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EMPIRICAL RESEARCH

Do Family and Parenting Factors in Adolescence Influence Condom Use in Early Adulthood in a Multiethnic Sample of Young Adults?

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Abstract Studies show that positive family factors help protect adolescents from engaging in risky sexual activities, but do they continue to protect adolescents as they transition to late adolescence/early adulthood? Using data from the National Longitudinal Study of Adolescent Health, we examined whether family support, parent–child closeness, parental control/monitoring of adolescent behaviors and parent–child communication about sex, assessed in adolescence, were related to condom use in late adolescence/early adulthood among African American ($n = 1{,}986$), Chinese American ($n = 163$), Mexican American ($n = 1{,}011$) and White ($n = 6{,}971$) youth. Controlling for demographic variables and number of sex partners, the results showed that family support was positively related and parent–child communication was negatively related to condom use for the sample as a whole and for the white sample, but not for the other groups. Parent–child communication about sex and parental control were negatively related to condom use in the Chinese American sample. None of the family factors was related to condom use in the African American or Mexican American samples. Overall, parents talked more with daughters than sons about sexual matters. Condom use was most common among African Americans and among males. Greater attention to cultural expectations regarding sex and gender roles, as well as the causal ordering of effects, are important directions for future research.

Keywords Condom use · Adolescents · Young adults · Family factors

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Introduction

Despite advances in treatment and prevention, members of racial/ethnic minority groups in the US continue to bear a disproportionate burden of sexually transmitted diseases (STDs), and young people in these groups are at greatest risk (Centers for Disease Control and Prevention [CDC] 2009). Research consistently has shown that strong family bonds, parental monitoring of adolescent behaviors, and possibly parent–child communication about sex, are protective against sexual risk-taking in adolescence (see review by Miller et al. 2001). What is not known is the extent to which these family factors continue to protect youth as they transition into late adolescence and early adulthood when more of them are sexually active and increasingly independent. Without a better understanding of factors that protect racial/ethnic minority youth from

engaging in risky sexual behaviors, the prevalence of STDs in these groups can be expected to increase and this increase is likely to be especially dramatic among Latinos and Asian Americans, given the rapid growth of these populations. Currently in the US, Latinos are both the largest and a rapidly growing minority group (US Census Bureau 2010a) while Asian Americans are the fastest growing minority group (Asian Nation Organization 2010); in fact, the Asian American population is projected to grow by about 213% by 2050 (Willgerodt and Thompson 2005). Although the proportion of African Americans in the population is lower than that of Latinos (12.4 vs. 15.1%, respectively; US Census Bureau 2010b), the rates of STDs in this population remain higher than those of any other group, which is a cause for concern. To date, there have been a limited number of studies of the sexual behaviors of Latino youth and even fewer studies of sexual behaviors of Asian Americans. Moreover, there is a paucity of studies of the sexual behaviors of youth as they transition into late adolescence and early adulthood.

The present study attempts to help fill this gap. It uses existing longitudinal data from a large, multiethnic, nationally representative study (the National Longitudinal Study of Adolescent Health) to address the question of whether strong family bonds and parental monitoring that help protect adolescents from engaging in risky sexual behaviors continue to protect youth as they approach early adulthood. We focus on four family and parenting factors that have been most frequently studied in prior research—parent–child closeness, family support, parental control/monitoring of adolescent behaviors, and parent–child communication about sexual matters, measured in adolescence, and examine their relationships to condom use in late adolescence/early adulthood. Studies that have included Latinos and/or Asian Americans typically have combined the various ethnic subgroups into a single category (e.g., "Asian American" often includes people of Chinese, Cambodian, Filipino, Korean, Laotian, Japanese, etc. heritage), despite the fact that there is considerable heterogeneity among ethnic subgroups within these broad categories that may affect the relationships. To avoid this problem, we focused on Mexican American and Chinese American youth because they are the largest subgroups within the Latino and Asian American groups, respectively, as well as African Americans. Because most studies have included white European Americans as a contrast, we do as well, using the term "white" for simplicity.

Racial/Ethnic Disparities in STDs

Persistent racial/ethnic disparities in the prevalence and incidence of STDs have been well documented (CDC 2009). For instance, relative to whites, the rates of Chlamydia are eight times higher for African Americans and three times higher for Latinos (CDC 2009). Although Asian Americans experience about the same rate of Chlamydia as whites, from 2007 to 2008 their rate rose 8.7%, which is a cause for concern. The rate of gonorrhea among African Americans is more than 20 times higher than that of whites and for Latinos it is twice as high; Asian Americans, in contrast, have a lower rate of gonorrhea than whites (CDC 2009). In 2009, African Americans, Latinos, and Asian Americans had higher rates of syphilis than whites (CDC 2009). African Americans have HIV prevalence rates that are eight times that of whites and this disparity is greatest among African American women who have HIV rates 18 times higher than white women (CDC 2010). The prevalence of HIV among Latinos is three times that of whites and Latino women experience four times the rate of HIV for white women (CDC 2010). These data clearly demonstrate considerable racial/ethnic disparities in STDs.

Relative to other age groups, and regardless of race/ethnicity, adolescents experience the highest rates of most STDs. For example, among those ages 15–24 (the youngest age group for which the CDC reports data), rates of Chlamydia are five times higher, rates of gonorrhea are four times higher and rates of Human Papilloma Virus are greater than those of any other age group (CDC 2009). Taken together, these data along with the data on the considerably higher rates of STDs among African Americans and Latinos, show that adolescents from these minority groups bear the greatest burden of STDs in US society.

Although the rates of many STDs are lower among Asian Americans than other racial/ethnic minorities, there are reasons for concern. Relative to white youth, Asian American youth are less knowledgeable about HIV and sexuality (Chan 1997; Horan and DiClemente 1993; Wells et al. 1995), and this is true even of college students (So et al. 2005). Asian American youth use condoms less consistently (Grunbaum et al. 2000; Shuster et al. 1998), but have the same number of sexual partners (Kuo and St. Lawrence 2006) as white youth. Among Asian American college students, the group we would expect to be among the most knowledgeable about these risks, 37% report having had unprotected sex (So et al. 2005). Moreover, despite increases in some STDs among Asian Americans, Asian Americans are the least likely to perceive themselves at risk and the least likely to seek sexual and reproductive health care (Kao 2006; Okazaki 2002).

