



# Acculturation and Sexual Attitudes: a Systematic Review

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## Abstract

**Introduction** The culture plays an important role in sexuality. Although each ethnocultural group has its own sexual attitudes, in multicultural contexts, the acculturation process could modify the sexual attitudes of these groups. The aim of the study was to perform a systematic literature review of the studies that have examined the relationship between acculturation and sexual attitudes.

**Method** The review was carried out in the ProQuest and Scopus databases. There was no time restriction in literature search.

**Results** A total of 25 studies met the inclusion criteria. The year of publication of the studies ranged from 1982 to 2020. The studies were conducted in the USA and/or in Canada and included mainly Asians and Latinos/Hispanics. Proxy indicators, unidimensional, and bidimensional measures were used to measure acculturation. In general, results show that mainstream acculturation is positively related to liberal or positive sexual attitudes. Relevant interaction and mediation effects were also found: (1) mainstream dimension moderates the relationship between heritage dimension and sexual attitudes, (2) heritage dimension moderates the relationship between mainstream dimension and sexual attitudes, (3) acculturation moderates the relation between gender and sexual attitudes, (4) gender moderates the relation between acculturation and sexual attitudes, (5) the ethnocultural origin moderates the relationship between acculturation and sexual attitudes, and (6) sex guilt mediated the relationship between mainstream acculturation and sexual desire.

**Conclusion** The acculturation process is related to sexual attitudes.

**Policy Implications** Knowing the acculturation process could be important to achieve greater equity in sexual health among different groups.

**Keywords** Acculturation · Sexual attitudes · Ethnocultural groups · Systematic review

## Introduction

The influence of culture on sexuality and the phenomenon of migration have led to the development of studies that relate sexual attitudes to ethnocultural origin. Sexuality is conceived differently in each culture, giving it different meanings (Heinemann et al., 2016). These different ways of conceiving sexuality lead to differences in sexual attitudes between diverse ethnocultural groups.

Several investigations have found differences in sexual attitudes between diverse ethnocultural groups (e.g., Ahrold & Meston, 2010). In Canada, Meston et al. (1998) found that Asians have more conservative sexual attitudes than Latinos and Euro-Americans. In the USA, Padilla and Grady (1987)

found that Mexican–American students had more conservative sexual attitudes than their Anglo peers. In this line, in that country, later, Eisenman and Dantzker (2006) found that Latinos have more conservative sexual attitudes than Euro-Americans. Ahrold and Meston (2010) found that Euro-Americans have more liberal sexual attitudes towards gender role traditionality than Hispanics and Asians in the USA. Moreover, they also found that Asians have more conservative sexual attitudes towards homosexuality and casual sex than Hispanics and Euro-Americans. In a review of literature, Fugère et al. (2008) found that African Americans have the most permissive sexual attitudes, followed by White Americans, then by Hispanic Americans and Asian Americans. In general, the studies show that minority groups (Asians and Latinos/Hispanics) have more conservative sexual attitudes than the majority group (Euro-Americans).

Although each ethnocultural group has its own sexual attitudes, in multicultural contexts, the contact with people from other ethnocultural groups could modify the sexual

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attitudes. That is, people from a group (e.g., minority group) by interacting with people from another culture (e.g., majority group) could modify their sexual attitudes. In addition, more and more people are born and grow up in a cultural context that is different from that of their own ethnocultural group, learning customs that are different from those learned by their ancestors. Therefore, in addition to the ethnocultural origin, the acculturation process could be related to sexual attitudes.

## Acculturation

Acculturation is the process of cultural and psychological change that follows when there is continuous contact between people from diverse ethnocultural groups (Berry, 2003). This process implies changes in identity, attitudes, values, and behaviors in the groups involved. Although minority groups are usually the most affected (Berry, 1980, 2005).

Acculturation has been understood in multiple ways according to the different models that have been proposed (e.g., Berry, 1980; Gordon, 1964). Acculturation models can be classified mainly into two types: unidimensional model and bidimensional model (Ryder et al., 2000). In the unidimensional approach to acculturation, immigrants are placed on a continuum of identities ranging from exclusively heritage culture to exclusively mainstream culture (Gordon, 1964). In the middle of the continuum is biculturalism, where the immigrants maintain aspects of their culture and adopt those of the host culture. According to this model, the penetration into the mainstream culture (assimilation) is necessary to be successful in the host society (Ryder et al., 2000). For this reason, when this model is followed, “high acculturation” implies high adoption of the aspects of the host culture and low maintenance of those of the home culture.

In contrast, the bidimensional approach considers acculturation as a process in which both heritage and mainstream culture are two independent dimensions (Berry, 1980). Heritage acculturation refers to the degree to which ethnocultural groups maintain aspects (attitudes, values, behaviors, etc.) of their home cultural (culture of origin), while mainstream acculturation refers to the degree to which ethnocultural groups adopt aspects of the host culture (Berry, 2005).

Because culture plays an important role in sexuality (sexuality is constituted within a cultural context) and in multicultural contexts the acculturation process could be related to sexual attitudes, the study of the relationship between acculturation and sexual attitudes is relevant. For instance, migrants are exposed to different forms of sexual relationships in their host countries. Therefore, their sexual attitudes undergo a dynamic process of adjustment and adaptation.

## Sexual Attitudes

Permissiveness, liberal and conservative orientation, and erotophilia and erotophobia are concepts used when sexual attitudes are measured (Blanc & Rojas, 2017). Sexual permissiveness could be defined as “acceptance or endorsement of sexual behaviors within relationships characterized by relatively lower levels of commitment” (Taylor, 2005, p. 131). Sexual attitudes are also defined in terms of a liberal or conservative orientation which is conceived as a bipolar continuum. At the liberal end of this continuum are those people who feel that the expression of human sexuality should be open, free, and unrestrained. At the conservative orientation end are those who feel that sexual expression should be regulated and constrained (Hudson et al., 1983). The erotophobia-erotophilia construct is also conceived as a bipolar continuum. Erotophilia refers to a tendency to exhibit positive emotions and evaluations toward sexual cues, while erotophobia implies a tendency to exhibit negative emotions and evaluations toward sexual cues (Fisher et al., 1988).

The role of the sexual attitudes in sexuality, especially in sexual health and sexual activity, has been demonstrated in the scientific literature. With regard to sexual health, studies have shown that sexual attitudes are related to sexual functioning (e.g., Carvalho et al., 2013) and risky sexual behaviors (e.g., Sanders et al., 2006). On the one hand, people with more positive or liberal sexual attitudes have greater sexual desire (Blanc et al., 2017; Dosch et al., 2016), greater sexual assertiveness (Blanc et al., 2017), and they are more sexually satisfied (Hurlbert et al., 1993) than people with more negative or conservatism sexual attitudes. On the other hand, people with more positive sexual attitudes are more likely to consistently use contraceptive methods than those with more negative sexual attitudes (Hynie & Lydon, 1996; Sanders et al., 2006) or extremely positive (Hynie & Lydon, 1996).

