

# Acculturation and the Sexual and Reproductive Health Of Latino Youth in the United States: A Literature Review

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**CONTEXT:** *The high birthrate among Latina teenagers in the United States has generated increased interest in the role of acculturation in their sexual and reproductive health. It is critical to identify gaps in the existing research and to ascertain the relationship between acculturation and Latino sexual behavior.*

**METHODS:** *PUBMED, ERIC and POPLINE were searched for journal articles published between 1985 and 2006 that explicitly examined acculturation and sexual and reproductive health among Latino youth. All fertility-related outcomes (pregnancy, birth, abortion) and their proximate determinants (attitudes, knowledge, norms, sexual activity, contraceptive use) were considered sexual or reproductive health outcomes. Eligible studies used a cross-sectional or longitudinal design; had a sample of males, females or both aged 25 or younger; and included Latino-specific analyses.*

**RESULTS:** *Seventeen studies met the screening criteria, and these studies used 23 distinct measures of acculturation that captured four primary dimensions: time (duration of exposure to U.S. culture), language, culture and residence. The measures' robustness varied, and none of the studies was widely generalizable. Ten studies investigated sexual initiation, and eight of these found a positive association between the likelihood of this outcome and acculturation. Acculturation also was associated with increased condom use and with beliefs and norms related to healthy outcomes, although the evidence was less conclusive.*

**CONCLUSIONS:** *Ideal studies of acculturation would stratify analyses by gender and country of origin, and would include time measures related to acculturation. When feasible, studies should be population-based and longitudinal, and should build on existing theories of the relationship between acculturation and the sexual behavior, norms and beliefs that are unique to Latino culture.*

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Latinos in the United States have been described as a people “in flux.”<sup>1</sup> In 2004, an estimated 40.4 million Latinos were living in the country, representing 14% of the total population.<sup>2</sup> Because a large proportion are of childbearing age, the Latino population is projected to reach 60.4 million by 2020; Latinos are expected to account for 46% of the nation’s population growth over this period, and non-Latino whites for 24%. While the national teenage birthrate has declined 67% in the last decade, the birthrate among Latina teenagers has declined only 21% and remains the highest among all ethnicities—83 births per 1,000, nearly twice the national average of 43 per 1,000.<sup>3</sup>

High fertility among foreign-born Latinas may fuel these high birthrates. In a Los Angeles-based study, foreign-born Mexican teenagers were less likely to initiate sex than their U.S.-born Mexican and non-Mexican counterparts, but those who initiated sex were more likely to get pregnant and to give birth.<sup>4</sup> Thus, Mexican teenagers born outside the United States may be at relatively high risk of childbearing. Whether this risk persists or diminishes with longer U.S. residency is of increasing interest. In one study of young women of Mexican origin and low socioeconomic status, later generations had a higher likelihood of having a premarital birth by age 22 than earlier generations

(i.e., second- or third-generation vs. first-generation), suggesting that the risk persists and is magnified.<sup>5</sup>

These two studies did not explicitly discuss underlying acculturation processes, but other sexual and reproductive health studies have implicated acculturation. Acculturation has been viewed as a linear progression, whereby immigrants gradually adopt the values, behaviors and traits of their host culture and discard those of their country of origin.<sup>6</sup> Studies of “integration” or “assimilation” have focused on immigrants’ educational and employment status as compared with that of the native population.<sup>7</sup> Yet an immigrant can adopt behaviors of the host culture or achieve social mobility without fully identifying with the host culture.<sup>8</sup>

Research among Latino adults that has explicitly investigated the role of acculturation has found that sexual risk-taking increases with greater acculturation. Yet this relationship does not apply to all outcomes, and there is need for improved understanding of the mechanisms through which acculturation influences sexual behavior. For example, although acculturation among adult Latinas has been associated with a greater number of lifetime sexual partners<sup>9</sup> and elevated rates of potentially risky sexual behavior such as oral sex,<sup>10</sup> it may encourage contraceptive use among sexually active adult males and females.<sup>11</sup>

To improve efforts aimed at reducing childbearing among Latina teenagers, it is necessary to understand how acculturation influences their sexual and reproductive health.<sup>12</sup> This article presents a systematic review of the existing research and seeks to answer the following questions: What is the relationship between acculturation and the sexual and reproductive health of Latino youth in the United States? What acculturation theories have been employed to explain this relationship? What measures of acculturation have been used, and which best explain variations in sexual and reproductive health outcomes?

## METHODS

We selected articles in three stages. First, we searched PUBMED, POPLINE and ERIC for the period 1985–2006, using key search terms, including “acculturation,” “Hispanic,” “Latin Americans” and “Hispanic Americans.” This database search yielded a total of 705 articles, from which we collected abstracts of all empirical studies that were published in an English-language journal and that specifically investigated a sexual or reproductive health outcome. All fertility-related outcomes (pregnancy, birth, abortion) and their proximate determinants (attitudes, knowledge, norms, sexual activity, contraceptive use) were considered sexual or reproductive health outcomes.

Second, we reviewed each abstract to determine the study’s eligibility. Acceptance criteria included use of a cross-sectional or longitudinal design and explicit investigation of the relationship between acculturation and sexual or reproductive health, or use of acculturation as a covariate in the analysis. We excluded studies that used proxy measures of acculturation (e.g., U.S. nativity) but that did not explicitly refer to them as acculturation measures. Other criteria were having a sample of males, females or both aged 25 or younger and conducting Latino-specific analyses. This last criterion was chosen to facilitate interpretation of the findings. For example, it was difficult to interpret a lack of association between acculturation and sexual and reproductive health if Latino adolescents were a minority in a study’s sample.