Despite the elevated risks of STDs for racial/ethnic minorities, there are a limited number of studies of the sexual behaviors of young Latinos, and even fewer of Asian Americans' sexual behavior. Although the sexual behaviors of African American adolescents have been more frequently studied that those of other racial/ethnic

minorities, to the best of our knowledge, the current study is the first to examine whether family and parental influences that protect youth from engaging in risky sexual behaviors continue to exert this influence as these adolescents transition into late adolescence and early adulthood. Such information is important for developing effective prevention programs.

Family as a Protective Factor Against Adolescent Sexual Risk-Taking

Research consistently has shown that strong family bonds and parental monitoring and control of adolescent behaviors are protective against sexual risk-taking among adolescents, just as they are protective against substance use, school failure, and other forms of adolescent problem behaviors (e.g., Marsiglia et al. 2009; Roche et al. 2008; Woolley and Grogan-Kaylor 2006). One of the most consistent findings is that parental support and family connectedness—whether measured as warmth, support, closeness, attachment, or family cohesion—are inversely related to risky sexual behaviors among adolescents (e.g., Fingerson 2005; Manlove et al. 2008; McBride et al. 2003; Miller et al. 2001; Wight et al. 2006). With few exceptions, parental control over adolescent behaviors and associations (e.g., monitoring, supervision, rules, limit-setting) also has been found to be inversely related to risky sexual behaviors regardless of whether it is measured by adolescents' or parents' reports (e.g., Lohman and Billings 2008; Miller et al. 2001; Rose et al. 2005; Yang et al. 2007).

In contrast, in their review of more than 30 studies of parent/child communication and risky sexual behaviors, Miller et al. (2001) concluded that the results are inconsistent with some studies showing a positive relationship and others showing a negative relationship. These inconsistencies regarding the direction of effects continue to be evident in more recent research (e.g., Angera et al. 2008; Chen and Thompson 2007; Lam et al. 2008). Miller et al. (2001) attributed the inconsistencies in the direction of effects to possible problems of temporal ordering because most studies have relied on cross-sectional data, differences in how communication was measured and differences in the content of communication across studies. Thus, while most studies find a relationship between parent–child communications about sexual matters, the nature of this relationship is not fully understood.

Family Relationships and Sexual Risk-Taking Among Racial/Ethnic Minority Adolescents

An important question is whether the findings of studies like those cited in the previous section hold for racial/ethnic minority adolescents. Although Miller et al. (2001) noted that at least half of the studies they reviewed included multiple racial/ethnic groups, analyses of subgroup differences typically were not conducted presumably because of small sample sizes. However, in the studies that did examine the role of family support and parental control among ethnic minorities, the findings were similar (Miller et al. 2001). More recent research has shown that parental attachment, family closeness and parental support are related to lower rates of sexual risk taking or delayed sexual debut among African American adolescents (Broman 2007; McBride et al. 2003), Asian American adolescents (Hahm et al. 2006; Lam et al. 2008), and Latino adolescents (Dogan-Ates and Carrión-Basham 2007; Trejos-Castillo and Vazsonyi 2008). Both literature reviews (Driscoll et al. 2001) and individual studies (e.g., Dogan-Ates and Carrión-Basham 2007) suggest that parental monitoring of adolescent behaviors reduces risky sexual behaviors among Latino youth. Studies of African American youth similarly demonstrate the protective effects of parental monitoring on sexual risk-taking (Broman 2007; Li et al. 2000; Miller et al. 1999; Rai et al. 2003; Yang et al. 2007). Among African American youth, parental monitoring also has been found to be associated with a lower incidence of STDs (Crosby et al. 2003) and a lower rate of pregnancies (Crosby et al. 2002). These studies suggest that parental support and warm parent–child relationships, as well as parental monitoring, help protect adolescents in these racial/ethnic groups from engaging in risky sexual behaviors.

Studies of the relationship between parent–child communication about sex and risky sexual behaviors in racial/ethnic minority families have produced mixed findings, with some studies showing a positive relationship and others showing a negative relationship with risky sexual behaviors. Lam et al. (2008), for example, found that maternal-child communication about sex was positively related to the transition to non-coital sexual behaviors among Asian American adolescents. In contrast, Baumeister et al. (1995) found that parent–child communication about sex reduced risky sexual behaviors among Latino adolescents, and Broman (2007) found that it was related to a lower probability of ever having had sex among a national sample of African American adolescents. One consistent finding regarding parent–child communication about sex is that parents are more likely to have such conversations with their daughters than sons (Hutchinson and Cooney 1998; Raffaeli and Green 2003). This greater parental investment in the sexual behaviors of daughters is consistent with the more restrictive sexual norms for girls relative to boys in most cultures.

The Importance of Family in African American, Asian American and Latino Cultures

The dominant American culture promotes, encourages and values independence. In contrast, Latino and Asian cultures share a strongly collectivistic orientation in which the needs of the family take precedence over those of individual family members (Fuligni et al. 1999). Although Abdou et al. (2010) found less communalism, defined as a cultural emphasis on interdependence, among African Americans compared to whites; the extended kinship networks and emphasis on kin obligations in African American families suggest a type of interdependence that is less common among white families (Harrison et al. 1990; Taylor 2010). Such collectivistic cultures create a milieu in which even older adolescents and young adults may be more influenced by their parents than those living in less collectivistic cultures.

The concept of *familism*, which connotes a sense of duty and responsibility of each family member to the whole, is deeply embedded in Latino culture (Marsiglia et al. 2009). Family members are expected to be interdependent, respectful of one another, and have warm, close, supportive relationships in which the needs of the family take precedence over those of the individual (Marsiglia et al. 2005; Updegraff et al. 2005). These strong family bonds have been shown to protect Latino adolescents from substance use and engagement in deviant behaviors (Gil et al. 1994; Ramirez et al. 2004), and the literature reviewed in the prior section suggests that they also protect Latinos from engaging in sexual risk taking.

Asian cultures similarly are strongly family-oriented. In such cultures, family solidarity and loyalty, strong and supportive family relationships, harmony and respect are highly valued (Fuligni et al. 1999; Kim 2009; Okazaki 2002). Preserving family honor is an important element of both Latino and Asian cultures (Fuligni et al. 1999). In both cultures, girls are expected to remain virgins until marriage and conversations about sexuality outside of marriage are considered improper (Kim and Ward 2007; Okazaki 2002; Raffaeli and Green 2003). Relative to white families, Mexican Americans have been found to be more family oriented (Ramirez et al. 2004) and adolescents of Latino and Asian heritages emphasize family obligation and spend more time helping their families than white youth (Telzer and Fuligni 2009). Moreover, these family obligations are not experienced by adolescents as burdensome or stressful; indeed, they are associated with wellbeing (Telzer and Fuligni 2009).