With respect to sexual activity, studies have also shown that sexual attitudes are related to the number of different sexual behaviors performed (e.g., Blanc et al., 2018; Murray-Swank et al., 2005), the frequency of sexual behaviors (e.g., García-Vega et al., 2017; Lemer et al., 2013), and the number of sexual partners (e.g., Luquis et al., 2015; Rinehart et al., 2014). Specifically, people with more positive or liberal sexual attitudes perform a greater number of different sexual behaviors; they perform them more frequently and have a greater number of different sexual partners than people with more negative or conservatism sexual attitudes.

Since sexual attitudes are related to sexual health (sexual functioning and risky sexual behaviors) and sexual activity, it is relevant to know the relationship between acculturation and sexual attitudes. If there is a relationship between acculturation and sexual attitudes, the acculturation process should indirectly influence sexual health and sexual activity (e.g., Brotto et al., 2012). In other word, sexual attitudes

should mediate the relationship between the acculturation process and sexual health (and sexual activity). For all the above, the aim of the current study was to perform a systematic review of the studies that have examined the relationship between acculturation and sexual attitudes. The purpose was to know the studies that have been carried out on the subject (years and author/s), the characteristics of the samples, the quantitative measures used (acculturation and sexual attitude measures), and the main results on the relationship between acculturation and sexual attitudes.

## Method

### Search Strategy

A systematic literature review was conducted to identify studies that examine the relationship between acculturation and sexual attitudes. This systematic review was conducted using the PRISMA strategy. The PRISMA Statement consists of a four-phase flow diagram (Fig. 1) and of a 27-item checklist (Moher et al., 2015). The review was carried out in the ProQuest and Scopus databases with the following search criteria:

- ProQuest. Terms: sexual\* AND attitude\* AND acculturation; In: Anywhere except full text; Language: English and Spanish; Source type: Scholarly Journal; Document type: Article.
- Scopus. Terms: sexual\* AND attitude\* AND acculturation; In: Title, abstract and keywords; Language: English and Spanish; Source type: Journal; Document type: Article.

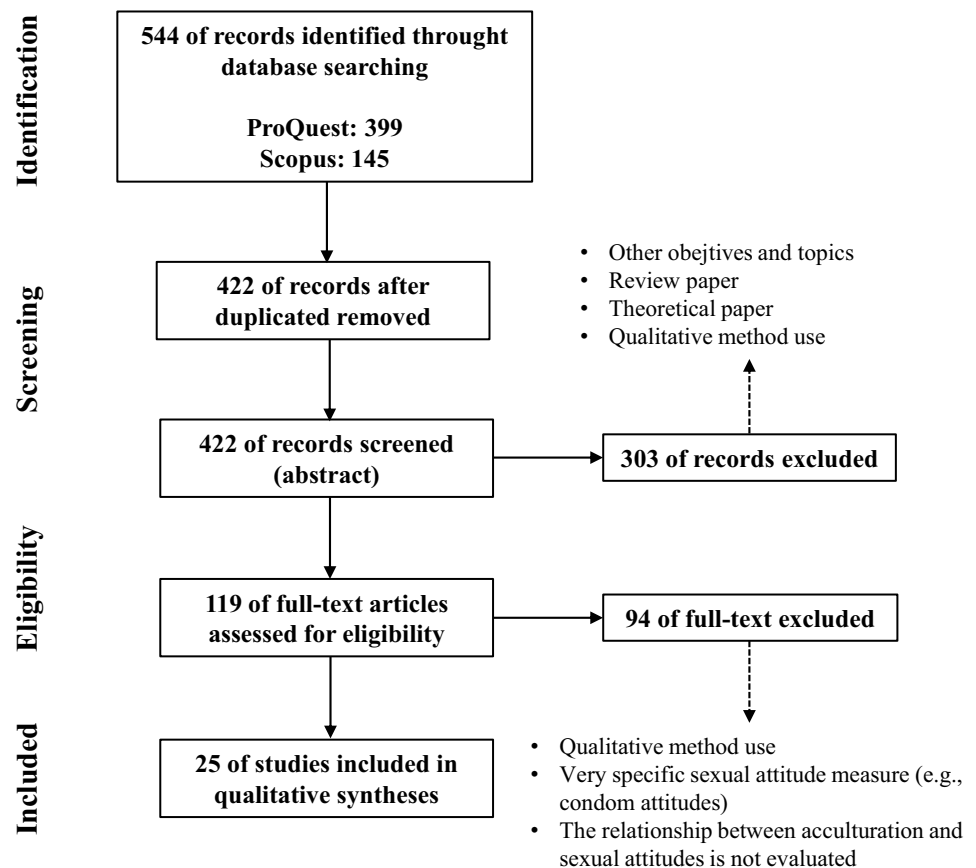
There was no time restriction applied to the literature search, and the search took place in October 2020.

### Selection Criteria

Studies were included if they met the following criteria:

1. Quantitative studies. Studies that did not use a quantitative methodology were excluded. Only quantitative studies were included to allow greater comparability between the results of the studies.
2. Acculturation measures. Studies that used proxy indicators of acculturation were also included.
3. Sexual attitude measures. Studies that did not include sexual attitude measures were excluded.

**Fig. 1** Flow diagram of the selection process



4. General sexual attitude measures. Studies that measured attitude toward a specific aspect of sexuality (e.g., attitudes towards condoms) were excluded. The reason was because there are numerous measures that evaluate attitudes toward specific aspects of sexuality, and it is not possible to examine their relationship with the acculturation process in a single study.
5. Relationship between acculturation and sexual attitudes. Studies that, although they included acculturation and sexual attitude measures, did not examine the relationship between acculturation and sexual attitudes were excluded.

## Data Extraction

The information extracted from the studies were as follows:

- Author(s) and year of publication of the study.
- Sample characteristics: sample size, gender, ethnocultural origin, and country where they were recruited.
- Acculturation measure and reliability.
- Sexual attitude measure and reliability.
- Results that examine the relationship between acculturation and sexual attitudes.

## Results

### Study Selection

Figure 1 provides a flow diagram of the selection process. A total of 544 studies (399 in ProQuest and 145 in Scopus) were found. Of the total, 122 were duplicate studies. Therefore, 422 were non-duplicate studies. A total of 25 studies met the inclusion criteria. Tables 1, 2, 3, and 4 show the information extracted from the studies. The studies were classified according to the minority ethnocultural origin. Moreover, they were arranged chronologically by year of publication.

### Sample Characteristics

Of the 25 studies of this review, 15 were conducted in the USA, 9 studies in Canada, and one study in both country (USA and Canada). All studies were focused on minority ethnocultural groups. Regarding the origin of the minority ethnocultural groups, 12 studies included only Asians (Table 1), 7 studies included only Latinos/Hispanics (Table 2), and 2 studies included only Iranian women (Table 3). A total of 4 studies included different minority ethnocultural groups (Table 4). With respect to gender, 8 studies included only female and 4 studies only male. A total of 13 studies included only students.

## Acculturation Measures

Acculturation measures in the studies were very diverse. Some studies included proxy indicators of acculturation such as generation (Abramson & Imai-Marquez 1982), length of residency in the country (Kennedy & Gorzalka, 2002; Meston et al., 1998), and language preference (Edwards et al., 2008; Jiménez et al., 2002).