In the third stage, four additional studies were selected from the reference lists of the articles identified in the first two stages, using the same criteria.

In total, 82 studies from the database search focused on sexual and reproductive health outcomes. We excluded adult-focused studies, as well as adolescent-focused studies that examined violence in relationships or HIV risk among males who have sex with males. Following these various screening steps, 17 studies remained for our analysis.

## RESULTS

### Study Designs

Among the 17 studies that met our criteria, only the one by Guilamo-Ramos et al. was nationally representative, and it sampled youth in grades 7–11 (Table 1, page 210).<sup>13</sup> Upchurch et al., Ford and Norris, Norris and Ford, and Slonim-Nevo used area probability samples.<sup>14</sup> The remaining 12 studies used school-based,<sup>15</sup> clinic-based<sup>16</sup> or other

convenience samples.<sup>17</sup> Two studies were longitudinal,<sup>18</sup> and the other 15 had cross-sectional designs. Sample sizes varied from 61 respondents<sup>19</sup> to 7,270 respondents.<sup>20</sup>

Study populations tended to represent Latinos of Mexican origin, although some included considerable representation of other subgroups, such as Puerto Ricans and Central Americans.<sup>21</sup> A New York City study, with its predominantly Dominican sample, and a south Florida study, with its Cuban sample, were the exceptions.<sup>22</sup>

Data on respondents’ socioeconomic status, education level and recruitment site, which were available in 14 studies,<sup>23</sup> showed that the Latino youth typically were disadvantaged, which further limits generalizability. For example, in most of these studies, either the entire sample or a large proportion received some form of public assistance or had parents with low education levels. Exceptions were the sample for the Guilamo-Ramos et al. study, 20% of whom received public assistance, and the Raffaelli, Zamboanga and Carlo sample, who were college students.<sup>24</sup>

The studies used different analytic approaches. For example, nine studies had only female samples,<sup>25</sup> and two analyzed males and females separately;<sup>26</sup> the remaining six combined males and females in their analyses,<sup>27</sup> making it difficult to assess whether associations varied by gender. All but two studies<sup>28</sup> adjusted the analyses for various demographic, socioeconomic, behavioral and sociocultural factors.

### Theories of Acculturation

All studies except one<sup>29</sup> commented on theories that might explain how acculturation influences sexual and reproductive health. Overall, two general theories were employed. One, which we label “stress theory,” emphasizes the stress that immigrant teenagers face in adapting to a different culture. According to this theory, teenagers who are faced with negotiating competing values and norms of different cultures may experience stress and be vulnerable to high-risk or maladaptive behaviors, such as early sexual initiation. Thus, the more acculturated a teenager is, the more stress he or she faces and the more likely he or she is to engage in risky behaviors.<sup>30</sup>

The second general theory, “cultural norms theory,” describes acculturation as a process of change in values and norms regarding gender, sexual activity and family formation.<sup>31</sup> For example, the less acculturated Latinas are, the more value they may place on virginity, family responsibility and obedience to men, a concept known as *marianismo*.<sup>32</sup> Thus, increased acculturation might lead to heightened awareness of alternative roles for women and a reduced likelihood of adolescent childbearing. Acculturation can also be viewed in terms of losing or retaining traditional norms that shape family relationships. For example, greater acculturation might lead to a loss of traditional norms such as *simpatia*, which emphasizes maintenance of harmonious relations; *respeto*, which emphasizes avoidance of conflict and respect for authority within the family;<sup>33</sup> and *familism*, which stresses the importance of family life and

**TABLE 1. Selected characteristics of studies of acculturation and the sexual and reproductive health of Latino youth in the United States, by type of outcome studied, 1985–2005**