Relative to other racial/ethnic groups, African Americans have lower rates of marriage, higher rates of divorce, higher rates of relationship instability (Taylor et al. 2010), and shoulder a greater burden of poverty than other groups (Abdou et al. 2010). However, studies have shown that African American families employ adaptive strategies like extended kinship networks and role flexibility (Harrison et al. 1990; Taylor 2010) that help mitigate the effects of these stressful environments. For example, social support from kin has been found to increase African American mothers' nurturance, emotional support and control of their children (Taylor 2010)—factors that have been found to be associated with lower sexual risk-taking among adolescents, as noted earlier.

Latino and Asian American cultures promote traditional gender-role norms in which females are taught to be demure and reticent, and refrain from sex until marriage; premarital pregnancies are believed to bring shame and dishonor to the family. Parents typically have strict rules about dating and contact with the opposite sex, especially for girls, and rarely discuss sexual matters with their children. In contrast, African American adolescents and young adults have more permissive attitudes toward non-marital sex and non-marital childbearing than those of other races/ethnicities (Browning and Burrington 2006), and African American parents are more likely than white parents to talk to their children about sexual risks (Hutchinson and Cooney 1998).

Clearly, Latino and Asian-heritage cultures are more restrictive with regard to sexuality than either the white majority or African American cultures. Moreover, as white youth transition into late adolescence/early adulthood they are expected to become increasingly independent of their families of origin, regardless of whether they are married or single. This results in fewer opportunities for white parents to continue to directly influence their children. In contrast, among Latino and Asian cultures, children are expected to live at home until marriage, thus affording parents more opportunities to directly influence their children. Similarly, the extended kinship networks of African American families provide opportunities for adult influence as their children transition into late adolescence. The interdependence, respect for authority, hierarchical family structures and obligations to family characteristic of these racial/ethnic minority families may be conducive to greater parental influence on adolescents as they mature than among white youth. Thus, we would expect that the relationships between family and parenting factors in adolescence and condom use in late adolescence/early adulthood to be stronger for racial/ethnic minority youth compared to white majority youth.

Acculturation

Research on acculturation has shown that children of immigrant parents acculturate faster than do their parents (Buki et al. 2003; Ying and Han 2007). This differential rate of acculturation has been shown to cause conflict

between immigrant children and their parents as parents are more likely to subscribe to their traditional cultural norms and expectations while their children more readily adapt the new culture's norms and expectations (Buki et al. 2003; Schofield et al. 2008; Ying and Han 2007). Indeed, more acculturated Asian Americans and Latinos have been found to have more permissive attitudes toward sex and are more likely to engage in sex than less acculturated individuals (Lee and Hahm 2010; Okazaki 2002; Villareul et al. 2002). Given the interdependence characteristic of traditional Asian-heritage and Latino families, we expect that the protective effect of family influences would be greater for less acculturated youth.

Gaps and Limitations in the Literature and the Current Study

Previous studies provide much useful information about the importance of family and parenting in reducing adolescent sexual risk-taking, but little is known about the extent to which these factors continue to exert an influence on sexual behaviors as youth transition into late adolescence and early adulthood when many more are becoming sexually active and increasingly independent. Do the strong family ties that are characteristic of African American, Asian American and Latino cultures continue to protect these young family members as they approach adulthood? In addressing this question, there are four limitations in prior research that we attempt to address in our study. First, most previous studies have focused on white and/or African American samples, and there is considerably less information about Latino youth's sexual behaviors and very few studies of Asian American youth's sexual behaviors. Yet, there is evidence that these groups are at risk of STDs. To help narrow this gap, we included these groups, as well as African Americans and whites in our analyses. Second, as noted previously, studies that have included Asian American and/or Latino adolescents typically have combined the various ethnic subgroups into a single broad category, despite the fact that there is considerable heterogeneity among the ethnic subgroups within these broad categories that may affect the relationships. To avoid this problem, we limited our analyses to Mexican American and Chinese American youth because they are the largest subgroups within the Latino and Asian American groups, respectively. Because most studies have included white youth as a contrast, we did as well. Third, most of the research examining the relationship of family and parenting factors on adolescent sexual behaviors has been cross-sectional in which cause and effect cannot be untangled and, fourth, most studies have utilized small, convenience samples, often focusing exclusively on females, which limits the generalizability of the findings. We took advantage of an existing large, nationally representative longitudinal dataset to examine the relationships. This permits greater confidence in the generalizability of the findings and helps ensure the temporal ordering of events.

Based on prior research and the central importance of family in racial/ethnic minorities, we hypothesize that parent–child closeness, family support and parental control/monitoring of adolescent behaviors in adolescence will be positively associated with condom use in late adolescence/early adulthood. We expect that these influences will be greater among African American, Chinese American and Mexican American young people than among white youth owing to the cultural differences in families described earlier, and greater among less acculturated than more acculturated youth. Given the inconsistent findings regarding the direction of the relationship between parent–child communication about sex and sexual behaviors, and the reticence in Latino and Asian-heritage cultures to explicitly discuss matters of sexuality outside of the marital relationship, we explore the association with condom use, but we do not propose a hypothesis. However, consistent with prior studies, we expect that such conversations will be more likely with daughters than sons. Also consistent with prior studies, we hypothesize that males will report more condom use than females (Abma and Sonnenstein 2001; Gullett et al. 2009; Zimmerman et al. 2007). Studies typically report that Latino adolescents use condoms less than white youth (Anderson et al. 2006; Driscoll et al. 2001; Espinosa-Hernandez and Lefkowiz 2009). Few studies have examined condom use among Asian American adolescents but, as noted previously, such studies have reported less condom use among Asian Americans relative to white youth (Grunbaum et al. 2000; Shuster et al. 1998). Therefore, we expect that relative to white youth, Mexican American and Chinese American youth will report less condom use. Studies typically show that African Americans have higher rates of condom use than other groups, so we predict that condom use will be highest in this group (Reece et al. 2010).