Of the total number of studies that used measures of acculturation, 9 studies used the Vancouver Index of Acculturation (VIA; Ryder et al., 2000), 5 studies the Scale of Acculturation for Mexican-Americans (Cuellar et al., 1980) or any of its adaptations (e.g., ARSMA-II; Cuellar et al., 1995), one study the Marmot's Acculturation Index (Marmot, 1975), one study the General Ethnicity Questionnaire (GEQ; Tsai et al., 2000), and one study indicators of acculturation preferences in the most private relative acculturation extended model (RAEM) areas (Navas & Rojas, 2010) and indicators of acculturation preferences and strategies in the sexual area (Blanc & Rojas, 2020). The VIA, the GEQ, and the RAEM indicators are bidimensional measures of acculturation. Therefore, they consider acculturation as a process in which both heritage and mainstream culture are two independent dimensions. However, the Marmot's Acculturation Index is a unidimensional measure of acculturation. In the study where the GEQ was used (Benuto & Meana, 2008), only the version that evaluate the mainstream acculturation was included. The Scale of Acculturation for Mexican-Americans was elaborated as a unidimensional measure of acculturation (Cuellar et al., 1980). However, later, this measure was modified (Cuellar et al., 1995) and both heritage and mainstream dimensions were included. Although in some studies (Abdolsalehi-Najafi & Beckman, 2013; Castañeda, 2017), a linear acculturation score is obtained by subtracting the mean Mexican Orientation subscale score from the mean Anglo Orientation subscale score. In the proxy indicators and unidimensional measures, acculturation refers to mainstream acculturation.

A total of 15 studies provided the reliability of the acculturation measure using Cronbach's alpha internal consistency coefficient. This coefficient ranged from 0.73 to 0.93.

## Sexual Attitude Measures

Sexual attitude measures in the studies were also very diverse. The most widely used measure (in 8 studies) was the Sexual Attitude Subscale of the Derogatis Sexual Functioning Inventory (DSFI; Derogatis, 1978). The Mosher Forced-Choice Guilt Inventory or one of its adaptations (Mosher, 1966, 1988) was also used in 4 studies. The Sexual Attitudes Scale (Hendrick & Hendrick, 1987) and its short version (Hendrick et al., 2006) and the Sexual Comfort Scale (Marín & Marín, 1991) were used in 2 studies. The rest of the measures were

**Table 1** Studies that examine the relationship between acculturation and sexual attitudes in Asians

Author(s) and year	Sample characteristics	Acculturation measure	Sexual attitude measure	Results: relationship between acculturation and sexual attitudes
Abramson and Imai-Marquez (1982)	62 Japanese-Americans (first generation, 6 male and 9 female; second generation, 13 male and 15 female; third generation, 9 male and 10 female) and 82 Caucasian-American controls (first generation, 11 male and 15 female; second generation, 23 male and 16 female; third generation, 23 male and 16 female) recruited from the metropolitan Los Angeles area (USA)	Generation: first, second and third	Mosher Forced-Choice Guilt Inventory (Mosher, 1966) Reliability: split-half = .97	Japanese-American participants expressed more sex guilt than the Caucasian-American controls ( $F_{(1,143)} = 8.92, p < .003$ ), and the older generations expressed more sex guilt than the younger generations ( $F_{(2,143)} = 24.48, p < .001$ )
Huang and Uba (1992)	114 students of Chinese ancestry (51 men and 63 women) attending the University of California (USA)	Marmot's Acculturation Index (Marmot, 1975)	Premarital Sexual Permissiveness Scale (Reiss, 1964)	Acculturation was positively correlated to sexual permissiveness ( $r = .20, p < .01$ )
Meston et al. (1998)	705 University of British Columbia (Canada) undergraduate student: 49% were Non-Asians (144 males and 203 female) and 51% Asians (131 males and 224 female). A total of 32% were Asians born in Canada, 33% were Asians who immigrated to Canada before 1987, and 35% were Asians who immigrated to Canada during or after 1987	Length of Canadian residency: born in Canada, immigrated to Canada before 1987, and immigrated to Canada during or after 1987	Sexual Attitude subscale of the Derogatis Sexual Functioning Inventory (DSFI; Attitude; Derogatis, 1978) Attitudes items from the Sociosexual Orientation Inventory (SOI; Simpson & Gangestad, 1991)	In the Asian group, length of residency in Canada was related to all homosexuality ( $F = 14.63; 17.66; 11.05; p < .002$ ) oral sex ( $F = 6.59; 7.44; p < .002$ ), and sex-role ( $F = 8.57; 12.76; 7.19; p < .002$ ) items, one masturbation item ( $F = 6.85; p < .002$ ), and two premarital sex items ( $F = 6.34; 6.50; p < .002$ ). Compared with Asians born in Canada or immigrated to Canada before 1987, immigrant to Canada during or after 1987 were significantly more likely to have negative attitudes toward homosexuals, conservative attitudes toward masturbation and oral sex, and traditional sex roles Length of residency in Canada was also related to one SOI items ("sex without love is OK"; $F = 5.29; p < .006$ ). Asian immigrated to Canada before 1987 were more likely than immigrated during or after 1987 to agree with this item
Kennedy and Gorzalka (2002)	400 University of British Columbia (Canada) undergraduate students: 195 Non-Asian (138 women and 57 men) and 205 Asian (135 women and 70 men). 89 Asian participants born in Canada (60 women and 29 men), 53 arrived in Canada before the age of 13 (32 women and 21 men), and 63 arrived in Canada age 13 or older (43 women and 20 men)	Length of time in Canada: born in Canada, arrived in Canada before the age of 13, and arrived in Canada age 13 or older	DSFI Attitude	In the Asian group, one item ("Fantasies while masturbating are health forms of sexual release") was related to length of residency in Canada ( $F_{(2,196)} = 7.48, p < .0017$ )
Brotto et al. (2005)	349 women undergraduate students from a large Canadian university: 173 self-identified as Euro-Canadian and 176 as East Asian	Vancouver Index of Acculturation (VIA; Ryder et al., 2000), and length of residency in Canada Reliability: Heritage dimension: $\alpha = .91$ Mainstream dimension: $\alpha = .89$	DSFI Attitude	In the Asian group, there was a significant main effect for the mainstream dimension ( $F_{(3,138)} = 3.74, p = .013$ ), for the heritage dimension ( $F_{(3,138)} = 3.13, p = .028$ ), and a significant interaction effect between mainstream and heritage dimensions ( $F_{(3,138)} = 3.33, p = .022$ ) on sexual attitudes. Asian women with low heritage acculturation scores had increasingly liberal sexual attitudes with increasing mainstream acculturation, whereas women with high heritage acculturation scores did not have such an increase in liberal sexual attitudes with Westernization Years in Canada was positively related to liberal sexual attitudes ( $F_{(3,137)} = 2.84, p = .04$ )

Table 1 (continued)

