traditional sexual attitudes (<math>F</math>-ratio tests, <math>p&lt;0.002</math>) and were older when they lost their virginity (<math>F=34.51</math>, <math>p&lt;0.002</math>, <math>17.92</math> vs. <math>16.88</math> years for men; <math>18.20</math> vs. <math>17.04</math> years for women). 36% of Asian females, 69% of non-Asian females, 35% of Asian males and 63% of non-Asian males had had sex. Among Asian respondents, length of residency in Canada was not related to sexual attitudes. Canadian-born Asians did not differ from recent Asian immigrants on any measure of sexual behaviour.</p>

Meston <i>et al.</i> (1998) Canada	To examine differences in sexual knowledge and attitudes between students of Asian and non-Asian descent	Survey	Undergraduates aged 17-55 (94% 18-25 years) in British Columbia University  356 Asian ancestry (70% Chinese) 346 non-Asian ancestry  No reported response rate	Questionnaire	A series of F-ratio tests showed that males were more likely than females to hold negative attitudes towards homosexual behaviour and to approve of uncommitted sex ( $p < 0.02$ ). Asian respondents held more conservative sexual attitudes ( $p < 0.006$ ) and showed significantly less sexual knowledge ( $p < 0.002$ ). Recent Asian immigrants were significantly more likely than Canadian-born or long-term Canadian residents to hold conservative sexual attitudes ( $p < 0.006$ ).
Yu (2007) UK	To understand sexual values within Chinese British families and how Chinese ethnicity impact on sexual values of British-born Chinese teenagers	Ethnographic approach	People of Chinese origin in Scotland  20 teenagers 20 parents	In-depth interviews	Traditional conservative attitudes to sex were repeatedly reported. Chinese cultural values and religious beliefs were considered as important to this view. The families experienced difficulties in communicating about sex, but parents used various strategies to pass on their values.
Yu (2008) UK	To examine the attitudes of Chinese British youth on sexual behaviour from the perspectives of both children and parents	Ethnographic approach	People of Chinese origin in Scotland  20 teenagers 20 parents	In-depth interviews	Traditional sexual attitudes were common within the families. Gender double standards were shown. Various factors shaped young people's views. Cultural values, religious beliefs and parental values were influential. Similarity in sexual values and behaviour between teenagers and their close friends was apparent, but differences were highlighted between friends from different cultural backgrounds. Sexual knowledge acquired at school

					was thought necessary because various barriers prevented parents from talking about sex effectively.
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CI=confidence interval; OR=odds ratio; STI=sexually transmitted infection; UK=United Kingdom; USA=United States of America;