Methods

Data

Data for the analyses reported here come from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative, school-based study exploring health-related behaviors of 20,745 adolescents in grades 7–12 at Wave I (Mullan et al. 2008). Our analyses used data from the parent's report at Wave I and adolescent in-home interviews from Waves I (1994–1995) and III (2001–2002). Although the age range at Wave I is large (11–21), 97% of

the sample was between the ages of 13–19 (average age = 15.6). An interviewer-assisted questionnaire was administered to parents and the parents entered their responses directly on computers. One-on-one interviews were conducted with the adolescents. Interviewers read non-sensitive questions to the adolescents and entered responses directly on a computer; the adolescents listened to pre-recorded sensitive questions via earphones and entered their responses directly on computer to help ensure confidentiality. The Wave III sample is the same as Wave I, except that those who were 12th grade or disabled at Wave I, or those who could not be located for subsequent interviews, were not included in Wave III. The Wave III respondents ranged in age from 18 to 27 (average age = 21.9). Detailed information about the sampling design is available at the study website http://www.cpc.unc.edu/projects/addhealth/design. The sample for our analyses includes all respondents with data at both Waves I and III who reported ever having had sex by Wave III. This includes 10,131 adolescents: 6,971 (68.8%) are white, 1,986 African American (19.6%), 163 (1.6%) Chinese American, and 1,011 (10%) Mexican American youth; just over half (54.04%) the sample is female. Table 1 presents the sample sociodemographic characteristics and sexual history at Wave I, and condom use behaviors at Wave III, by race/ethnicity.

Measures

Condom Use

The dependent variable, condom use, was assessed at Wave III when the youth were in late adolescence/early adulthood (average age = 21.9). A question asked how many times the respondent had had vaginal intercourse in the past 12 months. Those who reported any vaginal intercourse in this interval were asked on how many of these occasions condoms were used. Responses are scored on a 5-point scale ranging from none of the time to all of the time. Because there is no theoretical or practical reason to distinguish between condom use less than half the time or half the time, we collapsed these categories to create a trichotomy: no use of condoms, use of condoms inconsistently (some of the time or half of the time), use of condoms consistently (all or most of the time) during the prior 12 months.

Predictor Variables

The predictor variables include four family and parenting factors that have been examined in prior research, as well as race/ethnicity, and gender. The family and parenting factors include parent–child closeness, family support, parental control and monitoring of the adolescents' behaviors, and parent–child communication about sex. These variables were assessed at Wave I when the youth were in early to mid-adolescence (average age = 15.6). The scores on items comprising each of these variables were standardized and averaged to form the scale scores for each variable.

Parent–Child Closeness This variable assesses the youths' feelings about the closeness of their relationships with their parents. It is measured by three questions such as "Overall, you are satisfied with your relationship with your mother/father," "Most of the time your mother is warm and loving toward you." Each item is scored on a 5-point scale ranging from 1 = strongly disagree to 5 = strongly agree (Cronbach's alpha = .84 for the aggregate and the white samples, α = .85 for the Chinese American and Mexican American samples, and .84 for the African American sample).

Family Support Family support assesses the extent to which the youth feels that family members enjoy, love and care about one another. It is assessed by four items that begin with the item "How much do you feel that…" followed by items such as "your parents care about you" and "you and your family have fun together." Each item is scored on a 5-point scale ranging from 1 = not at all to 5 = very much (α = .78 for the aggregate, white and Chinese American samples, α = .73 for the African American sample and α = .74 for the Mexican American sample).

Parental Control/Monitoring Seven items measure the extent to which adolescents perceive their parents as setting rules and monitoring their behaviors and associations. The items begin with the statement "Do your parents let you make your own decisions about…" followed by items such as "…the time you must be home on weekend nights" and "…the people you hang around with." Each item is scored as a dichotomy with 0 = no and 1 = yes (α = .62 for the aggregate and Chinese American samples, α = .60 for the white sample, α = .63 for the African American sample, and α = .65 for the Mexican American sample).

Parent–Child Communication About Sex This variable measures the frequency of communication parents have with their adolescent about various sexual topics. The items begin with the question: "How often have you and [child's name] talked about his/her having sexual intercourse and…." followed by six items such as "…the negative or bad things that would happen if he got someone [she got] pregnant," "…the dangers of getting a sexually transmitted disease." Each item is scored on a 4-point scale ranging from 1 = not at all to 4 = a great deal (α = .89 for the aggregate and all sub-group samples).

The inter-scale correlations suggested that these four measures are tapping different aspects of family factors in that all correlations are less than .07 with one exception:

Table 1 Sociodemographic characteristics and sexual history (Wave I) and condom use (Wave III)

Variable	Whole sample ($N = 10,131$)	White, non-Hispanic ($n = 6,971$)	African American ($n = 1,986$)	Chinese American ($n = 163$)	Mexican American ($n = 1,011$)
Female	5,475 (54.04%)	3,776 (54.17%)	1,114 (56.06%)	83 (50.92%)	502 (49.65%)
Age					
Range	11–21	11–21	11–21	12–20	11–20
Mean (SD)	15.57 (1.71)	15.56 (1.71)	15.40 (1.70)	15.56 (1.55)	15.99 (1.71)
Two parent family	5,246 (51.78%)	3,838 (55.06%)	690 (34.73%)	120 (73.62%)	598 (59.15%)
Parent education					
<High school	1,239 (12.73%)	573 (8.59%)	287 (11.84%)	16 (10.74%)	419 (45.40%)
High school	3,018 (31.01%)	2,105 (31.54%)	760 (31.37%)	34 (22.82%)	252 (27.30%)
>High school	5,476 (56.26%)	3,996 (59.87%)	1,376 (56.79%)	99 (66.44%)	252 (27.30%)
Age at first sex					
Mean (SD)	16.41 (2.24)	16.51 (2.22)	15.88 (2.19)	17.47 (2.37)	16.59 (2.29)
Sexually experienced	4,366 (43.33%)	2,770 (39.91%)	1,095 (55.64%)	35 (21.74%)	466 (46.32%)
Birth control use at first sex	2,833 (27.96%)	1,858 (26.65%)	724 (36.44%)	17 (10.43%)	234 (23.15%)
Ever have STDs	297 (2.93%)	153 (2.18%)	114 (5.74%)	2 (1.23%)	29 (2.87%)
Percent condom use (Wave III) (%)					
None of the time	29.39	32.39	18.57	23.93	31.55
Some of the time	30.50	30.57	30.25	34.36	29.87
Most/all of the time	40.11	37.14	51.18	41.72	38.58

Table 2 Means (SD) for family and parenting scales by race/ethnicity (Wave I)

Variable	Whole sample ($N = 10,131$) M (SD)	White, non-Hispanic ($n = 6,971$) M (SD)	African American ($n = 1,986$) M (SD)	Chinese American ($n = 163$) M (SD)	Mexican American ($n = 1,011$) M (SD)
Parent–child closeness	4.20 (.80)	4.21 (.79)	4.25 (.81)	4.03 (.81)	4.12 (.83)
Family support	3.98 (.68)	3.96 (.67)	4.04 (.71)	3.89 (.66)	3.98 (.70)
Parental control	5.22 (1.52)	5.32 (1.46)	4.98 (1.62)	5.19 (1.66)	4.99 (1.68)
Parent–child communication about sex	2.95 (.81)	2.90 (.74)	3.21 (.78)	2.44 (.87)	2.74 (.88)

Parent–child closeness is correlated .57 with the family support scale. Table 2 presents descriptive data for the four family factor scales by race/ethnicity.