Author(s) and year	Sample characteristics	Acculturation measure	Sexual attitude measure	Results: relationship between acculturation and sexual attitudes
Brotto et al. (2007)	291 men undergraduate students from a large Canadian university: 124 self-identified as Euro-Canadian and 137 as East Asian	VIA and length of residency in Canada Reliability: Heritage dimension: $\alpha = .91$ Mainstream dimension: $\alpha = .89$	DSFI Attitude	In the Asian group, there was a significant main effect for the mainstream dimension ( $F_{(9,39)} = 4.17, p = .001$ ), and no significant effect for the heritage dimension ( $F_{(9,39)} = 1.10, p > .05$ ) on sexual attitudes. Asian women with high mainstream acculturation had increasingly liberal sexual attitudes Years in Canada was not related to liberal sexual attitudes ( $F_{(9,39)} = 0.46, p > .05$ )
Woo et al. (2011)	242 women from a large Canadian university: 105 self-identified as Caucasian and 137 as East Asian	VIA Reliability: Heritage dimension: $\alpha = .92$ Mainstream dimension: $\alpha = .85$	Revised Mosher Guilt Inventory (RMGI; Mosher, 1988) Reliability: $\alpha = .96$ DSFI Attitude Reliability: Liberalism dimension: $\alpha = .81$ Conservatism dimension: $\alpha = .86$	In the Asian group, mainstream acculturation was negatively correlated with RMGI scores ( $r = -.20, p < .05$ ) indicating that more westernized East Asian women reported less sex guilt. Mainstream acculturation was not correlated with DSFI Attitude ( $p > .05$ ) Heritage acculturation was not correlated to sexual attitudes measures ( $p > .05$ ) Sex guilt mediated the relationship between mainstream acculturation and sexual desire. The indirect effect of mainstream acculturation on sexual desire via sex guilt was significant ( $ab = .01, SE = .004, CI_{95} = -.001, .02$ )
Woo et al. (2012)	165 women: 87 self-identified as Chinese, and 78 as Euro-Canadian	VIA Reliability: Heritage dimension: $\alpha = .90$ Mainstream dimension: $\alpha = .89$	RMGI Reliability: $\alpha = .95$	In the Asian group, mainstream acculturation was negatively correlated with RMGI scores, ( $r = -.10, p < .05$ ), indicating that more Westernized Chinese women reported less sex guilt. Heritage acculturation was not correlated with RMGI scores ( $p > .05$ ) Sex guilt mediated the relationship between mainstream acculturation and sexual desire. The indirect effect of mainstream acculturation on sexual desire via sex guilt was significant ( $ab = 0.01, SE = 0.006, CI_{95} = 0.004, 0.02$ )
Brotto et al. (2012)	83 men student from a large Canadian university: 38 self-identified as Euro-Canadian and 45 as East Asian	VIA Reliability: Heritage dimension: $\alpha = .92$ Mainstream dimension: $\alpha = .85$	RMGI Reliability: $\alpha = .96$	In the Asian group, mainstream acculturation was negatively correlated with RMGI scores ( $r = -.38, p < .05$ ), such that greater mainstream acculturation was related to lower levels of sex guilt. Heritage acculturation was not correlated with RMGI scores ( $p > .05$ ) Sex guilt mediated the relationship between mainstream acculturation and sexual desire. The indirect effect of mainstream acculturation on sexual desire via sex guilt was significant ( $ab = 0.04, SE = 0.02, CI_{95} = 0.005, 0.080$ )
Morton and Gorzalka (2013)	200 women undergraduate students from a large Canadian university: 77 self-identified as Euro-Canadian and 123 as East Asian	VIA Reliability: Heritage dimension: $\alpha = .90$ Mainstream dimension: $\alpha = .90$	Sexual Dysfunctional Beliefs Questionnaire (SDBQ; Nobre et al., 2003) Reliability: $\alpha = .91$	In the Asian group, both mainstream ( $\beta = -0.23, p = .012$ ), and heritage ( $\beta = 0.23, p = .011$ ) acculturation significantly predicted total endorsement of dysfunctional sexual beliefs

Table 1 (continued)

Author(s) and year	Sample characteristics	Acculturation measure	Sexual attitude measure	Results: relationship between acculturation and sexual attitudes
Guo (2019)	506 heterosexual participants living in the USA: 334 White Americans (152 female and 182 male) and 172 Asians (69 female and 103 male)	VIA Reliability: Heritage dimension: $\alpha = .90$ Mainstream dimension: $\alpha = .88$	Attitudes towards the sexuality of women and men scales: initiate sex, casual sex, multiples partners and had many partners	For Asian men, both mainstream and heritage acculturation had interaction effects on some measures of attitudes toward the sexuality of women. On the other hand, mainstream acculturation was positively related to favorable attitudes towards men taking sex initiative ( $\beta = 1.04, p < .0005$ ) and more liberal attitudes about men having multiple sexual partners, but the relation were stronger at higher levels of heritage acculturation. Heritage acculturation was positively related to more favorable attitudes towards men taking sex initiative ( $\beta = .80, p = .024$ ) and was negatively related to liberal attitudes towards men having casual sex, multiple partners, and a history of many partners when their mainstream acculturation were not high. Heritage acculturation was related to more conservative attitudes in judging a potential wife for having had casual sex ( $\beta = -1.24, p = .042$ ) and multiple partners ( $\beta = -1.40, p = .037$ ). For Asian women, mainstream acculturation was positively related to favorable attitudes towards women having casual sex ( $\beta = .65, p = .023$ ), having multiple sexual partners ( $\beta = .62, p = .019$ ), and having a large number of accumulated partners ( $\beta = .68, p = .022$ ). Moreover, mainstream acculturation was positively associated with more liberal attitudes towards men taking sex initiative ( $\beta = .70, p < .0005$ ), having casual sex ( $\beta = .68, p = .029$ ), and having multiple partners ( $\beta = .71, p = .016$ ). At the same time, mainstream acculturation made it more likely for Asian women to accept a man as husband who had a history of having casual sex ( $\beta = .56, p = .038$ ). Heritage acculturation was positively related to favorable attitudes towards women taking sex initiative ( $\beta = .28, p = .029$ )
Dang et al. (2019)	831 undergraduate students self-identified as Chinese ethnic descent were recruited from a large Canadian university (364 men and 467 women)	VIA and length of residency in Canada Reliability: Heritage dimension: $\alpha = .90-.92$ Mainstream dimension: $\alpha = .92-.93$	DSFI Attitude Reliability: Liberalism dimension: $\alpha = .80-.84$ Conservatism dimension: $\alpha = .82-.84$	In heterosexual women, mainstream acculturation was positively correlated with liberal sexual attitudes ( $r = .29, p < .004$ ), and negatively correlated with conservative sexual attitudes ( $r = -.36, p < .004$ ). Moreover, heritage acculturation was negatively correlated with conservative sexual attitudes ( $r = -.13, p < .05$ ) and positively correlated with liberal sexual attitudes ( $r = .10, p < .05$ ). In heterosexual men, mainstream acculturation was positively correlated with liberal sexual attitudes ( $r = .37, p < .004$ ), and negatively correlated with conservative sexual attitudes ( $r = -.34, p < .004$ ). Also, heritage acculturation was positively correlated with liberal sexual attitudes ( $r = .22, p < .004$ ). In this group, there was a significant interaction effect between mainstream and heritage acculturation on conservative sexual attitudes Years in Canada was negatively correlated to conservative sexual attitudes in heterosexual women ( $r = -.23, p < .004$ ) and men ( $r = -.14, p < .05$ ), and it was only positively correlated with liberal sexual attitudes in heterosexual men ( $r = .15, p < .05$ )