Outcome and study	Sample	Primary outcome	Acculturation theory and measures	Adjustment variables	Setting and design
<b>Sexual activity</b> Adam et al., 2005 <sup>15</sup>	N=7,270 females and males; ages 12–18; Mexican and white; 48% received public assistance	Ever had intercourse	No discussion; measured language	Age, gender, family structure, religiosity, rural residence, public assistance	Arizona; school-based; cross-sectional; no separate gender analyses
Ebin et al., 2001 <sup>16</sup>	N=609 females and males; ages 11–19; country of origin not specified; low-income	Ever had intercourse	Stress theory; measured nativity, language	None	Los Angeles; public clinic-based; cross-sectional; no separate gender analyses
Flores, Tschann and Marin, 2002 <sup>17</sup>	N=84 females; ages 14–19; Mexican and Central American; parents had average of 8 yrs. of schooling	Intention to have intercourse	Cultural norms theory; measured language	Sexual experience, dating	California and Texas; call-back sample of population- and clinic-based sample; cross-sectional
Fraser et al., 1998 <sup>16</sup>	N=116 suicidal females; ages 12–18; 70% Dominican, 16% Puerto Rican, 14% Central or South American; low-income	Ever had intercourse	Stress theory; measured nativity, ethnic identity, biculturalism	Age, substance use, psychopathology	New York City; university clinic-based; cross-sectional
Guilamo-Ramos et al., 2005 <sup>13</sup>	N=2,035 females and males; grades 7–11; 63% Mexican, 20% Puerto Rican, 17% Cuban; about 20% received public assistance	Ever had intercourse	Stress theory; measured no. of yrs. living in United States, language	Ethnicity, gender, grade, mother's education, religiosity	National Longitudinal Study of Adolescent Health; cross-sectional (Wave 1 data); no separate gender analyses
Raffaelli, Zamboanga and Carlo, 2005 <sup>17</sup>	N=61 females; ages 17–23; Cuban American	Ever had voluntary intercourse, sexual risk	Cultural norms theory; measured nativity, language, ethnic identity	Age, parents' education, religiosity	South Florida; university-based; cross-sectional
Reynoso, Felice and Shragg, 1993 <sup>16</sup>	N=116 postpartum females; ages 12–18; Mexican; 88% received public assistance	Age at first intercourse	Stress theory; measured language, residence, citizenship	None	San Diego; university clinic-based; cross-sectional
Slonim-Nevo, 1992 <sup>14</sup>	N=988 never-married females; ages 13–19; 68% Mexican American, 32% white	Age at first premarital intercourse	Cultural norms theory; measured language, self-identity	Socioeconomic status, mother's education, perceived parental control, religiosity, attitudes toward premarital sex, perceived age at which average girl is ready for sex	Los Angeles; area probability sample; cross-sectional
Tschann et al., 2002 <sup>16</sup>	N=141 females and males; ages 12–14; Mexican; parents had average of 8 yrs. of schooling	Sexual experience	Cultural norms theory; measured language, cultural enjoyment	Emotional distress	Northern California; HMO clinic-based; longitudinal; no separate gender analyses
Upchurch et al., 2001 <sup>14</sup>	N=497 females and males; ages 12–17; 75% Mexican; 62% lived with both biological parents	Time to first intercourse	Cultural norms theory; measured generation, language	Ethnicity, gender, single-parent household, parent-teenager relationship and interaction, neighborhood Latino composition, neighborhood ambient hazard*	Los Angeles; area probability sample; longitudinal; no separate gender analyses

table continues

interdependent relations among the individual, family and community.<sup>34</sup> Thus, less acculturated teenagers would tend to avoid engaging in behaviors that violate these norms; greater acculturation might lead to more sexual risk-taking.

**Acculturation Measures**

A total of 23 measures of acculturation were used in these studies (Table 2, page 212). We classified them into four primary dimensions of acculturation: time, language, culture and residence. A fifth classification included measures that capture multiple dimensions.

- **Time.** Three principal measures were employed to assess respondents' exposure to U.S. culture: nativity, generation and number of years living in the country.<sup>35</sup> Nativity (re-

spondent's or a parent's) referred to the country of birth—the United States or elsewhere. A foreign-born respondent was classified as a first-generation immigrant; a U.S.-born respondent who had at least one foreign-born parent was classified as second-generation; if the respondent and both parents were born in the United States, he or she was classified as third-generation.

- **Language.** English language acquisition is one of the modifications that may accompany acculturation.<sup>36</sup> Eight measures of the language dimension were used, all of which tried to capture the respondents' degree of preference for, usage of or proficiency in Spanish versus English. Four studies used the Short Language Acculturation Scale developed by Marin et al.; it asks respondents which lan-

**TABLE 1. Selected characteristics of studies of acculturation and the sexual and reproductive health of Latino youth in the United States, by type of outcome studied, 1985–2005 (continued)**

Outcome and study	Sample	Primary outcome	Acculturation theory and measures	Adjustment variables	Setting and design
<b>Norms and beliefs</b>					
Norris and Ford, 1994 <sup>14</sup>	N=1,042 females and males; ages 14–24; 54% black, 46% Latino (73% Mexican); 41% of mothers had ≤8 yrs. of schooling; low-income	Condom beliefs	Cultural norms theory; measured language	Age, gender, marital status, religion, ethnicity, education	Detroit; area probability sample; cross-sectional; no separate gender analyses
Sorenson, 1985 <sup>15</sup>	N=1,955 females and males; Mexican American and white youth	Expected parity	Cultural norms theory; measured nativity, language, residence	No. of siblings in the home, gender	Tucson and Nogales, AZ; school-based; cross-sectional; separate gender analyses
<b>Contraceptive use</b>					
Jones, Kubelka and Bond, 2001 <sup>16</sup>	N=63 pregnant females; ages 13–19; Mexican; low-income	Family planning visit ≤1 yr. postpartum	Cultural norms theory; measured generation, cultural orientation	Age, marital status, ordinal no. of the pregnancy, no. of prenatal visits, gestational age of fetus, prenatal care	Southwestern United States; public clinic-based; cross-sectional
<b>Fertility</b>					
Kaplan et al., 2001 <sup>16</sup>	N=1,307 females; ages 14–24; predominantly Mexican; low-income	Ever had abortion	Cultural norms theory; measured language	Age, education, marital status, nativity	Los Angeles; public clinic-based; cross-sectional
<b>Multiple outcomes</b>					
Ford and Norris, 1993 <sup>14</sup>	N=711 females and males; ages 14–24; 73% Mexican, 23% Puerto Rican; parents had average of 8 yrs. of schooling; low-income	Intercourse in last year, ever had anal intercourse, ever had oral sex, no. and type of partners in last year, condom use in last year	Cultural norms theory; measured language	Ethnicity, age, marital status, interview language, no. of yrs. living in United States, parents' education	Detroit; area probability sample; cross-sectional; separate gender analyses
Jimenez, Potts and Jimenez, 2002 <sup>17</sup>	N=290 females; ages 14–19; predominantly Mexican	Ever had intercourse, ever used contraceptive, attitudes toward sex	Cultural norms theory; measured nativity, language	Age, attitudes toward sex, parents' educational aspirations for children, respondents' educational aspirations	Los Angeles; evaluation of adolescent pregnancy program in schools, clinics and community organizations; cross-sectional
Kaplan, Erickson and Juarez-Reyes, 2002 <sup>16</sup>	N=670 females; ages 14–19; 54% Mexican, 30% Central American; 33% low-income	Age at first intercourse, no. of lifetime partners, no. of pregnancies	Cultural norms theory; measured language	Age, education, school attendance, married or living with partner, income, risk-proneness, substance experimentation	Los Angeles; public clinic-based; cross-sectional