Race/Ethnicity and Gender An adolescent is categorized as Chinese American if she/he self-identified as Asian with Chinese background, as African American if she/he identified as Black or African American, as Mexican American if she/he identified as Hispanic with Mexican background, or white if she/he identified as non-Hispanic white. Gender refers to the biological sex (male/female) of the youth. Males are coded as "0", females as "1."

Control Variables

We included controls for five variables that are potential confounds in our analysis because they are related to one or more of the predictors and the dependent variable. These include family structure, parent's socioeconomic status, and respondent's age, marital status, and lifetime number of sexual partners. All control variables were measured at Wave I except for respondent's marital status, which was measured at Wave III.

Family Structure Family structure, typically defined as a two-parent versus single parent family, has been found to be related to adolescent sexual behaviors (Moilanen et al. 2010; Santelli et al. 2000), as well as to parenting factors like parental monitoring (Moilanen et al. 2010). Family structure is coded as a dichotomous variable (0 = single-parent family, 1 = two parent family).

Socioeconomic Status Socioeconomic status (SES) has been found to be related to adolescent sexual behaviors, as well as to parenting (Moilanen et al. 2010; Santelli et al. 2000), and racial/ethnic differences can be confounded with SES because members of racial/ethnic minorities are disproportionately poor, so we included SES as a control

variable. We used the highest level of parental education achieved as the measure of socioeconomic status; it is scored as 1 = less than high school completion, 2 = high school graduate, 3 = formal education beyond high school.

Marital Status Because married couples tend not to use condoms and are likely to be more independent from their families of origin, we included the respondent's marital status at Wave III as a control variable. It is coded as a dichotomous variable, 0 = not married, 1 = ever married by Wave III.

Lifetime Number of Sexual Partners We included lifetime number of sexual partners, measured at Wave I, as a control variable because it has been found to be negatively related to condom use (Richter et al. 1993).

Age Because there are considerable developmental differences between youth in 7th grade and those in 12th grade (the grade range at the Wave I interviews), the age of youth at Wave I was included in attempt to control for these differences.

Results

Descriptive Results

As is evident in Table 1, there were racial/ethnic differences in sexual behaviors reported at Wave I and in condom use at Wave III. Compared with their white, African American, and Mexican American counterparts, Chinese American adolescents were less likely to ever have had sex, and for those who had initiated sex, their sexual debut occurred at an older age, they were less likely to use birth control, and they reported fewer STDs—all statistically significant differences that are consistent with prior research. About two-fifths (40.11%) of youth reported consistent condom use at Wave III; there were significant racial/ethnic differences in these rates. African Americans were significantly more likely to use condoms than their white or Mexican American counterparts, and marginally more likely to use condoms than the Chinese American youths. (Data for these statistical tests are available from the first author.)

There were also significant racial/ethnic differences in the family and parenting factors at Wave I (see Table 2). African American youth reported significantly greater family support and parent–child closeness than either white or Chinese–American youth. White youth reported significantly greater parent–child closeness than either Chinese–Americans or Latinos, and significantly greater parental control than either African Americans or Mexican Americans. Both white and African American parents reported significantly greater parent–child communication about sex than either Chinese American or Mexican American parents, and African American parents reported significantly greater communication about sex than their white counterparts. Although these differences are statistically significant, the magnitude of the differences is small–less than 1 point on the scales, as can be seen in Table 2. Also notable is the fact that nearly half the Mexican American (46%), 42% of the Chinese American, and about 44% of the African American respondents were still living with their parents at Wave III, in contrast to 33% of the white respondents.

Influence of Family and Parenting Factors in Adolescence on Later Condom Use

We used multinomial logistic regression to analyze the associations of the predictor variables (parent–child closeness, family support, parental control/monitoring, parent–child communication about sex, gender and race/ethnicity) with the dependent variable, condom use. Because we have no substantive interest in the control variables, and no theory about the primacy of predictor variables, all control and predictor variables were entered in the equations simultaneously. We first report the results for the sample as a whole because it permits us to examine racial/ethnic differences in condom use. Some cell sizes are too small to examine the race/ethnicity by family factors interactions, therefore, we also report the results separately by race/ethnicity.

Results for the Full Sample

Table 3 presents the results of the multinomial logistic regression for the full sample. Controlling for family structure, SES, age, marital status and number of sex partners, neither parent–child closeness nor parental control was significantly associated with condom use, contrary to our hypotheses. However, family support in adolescence was significantly related to using condoms consistently versus inconsistently in later adolescence/early adulthood. A one standard deviation increase in the family support scale increased the probability of being a consistent condom user by about 7% (Relative Risk Ratio = 1.07). Parent–child communication about sex also was significantly and negatively associated with consistent versus inconsistent condom use. An increase of one standard deviation in parent–child communication about sex reduced the probability of being a consistent versus an inconsistent condom user by 6% (Relative Risk Ratio = 0.94). None of the family factors distinguished between inconsistent condom use and a lack of condom use.