**Table 2** Studies that examine the relationship between acculturation and sexual attitudes in Latinos/Hispanics

Author(s) and year	Sample characteristics	Acculturation Measure	Sexual Attitude Measure	Results: relationship between acculturation and sexual attitudes
Amaro (1988)	137 Mexican-American women recruited from a health clinic of the East Los Angeles area (USA). Exactly 65.7% were born in Mexico, and 34.3% were Mexican-Americans born in the USA	Scale of Acculturation for Mexican-Americans (Cuellar et al., 1980) Reliability: $\alpha = .92$	Three statements were used to assess the attitudes toward sex Reliability: $\alpha = .71$	Acculturation were positively related to attitudes toward sex ( $r = .31, p < .05$ ). In comparison to those with more traditional attitudes toward sex, women who expressed more liberal attitudes toward sex had a bicultural affiliation
Contreras et al. (1996)	A total of 168 participants recruited from small urban areas in the southwestern United States: 54 Mexican American and 30 Anglo-American couples	Spanish translation for the Acculturation Rating Scale for Mexican Americans (Cuellar et al., 1980). Mexican American couples were assigned to either a bicultural or Hispanic-oriented group (based on a median split of the partners' combined scores on the Scale)	Sexual Attitudes Scale (Hendrick & Hendrick, 1987): Permissiveness, Sexual Practices, Communion and Instrumentality	The Anglo-American group most strongly endorsed responsible sexual practices, differing from the two Mexican American groups ( $F = 21.68, p < .05$ ), and the Anglo-American and bicultural groups has more idealistic sexual attitudes (Communion) than did the Hispanic-oriented group ( $F = 3.42, p < .05$ )
Marín et al. (1997)	594 Latino unmarried adults residing in the USA: 57% of the men reported being Mexican, 15% were Central American, 7% were Puerto Rican, and 21% were from other Latin American countries	Acculturation measure used by Marín and Marín (1991) Reliability: $\alpha = .90$	Sexual comfort Scale Reliability: $\alpha = .80$	Higher levels of acculturation were associated with higher levels of sexual comfort in men with one partner ( $r = .20, p < .05$ ) and in men with multiple partner ( $r = .27, p < .05$ )
Jiménez et al. (2002)	A total of 290 Latinas recruited from a statewide adolescent pregnancy prevention program in California (USA). Exactly 80.2% ( $n = 231$ ) had been born in the USA, and 62.5% ( $n = 161$ ) reported Spanish as the primary language spoken in the home	Country of origin (USA or elsewhere) and language used in home (Spanish or English)	Seven statements were used to assess attitudes toward sexuality (e.g., I want to marry a virgin, and it is a good idea to try sex before marriage)	Acculturation was only related to one of the six attitudes toward sexuality ( $\chi^2 = 6.04, p \leq .05$ ). Latinas who were born in the USA and spoke English in the home were most likely to agree that their parents would want them to use protection if they had sex. They were followed closely by Latinas who were born in the USA and spoke Spanish in the home
Deardorff et al. (2008)	55 sexually active Latino youth living in the USA	Language use subscale from the bidimensional acculturation scale for Hispanic (BAS; Marín & Gamba, 1996) Reliability: $\alpha = .89$	Sexual Comfort Scale (Marín et al., 1997) Reliability: total: $\alpha = .85$ ; female: $\alpha = .84$ ; male: $\alpha = .88$	Language use was no related to sexual comfort



Table 2 (continued)

Author(s) and year	Sample characteristics	Acculturation Measure	Sexual Attitude Measure	Results: relationship between acculturation and sexual attitudes
Edwards et al. (2008)	570 Latino/a adolescents (287 males and 283 female). Participant data were from the National Survey of Family Growth in USA	Language preference acculturation: participants who preferred to be interviewed in English were considered assimilated into US society and those who preferences Spanish were considered unassimilated	Traditional Attitudes on Sexuality (TAS) was measured by combining four items and summing a total score	There was a significant interaction effect of language preference acculturation and TAS on sexual behaviors: number of sexual partners in a lifetime ( $F=5.542$ , $p=.019$ ), number of sexual partners in the past 12 months ( $F=6.739$ , $p=.010$ ), and age of sexual debut ( $F=14.956$ , $p<.000$ ). Unassimilated adolescents who had traditional attitudes on sexuality were less sexually active and to have had a later age at coital debut
Castañeda (2017)	114 Latino/o college students from San Diego State University (USA) in a current heterosexual relationship (92 women and 22 men)	Acculturation Rating Scale for Mexican Americans-II (ARSMMA-II; Cuellar et al., 1995) Reliability: $\alpha=.86$	The Sexual Permissiveness subscale of the Brief Sexual Attitudes Scale (BSAS; Hendrick et al., 2006) Reliability: $\alpha=.93$	There was not a significant correlation between acculturation and sexual permissiveness ( $r=-.02$ , $p>.05$ )

only used in one study. A total of 12 studies provided the reliability of the sexual attitude measure, in most studies using Cronbach's alpha internal consistency coefficient. This coefficient ranged from 0.71 to 0.96.

## Results: Relationship Between Acculturation and Sexual Attitudes

### Studies Where the Relationship Was Not Statistically Significant

Only in three of the studies (Abdolsalehi-Najafi & Beckman, 2013; Castañeda, 2017; Deardorff et al., 2008), a statistically significant relationship was not found between acculturation and sexual attitudes.

The results of the studies, differentiating between minority ethnocultural groups and types of acculturation measure, are summarized as follows:

#### Iranians

*Bidimensional measure* (Abdolsalehi-Najafi & Beckman, 2013). The correlation between acculturation and sex guilt was no significant when the education and religion were controlled.

#### Latinos/Hispanics

*Proxy indicator* (Deardorff et al., 2008). Language use was no related to sexual comfort.

*Bidimensional measure* (Castañeda, 2017). The correlation between acculturation and sexual permissiveness was no significant.