\*Ambient hazard indicates level of perceived social disorder, personal threat and deterioration of the neighborhood. Note: Superscript numbers refer to the reference list, page 217.

guage they prefer to read in, they prefer to think in, they usually speak at home and they prefer to use when speaking with friends.<sup>37</sup> The scale, adapted from acculturation scales dating to the late 1970s, correlates highly with generation, time living in the United States and other acculturation proxies, and has high reliability.<sup>38</sup> The Linguistic Acculturation Scale, employed in two studies, comprises three items about respondents' preferred language for reading, writing and speaking. This scale was adapted from the 11-item acculturation scale of Cuéllar, Harris and Jasso, which was developed and validated for the Mexican American population.<sup>39</sup> The other measures were language spoken at home, primary language spoken, childhood language, current language, language of interview and language spoken with friends.

• **Culture.** Measures used to capture the cultural dimension of acculturation were cultural enjoyment, ethnic identity, biculturalism and cultural orientation. Tschann et al.<sup>40</sup> adapted the Latino and American cultural enjoyment scales from validated scales of an earlier study.<sup>41</sup> The original scales were based on a multidimensional model that views acculturation as both a process of “relinquishing or retaining characteristics” of the culture of origin and a

process of accommodating to the host culture. They assessed the degree to which a person enjoys aspects of each culture—Latino or “Anglo-American” culture—and were tested among Cuban American high school students in the Miami area. Two six-item subscales were used. Items for the Latino enjoyment subscale included “How much do you enjoy Hispanic music?” and “How much do you enjoy Hispanic books and magazines?” Items for the American enjoyment subscale were similar.

Fraser et al.<sup>42</sup> used nine items adapted from a validated scale developed by Padilla to measure ethnic identification.<sup>43</sup> The original scale was developed to indicate respondents' cultural awareness and ethnic loyalty and was tested in a population of Mexican American adults in southern California. Padilla defined cultural awareness as knowledge of specific cultural material (e.g., language, values, history, art), and ethnic loyalty as a preference for one cultural orientation over another (e.g., seeking out friends or marrying within one's ethnic group). A low score on the ethnic identification scale indicated a strong identification with the Latino culture of origin; a high score indicated a strong identification with mainstream American culture. Fraser et al. also adapted the ethnic identification scale to

**TABLE 2. Findings on associations between acculturation and the sexual and reproductive health of Latino youth, by dimension and measures of acculturation studied, according to type of outcome**

Dimension and measure	Study	Sexual activity	Norms and beliefs	Contraceptive use or fertility
<b>Time</b>				
Nativity	Ebin et al., 2001 <sup>16</sup>	Sexual initiation (+)		
	Fraser et al., 1998 <sup>16</sup>	Sexual initiation (0)*		
	Jimenez, Potts and Jimenez, 2002 <sup>17</sup>	Sexual initiation (+)		Ever used contraceptive (0)
	Raffaelli, Zamboanga and Carlo, 2005 <sup>17</sup>	Sexual initiation (0)* Sexual risk (+)		
Father's nativity	Sorenson, 1985 <sup>15</sup>		Expected parity (-)	
Mother's nativity	Sorenson, 1985 <sup>15</sup>		Expected parity (0)	
Generation	Jones, Kubelka and Bond, 2001 <sup>16</sup>			Family planning visit ≤1 yr. postpartum (-)
	Upchurch et al., 2001 <sup>14</sup>	Sexual initiation (0)*		
No. of yrs. living in the United States	Guilamo-Ramos et al., 2005 <sup>13</sup>	Sexual initiation (+)		
<b>Language</b>				
Short Acculturation Scale	Flores, Tschann and Marin, 2002 <sup>17</sup>	Intention to have intercourse (0)		
	Ford and Norris, 1993 <sup>14</sup>	Intercourse in last year (+)† Ever had anal intercourse (+)† Ever had oral sex (+) No. of partners in last year (0)		Condom use in last year (+)†
	Norris and Ford, 1994 <sup>14</sup>		Condom beliefs (+)	
	Tschann et al., 2002 <sup>16</sup>	Sexual experience (+)‡		
Linguistic Acculturation Scale	Kaplan, Erickson and Juarez-Reyes, 2002 <sup>16</sup>	Sexual initiation (+) No. of lifetime partners (+)		No. of pregnancies (+)
	Kaplan et al., 2001 <sup>16</sup>			Ever had abortion (0)
Language spoken at home	Guilamo-Ramos et al., 2005 <sup>13</sup>	Sexual initiation (+)§		
	Jimenez, Potts and Jimenez, 2002 <sup>17</sup>	Sexual initiation (0)*		Ever used contraceptive (0)
	Sorenson, 1985 <sup>15</sup>		Expected parity (-)	

table continues

create a biculturalism scale: The more bicultural an adolescent was, the more he or she identified equally with U.S. culture and the culture of origin.