The shared variance between the family support and parent–child closeness scales ($r = .57$) may account for the failure to find a significant relationship between the latter and consistent condom use. To examine this possibility, we

Table 3 Results of multinomial logistic regression of condom use at Wave III on family and parenting factors at Wave I: full sample

Variable	Inconsistent vs. no condom use		Inconsistent vs. consistent condom use	
	Regression coefficient (SE)	Relative risk ratio (SE)	Regression coefficient (SE)	Relative risk ratio (SE)
Constant	−1.26 (.32)		1.02 (.29)	
Control variables				
2-Parent family	−0.03 (.06)	0.97 (.06)	0.02 (.05)	1.02 (.06)
Parental ed.[a]				
High school	0.01 (.10)	1.00 (.10)	0.03 (.09)	1.03 (.10)
>High school	−0.15 (.09)	0.86 (.08)	0.02 (.09)	1.02 (.09)
Age	0.07 (.02)***	1.07 (.02)	−0.03 (.02)†	0.97 (.02)
Marital status[b]	0.66 (.07)***	1.93 (.13)	−0.72 (.08)***	0.49 (.04)
Number sex partners	0.02 (.02)	1.02 (.02)	−0.05 (.02) **	0.95 (.02)
Predictor variables				
Race/ethnicity[c]				
African American	−0.48 (.08)***	0.62 (.05)	0.31 (.06)***	1.36 (.09)
Chinese American	−0.30 (.26)	0.74 (.20)	−0.09 (.22)	0.91 (.21)
Mexican American	−0.13 (.11)	0.88 (.09)	0.05 (.10)	1.06 (.11)
Gender[d]	0.16 (.06)**	1.17 (.07)	−0.32 (.05)***	0.73 (.04)
Parent–child closeness	0.02 (.03)	1.02 (.03)	0.03 (.03)	1.03 (.03)
Family support	−0.00 (.04)	1.00 (.04)	0.06 (.03)*	1.07 (.03)
Parental control	0.03 (.03)	1.03 (.03)	0.00 (.03)	1.00 (.03)
Parent–child communication about sex	0.01 (.03)	1.01 (.03)	−0.06 (.03)*	0.94 (.03)

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

[a] Less than high school is the omitted (comparison) category

[b] Unmarried is the omitted category

[c] White is the omitted category

[d] Male is the omitted category; family and parenting predictor variables have been standardized

re-estimated the regression equations eliminating all family and parenting factors except the parent–child closeness scale; the same control variables were included as in the original analysis. This analysis showed a significant effect for parent–child closeness on consistent (vs. inconsistent) condom use ($b = .06$, SE $= .03$, $p = .01$), although the effect was small. A one standard deviation increase in parent–child closeness increased the likelihood of being a consistent condom user by about 6% (Relative Risk Ratio = 1.06).

Consistent with our hypothesis, females were less likely than males to use condoms. Being female increased the risk of not using condoms at all compared to using them inconsistently by 17% (Relative Risk Ratio = 1.17), and increased the probability of being an inconsistent condom user as opposed to a consistent user by almost 25% (Relative Risk Ratio = 0.73). Relative to whites, African Americans were less likely (only 62% as likely as whites) to be in the no condom use category compared to the inconsistent condom use category, and more likely than whites to use condoms consistently as opposed to inconsistently (Relative Risk Ratio = 1.36), consistent with our hypothesis. However, in contrast to our hypothesis that Chinese Americans and Mexican Americans would report less condom use than whites, no significant differences were found between whites and these groups in the multivariate analysis.

Results for the White Sample

Results of the multinomial regression, including all control variables, for the white sample showed that greater family support ($b = .10$, $p = .02$) was related to using condoms consistently (vs. inconsistently) (Table 4). A standard deviation increase in family support increased consistent use of condoms by about 10% (Relative Risk Ratio = 1.10). No other family or parenting variables were significantly associated with condom use. Being female was associated with not using condoms at all (vs. use them inconsistently) (Relative Risk Ratio = 1.16), and using condoms inconsistently versus consistently (Relative Risk Ratio = 0.77). Consistent with our hypothesis, parents talked more about sex with their daughters ($M = 3.00$, SD $= .76$) than sons ($M = 2.79$, SD $= .80$; $t = 10.76$, $df = 6{,}195$; $p < .001$).

Table 4 Regression coefficients from multinomial logistic regression of condom use at Wave III on family and parenting factors at Wave I by race/ethnic group (SE in parentheses)

Variable	Inconsistent vs. no condom use				Inconsistent vs. consistent condom use			
	White	Chinese American	Mexican American	African American	White	Chinese American	Mexican American	African American
Constant	−1.37 (.39)	3.7 (3.68)	−1.83 (1.04)	−1.13 (.72)	1.44 (.37)	−1.04 (3.15)	−0.99 (.98)	1.29 (.55)
Gender	0.15* (.07)	−0.67 (.66)	0.33 (.21)	0.27† (.15)	−0.27*** (.07)	−1.15* (.53)	−0.37† (.20)	−0.43*** (.11)
Parent–child closeness	0.06 (.04)	0.21 (.40)	0.06 (.11)	−0.15† (.08)	0.02 (.04)	0.11 (.36)	0.13 (.11)	−0.01 (.06)
Family support	−0.01 (.04)	−0.05 (.44)	−0.13 (.12)	0.08 (.08)	0.10* (.04)	0.37 (.39)	−0.13 (.12)	0.04 (.06)
Parental control	0.05 (.04)	0.60† (.34)	−0.09 (.09)	−0.03 (.07)	0.04 (.04)	0.14 (.26)	−0.16† (.09)	−0.03 (.05)
Parent–child communication about sex	0.02 (.04)	0.89** (.34)	−0.09 (.10)	−0.01 (.08)	−0.05 (.03)	0.01 (.27)	−0.09 (.09)	−0.09 (.06)

Analyses controlled for family structure, parental education, respondent age, respondent marital status at Wave III, and respondent number of sex partners. All predictors except gender are standardized

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Results for the African American Sample

Contrary to our hypotheses, controlling for possible confounding variables (family structure, SES, age, marital status, number of sex partners), none of the family factors assessed in adolescence was significantly related to condom use during late adolescence/early adulthood, although parent–child closeness was marginally related to inconsistent versus no condom use. Gender was marginally associated with using condoms inconsistently as opposed to consistently, and significantly associated with using condoms consistently as opposed to inconsistently. Females were about one-third as likely as males to use condoms consistently (Relative Risk Ratio = 0.65). As with the other families, African American parents discussed sex with their daughters more than with their sons ($M_F = 3.30$, SD = .75; $M_M = 3.09$, SD = .80; $t = 5.81$, $df = 1{,}985$, $p < .001$).