### Studies Where the Relationship Was Statistically Significant Asians

#### *Proxy Indicators*

(Abramson & Imani-Marquez, 1982; Brotto et al., 2005, 2007; Dang et al., 2019; Kennedy & Gorzalka, 2002; Meston et al., 1998). Older generations, immigrated during or after 1987 and arrived in Canada age 13 or older had more sex guilt or more negative sexual attitudes than the younger generations, Asians born in Canada, immigrated to Canada before 1987, or arrived before the age of 13. In general, years in Canada were positively correlated to liberal sexual attitudes and negatively correlated to conservative sexual attitudes, although these relationships were not found in all studies

#### *Unidimensional Measures*

(Huang & Uba, 1992). Acculturation was positively related to permissive sexual attitudes. More acculturated people

**Table 3** Studies that examine the relationship between acculturation and sexual attitudes in Iranian women

Author(s) and year	Sample characteristics	Acculturation measure	Sexual attitude measure	Results: relationship between acculturation and sexual attitudes
Hanassab (1991)	77 young Iranian women residing in Los Angeles (USA)	A modified version of the Acculturation Scale designed by Cuellar et al. (1980)	The Sexual and Premarital Attitude Inventory (Schofield, 1965)	Acculturation was positively related to premarital sexual attitudes ( $r = .5105$ , $p = .000$ )
Abdolsalehi-Najafi and Beckman (2013)	65 Iranian American women who resided in the state of California (USA)	Acculturation Rating Scale for Mexican-Americans-II (ARMSA-II; Cuellar et al., 1995)	Emon's Sex Guilt Revision (ESGR) of the Revised Mosher Guilt Inventory (RMGI)	There was a significant correlation between acculturation and sexual guilt before controlling for confounding variables ( $r = -.34$ , $p < .01$ ). After controlling for the effects of education and religion, the relationship between acculturation and sex guilt was no longer significant ( $R^2$ change = 0.02, $F_{(1, 61)} = 1.48$ )

accepted with less affection a greater variety and types of sexual behaviors than less acculturated people.

#### *Bidimensional Measures*

(Arhold & Meston, 2010; Blanc & Rojas, 2020; Brotto et al., 2005, 2007, 2012; Dang et al., 2019; Guo, 2019; Morton & Gorzalka, 2013; Woo et al., 2011, 2012). In general, mainstream acculturation was positively related to liberal sexual attitudes and negatively related to sex guilt and dysfunctional sexual beliefs. In some studies, heritage acculturation was positively related to conservatism or negative sexual attitudes. Although heritage acculturation was also negatively correlated with conservative sexual attitudes and positively correlated with liberal sexual attitudes, heritage acculturation was not related to sex guilt. Interaction effects between mainstream and heritage acculturation, and between mainstream acculturation and gender on sexual attitudes, were also found.

#### **Latinos/Hispanics**

##### *Proxy Indicators*

(Edwards et al., 2008; Jiménez et al., 2002). Latinas who were born in the USA and spoke English in the home were most likely to agree that their parents would want them to use protection if they had sex. Interaction effect of language preference and sexual attitudes on sexual behaviors was also found. Unassimilated adolescents (preferred to be interviewed in Spanish) with traditional attitudes on sexuality were more likely to have had fewer sexual partners in the past 12 months and in their lifetime, and to have had a later age at coital debut.

#### *Unidimensional Measures*

(Amaro, 1988; Contreras et al., 1996; Marín et al., 1997). Acculturation was positively related to liberal, idealistic sexual attitudes and sexual comfort.

##### *Bidimensional Measures*

(Arhold & Meston, 2010; Blanc & Rojas, 2020). In general, mainstream acculturation was positively related to liberal or positive sexual attitudes, whereas heritage acculturation was positively related to conservatism or negative sexual attitudes. Interaction effects between mainstream and heritage acculturation, and between heritage acculturation and gender on sexual attitudes, were also found.

#### **Iranians**

##### *Unidimensional Measures*

(Hanassab, 1991). Acculturation was positively related to premarital sexual attitudes. More acculturated people have more liberal attitudes toward sex than less acculturated people.

#### **Africans**

##### *Bidimensional Measures*

(Blanc & Rojas, 2020). In general, heritage acculturation was negatively related to positive sexual attitudes. Interaction effects between heritage acculturation and gender, and between mainstream acculturation and gender on sexual attitudes, were also found.

**Table 4** Studies that examine the relationship between acculturation and sexual attitudes in different minority ethnocultural groups

Author(s) and year	Sample characteristics	Acculturation measure	Sexual attitude measure	Results: relationship between acculturation and sexual attitudes
Leiblum et al. (2003)	235 s year medical students, nursing students, and physician assistant students (60.2% female): 144 students from a medical school in the northeastern USA and 92 students from a medical school in British Columbia (Canada). Exactly 122 was classified as Caucasian (USA, Western Europe, Canada, and South Africa), 39 as Asian, 29 as South Asian, 10 as Caucasian (Eastern Europe, Russia), 10 as African American, 9 as Hispanic, 7 as African, and 7 as Middle Eastern	Degree of identification with the mainstream culture, years live in the USA or Canada, and amount of English spoken at home and with friends. The acculturation items were adapted from those used in the Benet-Martinez Acculturation Scale	The Cross-Cultural Attitude Scale (CCAS): gender roles, sexual comfort, and sexual health	The degree of identification with mainstream culture and the years live in the country (USA/Canada) are positively related to the sexual attitudes ( $r^2 = .19$ ; $F_{(2, 201)} = 24.15$ ; $p < .001$ )
Benuto and Meana (2008)	278 college students (111 men and 167 women) from the University of Nevada, Las Vegas (USA). A total of 47.5% ( $n = 132$ ) were self-identified as Asian American, 28.4% ( $n = 79$ ) as Hispanic American, and 24.1% ( $n = 67$ ) as African American	Version that assesses orientation to American Culture of the General Ethnicity Questionnaire (GEQ; Tsai et al., 2000) Reliability: $\alpha = .86$	DSFL Attitude Reliability: Liberalism dimension: $\alpha = .79$ Conservatism dimension: $\alpha = .81$	Participants with a high level of acculturation also endorsed significantly more liberal sexual attitudes than participants with a low level of acculturation ( $F_{(1, 265)} = 9.78$ , $p < .001$ )

Table 4 (continued)

Author(s) and year	Sample characteristics	Acculturation measure	Sexual attitude measure	Results: relationship between acculturation and sexual attitudes
Ahrold and Meston (2010)	1,415 University of Texas at Austin (USA) undergraduate students (443 men and 972 women): 67% Euro-American, 16% Hispanic, 17% Asian	VIA Reliability: Heritage dimension: $\alpha = .88$ Mainstream dimension: $\alpha = .85$	9 items from the DSFI Attitude: attitudes towards homosexuality, casual sexual, gender role traditionality, and extramarital sex	In Asian group, heritage acculturation predicted conservatism in attitudes towards casual sex ( $\beta = .22, p < .001$ ) and gender role traditionality ( $\beta = .14, p < .001$ ), while mainstream acculturation predicted liberality in attitudes towards homosexuality ( $\beta = -.16, p < .001$ ) and casual sex ( $\beta = -.19, p < .001$ ). In Hispanic group, mainstream acculturation predicted conservatism in attitudes towards extramarital sex ( $\beta = .28, p < .001$ ) In Asian and Hispanic women, mainstream acculturation predicted liberality in attitudes towards homosexuality ( $\beta = -.15, p < .001$ ), casual sex ( $\beta = -.12, p < .001$ ), and gender role traditionality ( $\beta = -.18, p < .001$ ), while heritage acculturation predicted conservatism in attitudes towards casual sex ( $\beta = .18, p < .001$ ) and gender role traditionality ( $\beta = .16, p < .001$ ). There was a significant interaction between mainstream and heritage acculturation in Hispanic and Asian women. In Hispanic women, the relationship between heritage acculturation and conservatism in attitudes towards gender role traditionality and in the Asian women the relationship between heritage acculturation and attitudes towards extramarital sex were stronger at lower levels of mainstream acculturation In Asian and Hispanic men, mainstream acculturation predicted of liberality in attitudes towards casual sex ( $\beta = -.20, p < .001$ ) but conservatism of attitudes towards extramarital sex ( $\beta = .20, p < .001$ ). Moreover, heritage acculturation predicted conservatism in attitudes towards homosexuality ( $\beta = .20, p < .001$ ) and casual sex ( $\beta = .28, p < .001$ )