Raffaelli, Zamboanga and Carlo<sup>44</sup> used a nine-item version of Phinney's multiethnic identity measure,<sup>45</sup> which was validated in a diverse group of high school students and includes such items as "I have a strong sense of belonging to my own ethnic group." A higher score indicates a higher level of ethnic identification, conceptualized as a sense of ethnic group membership and the degree of involvement in one's ethnic group activities. Jones, Kubelka and Bond used a more recent version of the Linguistic Acculturation Scale. Items were adapted to reflect orientation toward Anglo and Mexican culture, and were scored on a five-point scale (from 1=very Mexican-oriented to 5=very assimilated, anglicized).<sup>46</sup>

• **Residence.** One study used city of residence as a measure of acculturation.<sup>47</sup> In this Arizona study, Sorenson indicated whether respondents lived in a city near Mexico (Nogales) or in one more distant (Tucson). She hypothesized that respondents living in a border city would be in constant contact with their culture of origin and therefore be less acculturated.

• **Multiple dimensions.** Three studies used multiple dimensions to define a respondent's acculturation status. Jimenez, Potts and Jimenez used language spoken at home and U.S. nativity to develop three categories: "immigrant" (those born outside the United States), "U.S. born and spoke Spanish in the home" and "U.S. born and spoke English in the home."<sup>48</sup> Reynoso, Felice and Shragg asked several questions about language, residency and generation to determine whether female teenagers were "accu-



**TABLE 2. Findings on associations between acculturation and the sexual and reproductive health of Latino youth, by dimension and measures of acculturation studied, according to type of outcome (continued)**

Dimension and measure	Study	Sexual activity	Norms and beliefs	Contraceptive use or fertility
Primary language spoken	Adam et al., 2005 <sup>15</sup>	Sexual initiation (+)		
	Ebin et al., 2001 <sup>16</sup>	Sexual initiation (0)		
Childhood language	Raffaelli, Zamboanga and Carlo, 2005 <sup>17</sup>	Sexual initiation (0)* Sexual risk (0)*		
Current language	Raffaelli, Zamboanga and Carlo, 2005 <sup>17</sup>	Sexual initiation (0)* Sexual risk (0)*		
Language of interview	Upchurch et al., 2001 <sup>14</sup>	Sexual initiation (+)		
Language spoken with friends	Sorenson, 1985 <sup>15</sup>		Expected parity (0)	
<b>Culture</b>				
Latino cultural enjoyment	Tschann et al., 2002 <sup>16</sup>	Sexual experience (0)		
American cultural enjoyment	Tschann et al., 2002 <sup>16</sup>	Sexual experience (0)		
Padilla's ethnic identity	Fraser et al., 1998 <sup>16</sup>	Sexual initiation (0)*		
Biculturalism	Fraser et al., 1998 <sup>16</sup>	Sexual initiation (-)**		
Phinney's ethnic identity	Raffaelli, Zamboanga and Carlo, 2005 <sup>17</sup>	Sexual initiation (-)†† Sexual risk (-)††		
Cultural orientation	Jones, Kubelka and Bond, 2001 <sup>16</sup>			Family planning visit ≤1 yr. postpartum (0)*
<b>Residence</b>				
City of residence	Sorenson, 1985 <sup>15</sup>		Expected parity (-)	
<b>Multiple dimensions</b>				
Language and residence	Jimenez, Potts and Jimenez, 2002 <sup>17</sup>		Attitudes toward sex (0)	
Language, residence and citizenship	Reynoso, Felice and Shragg, 1993 <sup>16</sup>	Sexual initiation (+)		
Language and self-identity	Slonim-Nevo, 1992 <sup>14</sup>	Sexual initiation (+)		

\*No significant association in analyses adjusting for other acculturation measures. †Significant for females. ‡Significant when interacted with emotional distress. §Significant when interacted with other acculturation measures. \*\*Positive association between biculturalism and risk. ††Positive association between ethnic identity and risk. Notes: Except where otherwise noted, +=positive association with level of acculturation; -=negative association with level of acculturation; 0=no significant association. Superscript numbers refer to the reference list, page 217.

turated" or were "recent immigrants."<sup>49</sup> Specifically, they asked whether respondents and their parents were born in the United States, whether respondents were U.S. citizens, whether English was their preferred language and whether they had been U.S. residents for more than five years. Respondents were classified as acculturated if they met three out of five conditions; otherwise, they were classified as recent immigrants. Adapting the 1980 version of the Linguistic Acculturation Scale, Slonim-Nevo created a four-item scale on respondents' self-identity (Mexican, Chicana, Mexican American, Spanish), preferred language, spoken language and mother's spoken language.<sup>50</sup>

### Outcomes Studied

The broad categories of outcomes were sexual activity, norms and beliefs, contraceptive use and fertility. Thirteen studies investigated sexual activity outcomes: intention to have vaginal intercourse,<sup>51</sup> sexual initiation,<sup>52</sup> vaginal intercourse in the last 12 months,<sup>53</sup> types of sexual experience,<sup>54</sup> sexual risk,<sup>55</sup> number of partners in the last year

and number of lifetime partners,<sup>56</sup> ever had anal intercourse<sup>57</sup> and ever had oral sex.<sup>58</sup>

In general, sexual initiation was defined in these studies by whether respondents had ever had vaginal intercourse. Measures used to assess sexual initiation were age at first intercourse,<sup>59</sup> age at first premarital intercourse<sup>60</sup> and ever had intercourse.<sup>61</sup> One longitudinal study measured the time between first survey and first intercourse.<sup>62</sup> No consistent period of exposure to the risk of sexual initiation was used; for example, Upchurch et al. studied a sample of 12–17-year-olds, while Jimenez, Potts and Jimenez studied 14–19-year-olds.