Results for the Chinese American Sample

In this sample and including all control variables, parent–child communication about sex increased the probability of not using condoms (vs. using them inconsistently). A one standard deviation increase in communication more than doubled the risk of not using condoms at all as opposed to using them inconsistently (Relative Risk Ratio = 2.42). However, parent–child communication about sex was not significantly related to consistent versus inconsistent condom use ($p > .10$). Parental control was marginally related to not using condoms at all versus using them inconsistently (Relative Risk Ratio = 1.83). A standard deviation increase in parental control increased the probability of not using condoms at all versus using them inconsistently by 83%. Parental control was not related to consistent condom versus inconsistent condom use ($p > .10$). Neither parent–child closeness nor family support was related to condom use. In this sample, gender was related only to consistent versus inconsistent use of condoms, but not to inconsistent versus no condom use. Females were only one-third as likely as males to use condoms consistently as opposed to inconsistently (Relative Risk Ratio = 0.32). (See Table 4.) As with the white sample, Chinese American parents discussed sexual matters more with their daughters ($M = 2.65$, SD = .86) than with their sons ($M = 2.16$, SD = .80; $t = 3.15$, $df = 115$, $p = .001$).

Results for the Mexican American Sample

Neither the family/parenting variables nor gender distinguished between inconsistent condom use and no condom use, controlling for possible confounding variables (see Table 4). Parental control marginally reduced the probability of using condoms consistently (vs. inconsistently) by 14% (Relative Risk Ratio = 0.86), but no other family factors were even marginally related to consistency of condom use. Gender was marginally associated with consistent versus inconsistent condom use; females were nearly one third less likely than males to use condoms consistently (Relative Risk Ratio = 0.69). Gender was not related to the probability of inconsistent versus no condom use. Mexican American parents were also more likely to discuss sex with their daughters than with their sons ($M_F = 2.86$, SD = .88; $M_M = 2.66$, SD = .85; $t = -3.04$, $df = 713$, $p < .01$).

Does Acculturation Matter?

Because some cell sizes were too small, we were unable to examine the interaction of family factors and acculturation

to test the hypothesis that family factors would have greater impact on less acculturated youth's behavior. Instead, we re-estimated the regression equations for the Chinese–American and Mexican American groups adding generational status (measured by adolescents and their parents' birth place) as a proxy measure for acculturation level in addition to the control variables described earlier. The results did not change suggesting that insofar as generational status is a reasonably valid of acculturation, it did not change the associations of family and parenting factors in adolescence on condom use in late adolescence/young adulthood.

Discussion

Racial/ethnic minorities bear a disproportionate burden of STDs and this is especially so for minority adolescents and young adults. Prior research consistently has demonstrated the protective effect of positive family relationships and parental control/monitoring of adolescent behaviors on reducing adolescent sexual risk taking (see review by Miller et al. 2001), and these benefits have been observed for minority as well as majority youth. Moreover, the cultures in which minority youth are embedded may serve to strengthen and prolong these protective effects beyond adolescence. We therefore asked whether these family and parenting factors would continue to protect these adolescents from engaging in risky sexual practices as they transition into late adolescence/early adulthood when they are becoming increasingly more independent and more are becoming sexually active. To avoid possible confounding of factors related to subcultural differences, we focused on Mexican Americans and Chinese Americans because they are the largest subgroups within the Latino and Asian American groups, respectively, in addition to African American and white youth. Taking advantage of a large, nationally representative, longitudinal dataset (the Add Health Study), we examined the association of four family and parenting factors—family support, parent–child closeness, parental control/monitoring, and parent–child communication about sex–assessed in adolescence with condom use in late adolescence/early adulthood. To the best of our knowledge, this is the first study to investigate this question. We also compared gender and racial/ethnic differences in condom use behaviors.

For the sample as a whole and consistent with previous research, family support in adolescence was significantly and positively related to condom use in later adolescence/early adulthood. Neither parent–child closeness nor parental control/monitoring was related to later condom use. However, the relationship between the parent–child closeness and family support scales ($r = .57$) may have accounted for the failure of the former to achieve statistical significance. This interpretation is supported by the fact that when the effect of parent–child closeness was estimated in the absence of the other family and parenting variables, it was significantly related to later condom use. Although the effects of family support and parent–child closeness were small, the findings reinforce the idea that interventions to strengthen parent–child bonds in adolescence may have a longer-term payoff as the youth transition into late adolescence/early adulthood.

Parent–child communication about sex in adolescence reduced the probability of being a consistent condom user in late adolescence/early adulthood. It seems unlikely that talking about sex would result in less condom use. Perhaps parents suspected that their adolescent children were already having sex, and began talking about sexual matters with the youth after the fact (Chen and Thompson 2007). Although the dominant white European American culture in the US encourages parents to discuss sexual matters with their children, such discussions may be discouraged or avoided in traditional cultures like Chinese American and Mexican American. In a recent study, for example, Asian American college students reported that they received little information from their parents regarding sexual matters; nonetheless, they somehow detected restrictive messages about sex, particularly if they were girls (Kim and Ward 2007). de Visser (2005) found that adolescents reported feeling uncomfortable and embarrassed when their parents discussed sexual matters with them. If so, these youth may be disinclined to obtain condoms for fear of embarrassment. Studies have shown low rates of parent–child communication about sexual matters among Latino families (Raffaeli and Green 2003). Moreover, a study of Latino college students showed that such communication was more likely among non-Mexican Latinos (Raffaeli and Green 2003), suggesting that there may be significant subcultural differences in communication patterns. Even in the dominant culture when parents wish to discuss sexual matters with their adolescent children, these desires are often not realized (Kim and Ward 2007), perhaps because such conversations are awkward at best. Clearly there are complexities regarding the relationship between parental communication about sex and adolescent sexual behaviors that need to be unraveled in future research to gain a better understanding of this relationship.

Consistent with our hypothesis, African American youth reported more consistent condom use than white youth. Contrary to expectations, however, neither Chinese Americans nor Mexican Americans were any less likely than white youth to be consistent condom users and this result held with or without controls for possible confounding variables. This is an encouraging finding and may reflect the recent trend toward younger people using

condoms more than older individuals (Reece et al. 2010), as well as increased education about STDs in schools, the widespread availability of low- or no-cost condoms, and the decrease in embarrassment obtaining condoms. Consistent with our hypothesis and with prior research (e.g., Reece et al. 2010), females used condoms less consistently than males. The greater proclivity of males to use condoms may reflect a gender role difference in which males are seen as responsible for condom use while females are seen as responsible for birth control. It may also derive in part from the difference in the complexity of the task for males and females; females who desire that condoms be used must negotiate or influence their partners to use condoms since most condom use is male-controlled, whereas males may simply use condoms if they wish.