Table 4 (continued)

Author(s) and year	Sample characteristics	Acculturation measure	Sexual attitude measure	Results: relationship between acculturation and sexual attitudes
Blanc and Rojas (2020)	182 heterosexual participants residing in the USA: 87 self-identified as Latin/Hispanic (65 female and 22 male), 45 self-identified as African or African American (28 female and 17 male), and 50 self-identified as Asian (35 female and 15 male)	Indicators of acculturation preferences in the most private relative acculturation extended model (RAEM) areas (Navas & Rojas, 2010) Reliability: Maintenance scale: $\alpha = .73-.82$ ; the split-half method (Spearman-Brown) = .83-.85 Adoption scale: $\alpha = .76-.86$ ; the split-half method (Spearman-Brown) = .79-.89 Indicators of acculturation preferences and strategies in the sexual area	Attitudes toward Sexual Behaviors Scale (ASBS; Blanc et al., 2018) Person separation index = 3.17. Item separation index = 15.85 In terms of the classic theory of tests reliability = .91	In the African or African American group, preferences to maintain their home culture are negatively related to the attitudes toward sexual behaviors (ASB) ( $\beta = -.419, p < .01$ ). In the Latin/Hispanic ( $\beta = -.202, p < .05$ ) and African or African American groups ( $\beta = -.320, p < .05$ ), preferences to maintain the sexual customs of their home culture are negatively related to the ASB. There is an interaction in the maintenance of the sexual customs and gender in the Latin/Hispanic ( $\beta = .211, p < .05$ ) and African or African American groups ( $\beta = .387, p < .01$ ). In both groups, in high maintenance levels (sexual customs), there are significant differences in the ASB between male and female (having male more positive attitudes), but not in low maintenance levels. In the Asian group, the maintenance of the sexual customs is negatively related to the ASB ( $\beta = -.304, p < .05$ ). In the Latin/Hispanic group the adoption of the sexual customs of the host culture is positively related to the ASB ( $\beta = .208, p < .05$ ). In the African or African American ( $\beta = .312, p < .05$ ) and Asian groups ( $\beta = -.321, p < .05$ ) there is an interaction effect between the adoption of the sexual customs and gender. In African or African American males, the adoption of the sexual customs of the majority culture is positively related to the ASB, while in females, this association does not occur. In the Asian group in low adoption levels of the sexual customs there are differences in the ASB between males and females (having the male more positive attitudes), but not in the case of high adoption levels

## Discussion

The aim of this study was to perform a systematic review of the studies that have examined the relationship between acculturation and sexual attitudes. Although several studies have found that each ethnocultural group has its own sexual attitudes (e.g., Ahrold & Meston, 2010; Fugerè et al., 2008), in multicultural contexts, the contact with people from other ethnocultural groups could modify the sexual attitudes or learn different sexual attitudes from those of the own group. In general, the investigations show that minority groups have more conservative sexual attitudes than the majority group (e.g., Ahrold & Meston, 2010). However, the process of acculturation can lead to changes in sexual attitudes of minority groups after adopting the culture of the majority group.

In this review, the studies have been classified according to the minority ethnocultural origin. Also, they have been arranged chronologically by year of publication. The oldest study is by Abramson and Imai-Marquez (1982) who included Japanese-Americans. The most recent study is by Blanc and Rojas (2020) who included different ethnocultural groups. The studies have been conducted in the USA and/or in Canada. The most evaluated ethnocultural group has been Asians.

In general, an evolution to acculturation measures has been observed. In older studies, proxy indicators such as length of residency in the country (Meston et al., 1998) and unidimensional measures of acculturation were used. In this way, only a continuum of identities ranging from exclusively heritage culture to exclusively mainstream culture was considered (Gordon, 1964). In these studies, high acculturation refers to high mainstream acculturation. They do not differentiate between heritage and mainstream dimensions. However, the most recent studies (e.g., Ahrold & Meston, 2010) use bidimensional measures of acculturation and differentiate between heritage and mainstream dimensions. This shows how the way of conceptualizing the acculturation process has changed. The results of the reviewed studies support that bidimensional measures are more useful than unidimensional measures and proxy indicators. On the one hand, the bidimensional measures allow to detect that while in some studies (e.g., Brotto et al., 2007) there is a significant relationship between mainstream culture and sexual attitudes, no relationship is found between heritage culture and sexual attitudes. On the other hand, the bidimensional measures allow the detection of interaction effects (moderation effects) between mainstream and heritage acculturation in sexual attitudes. For instance, higher heritage acculturation predicted more conservative or less permissive attitudes (Ahrold & Meston, 2010; Brotto et al., 2005) only when mainstream acculturation is low.

In addition, some reviewed studies (e.g., Brotto et al., 2005) also show that bidimensional measures better predict sexual attitudes than proxy indicators. Therefore, unidimensional measures and proxy indicators may be weaker measures than bidimensional measures.

This systematic literature review demonstrates that there is relationship between the acculturation process and sexual attitudes. Only in three of the 25 studies (Abdolsalehi-Najafi & Beckman, 2013; Castañeda, 2017; Deardorff et al., 2008), there was not a significant relationship between acculturation and sexual attitudes. This could be due to the acculturation measures used. One of the studies (Deardorff et al., 2008) used a proxy indicator (language), and although two of the studies (Abdolsalehi-Najafi & Beckman, 2013; Castañeda, 2017) used a bidimensional measure, a linear acculturation score was obtained by subtracting the mean heritage orientation subscale score from the mean mainstream orientation subscale score.

In general, results show that acculturation (mainstream acculturation) is positively related to liberal/positive/permissive sexual attitudes when unidimensional measures (or proxy indicators) of acculturation are used. Results also show that mainstream acculturation is positively related to liberal or positive sexual attitudes when bidimensional measures of acculturation are used. This demonstrates that people from different ethnocultural groups with high mainstream acculturation have more similar sexual attitudes to those of the majority group than to those of their own ethnocultural group. As already noted in other studies (Dang et al., 2017, 2019), one possible explanation is that mainstream culture (e.g., Canadian culture), unlike heritage culture (Chinese culture), includes liberalizing and sex-positive sources of information and outreach. Therefore, Chinese people in Canada who adopt more aspects (attitudes, values, behaviors, etc.) of the host culture would be exposed to more of this material and ultimately become more confident, aware, and knowledgeable about their own sexuality. This would lead to more liberal sexual attitudes.