One study constructed a composite score of sexual experience by assigning a value of one for each of the following: kissing on lips, kissing with mouth open, breast touching, genital touching, oral sex, and vaginal or anal intercourse.<sup>63</sup> Another used a composite score to measure sexual risk, assigning a value of one for each of the following: ever having had voluntary intercourse, having had voluntary intercourse before age 16, having had four or more

lifetime sexual partners, having used condoms less than 75% of the time and ever having been forced to have sex.<sup>64</sup>

Two studies investigated only norms and beliefs pertinent to sexual and reproductive health: condom beliefs<sup>65</sup> and expected number of children.<sup>66</sup> A study that examined multiple outcomes looked at attitudes toward sex.<sup>67</sup> A single study investigated only contraceptive use (i.e., whether family planning clinic clients returned within the first year postpartum);<sup>68</sup> two other studies considered sexual activity as well as contraceptive use: condom use (in general and with a partner the respondent knew well) in the last year<sup>69</sup> and ever-use of contraceptives.<sup>70</sup> Finally, two studies looked at fertility outcomes: One examined whether women had ever had an abortion,<sup>71</sup> and the other examined number of pregnancies and sexual activity.<sup>72</sup>

**The evidence for a positive association between acculturation and sexual activity was strongest for sexual initiation.**

#### **Associations Between Acculturation and Sexual Activity**

Of the 13 studies that examined sexual activity, two in particular found no association with several measures of acculturation.<sup>73</sup> Specifically, Ford and Norris found no association between language and number of partners in the last year among either gender, and no relationship between language and having had vaginal intercourse in the last year or ever having had anal intercourse among males. Flores, Tschann and Marin found no association between language and intention to have intercourse among their sample of adolescent females.

Almost all of the studies found a positive association between acculturation and sexual activity. For example, Tschann et al. found a positive relationship between language and sexual experience, while Kaplan, Erickson and Juarez-Reyes found one between language and the number of lifetime sexual partners.<sup>74</sup> Analyses by Ford and Norris revealed positive associations between language and both having had vaginal intercourse in the last year and ever having had anal intercourse among females; they also found a positive association between language and ever having had oral sex among females and males.<sup>75</sup>

The evidence for a positive association between acculturation and sexual activity was strongest for sexual initiation; eight of the 10 studies that examined this outcome reported that greater acculturation was associated with an increased likelihood that youth had initiated sex.<sup>76</sup> Only Fraser et al. and Raffaelli, Zamboanga and Carlo had somewhat contrasting findings, suggesting that greater identification with Latino culture, rather than greater acculturation, was associated with an increased risk of sexual initiation. The latter study found a greater degree of ethnic identification to be associated with an increased likelihood of ever having had intercourse and with greater sexual risk among its sample of female, Cuban American college students. In contrast, Fraser et al. found a greater degree of biculturalism to be associated with having had intercourse among their predominantly Dominican, clinic-based sample. Notably, these two studies had small convenience samples, and were the only ones to use ethnic identification measures and predominantly non-Mexican respondents.

#### **Associations Between Acculturation and Other Outcomes**

Two of the three studies that investigated norms and beliefs found an association with acculturation.<sup>77</sup> According to Norris and Ford, Latino teenagers who were more acculturated tended to have more positive condom beliefs. In Sorenson's school-based sample of Arizona Latinas, those whose fathers were born in the United States (vs. Mexico), those who spoke English at home (vs. Spanish) and those who resided in a city farther from Mexico (vs. a border city) reported a lower expected number of children.

The three studies that considered contraceptive use are difficult to compare because of differences in design, outcomes and acculturation measures.<sup>78</sup> Jimenez, Potts and Jimenez did not find an association between either of two measures of acculturation and ever-use of contraceptives. In their Detroit-based study, Ford and Norris found that greater acculturation was associated with an increased likelihood that female (but not male) teenagers reported using a condom in the last year. In contrast, Jones, Kubelka and Bond found that greater acculturation was associated with a decreased likelihood that respondents returned for a family planning visit within a year of giving birth. However, this study used a small sample of pregnant females attending publicly funded clinics; the less acculturated (earlier-generation) respondents may have been disadvantaged, dependent on subsidized services and thus particularly likely to return for a first-year postpartum visit.

Of the two studies that looked at fertility, one found a significant association.<sup>79</sup> In their clinic-based sample of low-income, 14–19-year-old Latinas in Los Angeles, Kaplan, Erickson and Juarez-Reyes found that those who preferred speaking, reading and writing in English had had more pregnancies than those who preferred Spanish. In a larger sample of 14–24-year-old Latinas, Kaplan et al. did not find a relationship between acculturation and ever having had an abortion, possibly because only 7% of respondents reported abortions.