In general, the relationships between mainstream acculturation and sexual attitudes are not very different across the diversity of acculturation measures. That is to say, these relationships point in the same direction. However, the relationship between heritage acculturation and sexual attitudes is not that strong and it does not point in the same direction in the reviewed studies. For instance, Brotto et al. (2007) did not find relationship between heritage acculturation and sexual attitudes. Ahrold and Meston (2010) found that heritage acculturation was positively correlated with conservative sexual attitudes and negatively correlated with liberal sexual attitudes. Contrary, Dang et al. (2019) found that heritage acculturation was negatively correlated with conservative sexual attitudes and positively correlated with liberal sexual

attitudes. The discrepancy in these results may be due to changes over time about sexuality. For instance, the East Asian community has seen large changes and the discourse regarding sexuality has also changed in China and other East Asian polities during the time (Ho et al., 2018). The sexual attitudes of minority groups seem to be more liberal than for past generations, and this could contribute to some of the discrepancy in the results.

Some studies also found relevant interaction (moderation) and mediation effects. Interaction effect between mainstream and heritage dimensions on sexual attitudes was found in different studies (Ahrold & Meston, 2010; Brotto et al., 2005; Guo, 2019). Brotto et al. (2005) found that women with low heritage acculturation had increasingly liberal sexual attitudes with increasingly mainstream acculturation. However, women with high heritage acculturation did not have such an increase. Ahrold and Meston (2010) found that the relationship between heritage acculturation and conservatism sexual attitudes was stronger at lower levels of mainstream acculturation. Guo (2019) found that the relationship between mainstream acculturation and liberal sexual attitudes was stronger at higher levels of heritage acculturation. Therefore, mainstream dimension moderates the relationship between heritage dimension and sexual attitudes, and heritage dimension moderates the relationship between mainstream dimension and sexual attitudes. The discrepancy in the interaction effects may be also due to changes over time about sexuality. For this reason, in the study of Guo (2019), an integration strategy (maintenance of the home culture and adoption of the host culture) predicts liberal sexual attitudes. However, in previous studies (Brotto et al., 2005), an assimilation strategy (only adoption of the host culture) predicts liberal sexual attitudes. In some minority ethnocultural groups, Blanc and Rojas (2020) also found interaction effects between heritage dimension and gender, and between mainstream dimension and gender on sexual attitudes. They found that at high levels of heritage acculturation, there are significant differences in sexual attitudes between male and female (having male more positive attitudes), but not in low levels of heritage acculturation. They also found that at low levels of mainstream acculturation, there are significant differences in sexual attitudes between male and female (having male more positive attitudes), but not in high levels of mainstream acculturation. That is, acculturation (heritage and mainstream dimensions) moderates the relation between gender and sexual attitudes. The result could be consistent with the social structure theory (Eagly & Wood, 1999). Social structural theory proposes that gender differences in sexuality are a result of gender differences in power. Therefore, societies with a large gender difference in power are expected to have greater gender differences in sexuality than more egalitarian societies.

It could be that the mainstream culture is more egalitarian than those of the minority groups. Moreover, acculturation is also related to sexual attitudes in a gender, while in the other, the relationship is not significant (e.g., Ahrold & Meston, 2010; Blanc & Rojas, 2020). Therefore, gender also moderates the relation between acculturation and sexual attitudes.

Some studies (e.g., Ahrold & Meston, 2010; Blanc & Rojas, 2020) also demonstrate that the relationship between acculturation and sexual attitudes is different depending on the ethnocultural group. For example, Ahrold and Meston (2010) found that relationship between acculturation and sexual attitudes is stronger in Asians than in Hispanics. Therefore, the ethnocultural origin also moderates the relationship between acculturation and sexual attitudes. This may be due to differences in sexual attitudes between the majority group and minority groups. The relationship between acculturation and sexual attitudes could be stronger in those minority groups that have different sexual attitudes to those of the majority group than those that have similar sexual attitudes. These findings are consistent with the findings of Du and Li (2015). They found in a systematic review regarding the relationship between acculturation and HIV-related sexual behaviors the following results: gender moderated the relationship between acculturation and sexual behaviors, and ethnicity moderated the relationship between acculturation and unsafe sex.

Regarding the mediating effect, especially sex guilt mediated the relationship between mainstream acculturation and sexual desire (Brotto et al., 2012; Woo et al., 2011, 2012). This is in line with what was provided in the introduction. The acculturation process indirectly influences sexual health.

This systematic review and some reviewed studies are subject to some limitations. In relation to acculturation measures, proxy indicators such as the length of residency may be a weak measure. For instance, years in Canada may not capture the changes that accompany immersion into a new culture (Brotto et al., 2005). Furthermore, the diversity of acculturation measures used makes it difficult to compare the results. Regarding the sexual attitude measures, the diversity of concepts used (sexual permissiveness, sexual conservatism, etc.) also makes it difficult to compare the results. Finally, the sexual attitude measures may not adequately capture the sexual attitudes of minority groups. This could also explain the discrepancy in the relationship between heritage acculturation and sexual attitudes found in some studies. As other research suggests (Dang et al., 2019), future studies should use sexual attitude measures designed specifically for minority groups living in Western countries. Moreover, future studies should deeply examine the relationship between the acculturation process and attitudes toward more specific aspects of sexuality, such as attitudes toward same-sex orientations o behaviors.

## Conclusion

This systematic literature review demonstrates that the acculturation process is related to sexual attitudes. While mainstream acculturation is positively related to liberal or positive sexual attitudes, the relationship between heritage acculturation and sexual attitudes does not point in the same direction in all studies. In addition, relevant interaction and mediation effects were also found: (1) mainstream dimension moderates the relationship between heritage dimension and sexual attitudes, (2) heritage dimension moderates the relationship between mainstream dimension and sexual attitudes, (3) acculturation moderates the relation between gender and sexual attitudes, (4) gender moderates the relation between acculturation and sexual attitudes, (5) the ethnocultural origin moderates the relationship between acculturation and sexual attitudes, and (6) sex guilt mediated the relationship between mainstream acculturation and sexual desire.

## Social Policy Implications

Because sexual attitudes are related to sexual health (e.g., Carvalho et al., 2013) and sexual activity (e.g., Blanc et al., 2018), knowing the acculturation process could be important to achieve greater equity in sexual health among different groups.

The studies provide strong evidence that the sexual attitudes can best be understood by examining the role of acculturation. The sexual attitudes of minority groups are related to the acculturation strategies used. Therefore, it would be very useful to promote the most suitable acculturation strategy in the development of prevention and intervention programs in sexual health. The results of the reviewed studies are also relevant to sexual educators working with diverse ethnic groups because they provide understanding of the factors related to sexuality in multicultural contexts. Likewise, it could also be useful for clinical sexologists to administer acculturation measures to patients with sexual dysfunctions.

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## Declarations

**Conflict of Interest** The author declares no competing interests.

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