#### **Relative Importance of Acculturation Measures**

Studies that simultaneously examine multiple measures of acculturation can identify which measures are the most robust. Six of the 17 studies fit this criterion. Guilamo-Ramos et al. studied the association between sexual initiation and number of years living in the United States, language spoken at home and the interaction of these two variables; years in the United States and the interaction term were the only significant variables in this model.<sup>80</sup> Upchurch et al. studied the relationship between sexual initiation and two measures of acculturation—generation and language of interview.<sup>81</sup> They analyzed generation as a dichotomous variable, distinguishing first-generation from others, because they found no significant differences between second and higher generations. Only language of interview reached significance in their adjusted model. Their interpretation was that generational status influences sexual initiation through teenagers' language preference.

Fraser et al. considered nativity, ethnic identity and biculturalism in their adjusted analysis; only biculturalism significantly predicted ever having had intercourse.<sup>82</sup> Raffaelli, Zamboanga and Carlo analyzed nativity, childhood language, current language and ethnic identity in investigating both sexual initiation and sexual risk.<sup>83</sup> In their adjusted model, only ethnic identity had a significant association with sexual initiation. For sexual risk, however, both nativity and ethnic identity were significant predictors. Jones, Kubelka and Bond included cultural orientation and generation in their model assessing postpartum family planning visits, but only generation was significant.<sup>84</sup> Finally, Jimenez, Potts and Jimenez examined both nativity and language spoken at home in relation to sexual initiation and contraceptive use.<sup>85</sup> Only nativity predicted initiation in their adjusted model; neither measure predicted contraceptive use.

## DISCUSSION

### Adverse and Protective Associations with Acculturation

Our first research question focused on the relationship between acculturation and sexual and reproductive health among Latino youth. Our finding of both positive and negative associations among the 17 studies reviewed highlights the need for a better understanding of the mechanisms through which acculturation may be operating.

Consistent with the research literature on Latino adults,<sup>86</sup> nearly all 13 studies on sexual activity found that sexual risk-taking increased with greater acculturation. In particular, eight of the 10 studies that considered sexual initiation reported that greater acculturation was associated with an increased risk of initiation or earlier age at first intercourse among Latino youth in the United States. This relationship was observed despite variation in study design and sample characteristics, and persisted even after adjustment for socioeconomic status. However, because these studies investigated sexual initiation over a wide age interval, it is unclear whether acculturation influences the age at which teenagers initiate intercourse. Thus, age-specific studies are needed to elucidate this aspect of sexual behavior.

The remaining two studies on sexual initiation suggested a more complex relationship between acculturation and sexual behavior, showing that greater ethnic identification or biculturalism, rather than greater acculturation, was associated with an increased likelihood of initiation.<sup>87</sup> Because acculturation may involve the balancing of norms from two cultures, by which immigrants can relinquish and retain norms of their culture of origin while adapting to norms of the host culture, these findings do not necessarily conflict with those of the other eight studies.<sup>88</sup> They are consistent with the stress theory: Greater biculturalism, or identification with one's own ethnic culture in the presence of competing norms and values of the dominant culture, can lead to stressful situations, placing adolescents at risk for adverse outcomes, such as early sexual initiation.<sup>89</sup>

The evidence on whether acculturation was associated

with fertility was less convincing. Of the two fertility studies reviewed, one found that greater acculturation was associated with a larger number of pregnancies among 14–19-year-old Latinas.<sup>90</sup> This finding was consistent with that of earlier work showing a greater likelihood of premarital birth before age 22 among later generations of Mexican women of low socioeconomic status;<sup>91</sup> however, it should be interpreted with caution, as the data were collected from women attending publicly funded family planning clinics. Furthermore, although these studies suggest that young Latinas who are more acculturated are more likely to get pregnant or give birth than less acculturated Latinas, they do not shed light on acculturation's influence on whether Latina teenagers are delaying childbirth. More precise fertility measures are needed to elucidate the relationship between acculturation and fertility among Latina teenagers.

Evidence supporting acculturation's protective association with sexual and reproductive health outcomes was also inconclusive, as it relied on findings from only three studies. Two studies suggested that the more acculturated the Latino adolescent was, the more likely he or she was to have used condoms in the last year or to have held positive beliefs about condoms.<sup>92</sup> These findings were consistent with results of studies among Latino adults.<sup>93</sup> The third study, by Sorenson, suggested that greater acculturation was associated with an expectation of smaller family size.<sup>94</sup> This was consistent with a Los Angeles-based study that found greater acculturation to be associated with the desire for a smaller number of children among a sample of Mexican American women aged 18–65.<sup>95</sup> Although the three reviewed studies looking at condom use in the last year, condom beliefs and fertility expectations had findings consistent with those of earlier acculturation studies, they were all area- or school-based. Studies using national or regional samples are needed to confirm these findings.

### Application of Acculturation Theories

Our second research question asked what theories were employed to explain the possible relationship between acculturation and sexual and reproductive health. A major criticism of the studies reviewed here is their failure to directly test theoretical frameworks that might help explain associations between acculturation and these behaviors and beliefs. For example, do Latina teenagers who are more acculturated place less value on virginity or harmonious family relations? If so, does this shift in values lead to a greater likelihood of sexual initiation? Furthermore, what mechanisms might explain acculturation's adverse association with sexual activity but protective association with contraceptive use and childbearing expectations? Does less emphasis on *marianismo* and *respeto*, which might lead to more sexual risk-taking, accompany a more optimistic orientation toward alternative roles to childbearing, which in turn can lead to a greater desire to delay childbearing and motivation to practice contraception?

**Future research should emphasize theory-driven empirical analyses that directly investigate the relationships between cultural values and beliefs that are pertinent to sexual and reproductive health.**



**Longitudinal studies that follow multiple generations of immigrants would allow researchers to examine the temporal influences of acculturation on norms, beliefs and behaviors.**

Studies that examine transformations in cultural values and in beliefs about sex, contraception and childbearing that occur with greater acculturation, and how these transformations relate to sexual behavior, would make a valuable contribution to this field. Future research should emphasize theory-driven empirical analyses that directly investigate the relationships between cultural values and beliefs that are pertinent to sexual and reproductive health, and the influence that these values and beliefs may exert on various behaviors. For example, Upchurch et al. discussed how transformations in values such as *simpatia* and *familism* among Latino teenagers are central to their acculturation and the formation of sexual beliefs and behavior.<sup>96</sup> However, they did not directly measure these values, but instead explored the association between the language of interview and sexual initiation. While the preference to interview in English might be indicative of one's acculturation level, it does not explain how one's values and beliefs are changing. A more revealing analysis would focus on how teenagers' support for *simpatia* or *familism* changes according to language of interview, and whether such changes explain variation in sexual initiation.

**Quality of Measures and Ideal Study Design**

Our final research question concerned the range of acculturation measures and which best explained variation in the examined outcomes. We identified 23 measures of acculturation, representing four dimensions—time, language, culture and residence.

Findings from the six studies that simultaneously analyzed multiple measures of acculturation were equivocal about the robustness of the measures. In one study, the language of interview explained greater variation in sexual initiation than generation did.<sup>97</sup> In two studies, time measures explained greater variation than language measures.<sup>98</sup> In another two studies, ethnic identity and biculturalism were more significant in explaining variation in initiation than were time and language measures.<sup>99</sup> In the sixth study, generation explained greater variation in family planning visits than did cultural orientation.<sup>100</sup> These mixed findings highlight the need for more comprehensive studies that separately analyze each dimension of acculturation, test the relative importance of the different dimensions and examine the possible synergy across dimensions.

In addition to examining a measure's ability to explain variation in a particular outcome, future studies should consider a measure's meaning and utility. While measures that reflect an ethnic group's culture—such as language preference, ethnic identity or biculturalism—are possibly more robust, they are also potentially less generalizable. For example, language is a more salient cultural construct among Mexican Americans than among Asian Americans in the United States.<sup>101</sup> Studying ethnic identity as a general concept for all ethnic groups has been questioned because its different components (i.e., religious affiliation, political attitudes) have varying importance in different

ethnic groups.<sup>102</sup> Thus, given the cultural and socioeconomic diversity of the Latino population in the United States, generalizability should be a major consideration when choosing measures of acculturation.

Although time measures are not always the most robust, they may be more meaningful and useful than measures of language or ethnic identity. The time measures identified in this review do not have differential meanings across ethnic groups, and thus are generalizable to a variety of populations. Greater exposure to competing values of the host society is expected to diminish the influence of values that are unique to an ethnic culture.<sup>103</sup> Generation, in particular, is more informative than nativity alone, because it allows a sample to be differentiated into first-, second- and third-generation respondents. Nativity provides information only on the country of birth and does not allow for differentiation between second- and third-generation respondents.

Our findings suggest that the presence and nature of associations between acculturation and sexual and reproductive health are likely to vary by country of origin, gender and acculturation measure. An ideal study would be larger, representative and population-based, would stratify analyses by gender and country of origin (or limit the sample to a single Latino ethnic group), and would include a time measure of acculturation and at least one measure from another dimension. The inclusion of youth from various socioeconomic backgrounds would further strengthen the design. Finally, longitudinal studies that follow multiple generations of immigrants would allow researchers to examine the temporal influences of acculturation on norms, beliefs and behaviors.

None of the studies reviewed fits these ideal criteria, yet several made noteworthy contributions to the literature. The study by Ford and Norris was area-based and analyzed males and females separately, finding differential associations of acculturation with having had vaginal intercourse in the last year and with ever having had anal intercourse.<sup>104</sup> However, it did not analyze Mexicans and Puerto Ricans separately (possibly because of limited sample size), and analyzed only one acculturation measure—language. The Upchurch et al. study also used an area-based sample, and it analyzed generation and language of interview; however, it did not analyze males and females separately.<sup>105</sup> Guilamo-Ramos et al. used data from the National Longitudinal Study of Adolescent Health and analyzed time and language measures of acculturation; they did not separately analyze males and females, or ethnic groups.<sup>106</sup> Sorenson included time and residence measures of acculturation, sampled teenagers of Mexican origin, and analyzed males and females separately; yet her study was school-based, and may have underrepresented teenagers who had dropped out, perhaps because they were pregnant.<sup>107</sup> Finally, the study by Raffaelli, Zamboanga and Carlo is noteworthy, even with its small convenience sample of university students, because they were exclusively Cuban and female, and the analysis included both time and cultural measures of acculturation.<sup>108</sup>

## CONCLUSIONS

Research on the relationship between acculturation and sexual and reproductive health among Latino youth remains in its infancy. In the future, priority should be given to empirical studies that explicitly investigate links between time measures of acculturation, changing beliefs and norms, and sexual and reproductive behaviors, particularly contraceptive use and fertility desires. Such research can build on existing theories that elucidate the role of beliefs and norms pertaining to gender expectations, family formation, contraceptive use and sexual behavior that are unique to Latino culture. The findings would provide policymakers, planners and providers with greater insights into designing programmatic interventions that target diverse Latino populations.

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