Because we were unable to test the interactions of race/ethnicity and family and parenting factors on condom use due to some cell sizes being too small, we re-analyzed the data separately for each race/ethnicity. The results for the white sample paralleled that of the sample as a whole, no doubt because of the much larger numbers of white respondents in the sample. Contrary to our hypotheses, none of the family and parenting factors was related to condom use among African Americans, but consistent with our hypothesis males were more likely than females to use condoms. The failure of the family and parenting variables to predict later condom use among African Americans is not due to the lack of strong family bonds during adolescence, as our data show that such bonds (i.e., family support and parent–child closeness) were greater in this group than among either the white or Chinese Americans groups. Moreover, African Americans were more likely than the other groups to discuss sexual matters with their children. Rai et al. (2003) similarly found that parental monitoring did not influence condom use in their study of 6 cohorts of low-income African American youth. They suggest that monitoring can occur only if a parent is knowledgeable about his/her child's behaviors and associations, and that knowledge comes in part through effective parent–child communication. Future research examining this idea would be valuable as it has implications for parent interventions.

In the Chinese American sample, both parental control and parent–child communication about sex increased the probability of not using condoms (vs. using them inconsistently), results opposite those predicted and require further investigation. Given the restrictive norms about non-marital sexual activities and the hierarchical relationships in which children are expected to unquestionably obey their parents, it may be that as these youth transition to adulthood, they begin to engage in more and more behaviors that parents disapprove. Parents observing or suspecting these behaviors may become even more controlling in an effort to influence their children's behaviors. This may be especially likely in families in which there is an acculturation gap between parents and children. Such parents are likely to subscribe to traditional norms and expect obedience on the part of even their adult children, while their children may be becoming increasingly independent as they become more acculturated and transition into adulthood.

As in the full sample, being a Chinese American female reduced the probability of using condoms consistently. It may be particularly difficult for young women of Chinese heritage to successfully negotiate condom use because of the culture's reticence regarding discussion of sexual matters and because women are expected to assume a more submissive role. Studies designed to learn how best to help young Chinese American women successfully negotiate condom use would be an important step for solving this dilemma. Given the relatively small size of the Chinese American sample, these results should be interpreted with caution.

Among the Mexican American youth, parental control was the only family or parenting variable that distinguished consistent from inconsistent condom use, but this effect was only marginally significant and in the opposite direction to that predicted. Because Latino families impose strict controls over their children, especially with regard to romantic relationships, and perceive such relationships as having the potential to disgrace the family (Raffaeli and Ontai 2001), parents may try to impose even greater control over their adolescent children's behaviors as they see their children becoming more independent as they transition into late adolescence and early adulthood and more are becoming sexually active. Mexican American females were marginally less likely than males to use condoms consistently versus inconsistently. As with young Chinese American women, interventions to help Mexican American women negotiate condom use would be an important step for these young minority women to have greater control over their sexual and reproductive health. This is likely to be especially challenging because of religious taboos regarding birth control in Catholic cultures and the strong value placed on motherhood. A young woman who suggests condom use could be seen by her partner as having had other sexual relationships which is strongly disapproved of in Mexican American culture, or not desiring a pregnancy contrary to the importance of motherhood in Latino cultures.

We found that, across all four demographic groups, parents were more likely to discuss sexual matters with their daughters than with their sons. This finding is consistent with the double-standard for the sexual behaviors of girls versus boys that exist in many cultures. Moreover, the dishonor that a non-marital pregnancy or STD brings to Latino and Asian American families increases the costs of engaging in non-marital sex for women in these cultures

and likely provides a stronger incentive for parents to discuss such matters with their daughters. African Americans do not share this reluctance to talk about such matters, nor do they have as restrictive norms about non-marital sex. Because most African American families are female-headed, it may be that mothers are more acutely aware of the adverse consequences of sex for their daughters and therefore discuss such matters more with daughters than sons. It may also be more awkward for mothers to have such conversations with their sons. Research that elucidates effective ways for fathers to encourage sexual responsibility in their sons, as well as identifying ways that boys in female-headed households could be encouraged to be more sexually responsible, would be useful.

Latino and Asian American children are expected to live at home until they marry, and our data suggest that more racial/ethnic minority youth were living with their parents at Wave III than was true of white youth. To see if the relationships between the family or parenting variables and later condom use were affected by whether or not the emerging adult children were living at home at Wave III, we re-analyzed the data with this variable included as a control. The pattern of results was virtually the same, although the effects were slightly less strong. The correlations between living at home and the parenting variables were very low, ranging from .07 to .10. These analyses suggest that the family and parenting variables we examined were affected very little by whether or not the youth still resided at home.

Although the results suggest that some family and parenting factors assessed during adolescence continue to have a protective effect on sexual risk taking in late adolescence/early adulthood, these effects were modest in size and were found mostly in the white sample, contrary to expectation. This is a puzzling finding since we expected that family and parenting factors would have a stronger influence on condom use in the minority subgroups owing to their traditionally strong family ties. It may be that our measures of family factors, although reliable across groups, did not capture critical aspects of family life that protect youth from these cultures. In both the Chinese American and Mexican American samples, parental control seemed to have the opposite effect, and acculturation did not account for this finding, as might be expected. However, our measure of acculturation—generational status—may have been inadequate to capture this effect. Clearly, more research is needed to better understand the nature of parent–child relationships in these cultures and their influence on sexual risk-taking. Across all four demographic groups, males were more likely than females to use condoms consistently, a finding that underscores the need to identify interventions that help girls and women successfully negotiate condom use. And across all four demographic groups, parents were more likely to discuss sexual matters with their daughters than with their sons. Although this may have something to do with the lingering double standard for males and females regarding sexual behavior and the greater costs of sex borne by females, it may also reflect the reticence of mothers and their sons to have such potentially awkward conversations since the responsibility for having such conversations tends to fall to mothers even when fathers are present in the home. Clearly, there is a need for more research to better understand ways in which family and parenting factors protect adolescents as they transition into early adulthood, particularly in racial/ethnic minority cultures.

When interpreting the findings of this study, there are limitations that are important to note. The data are based on self-reports of sensitive behaviors (condom use) and may contain unknown biases. Parent–child communication about sex was reported by parents (mostly mothers). As adolescents' perceptions may be more likely to be associated with their own behaviors, it is critical to know how adolescents perceive the content and quality of their sex-related communication with parents. Our focus on condom use is an important aspect of sexual risk-taking, but other risky behaviors, such as multiple partners, are also important to examine. The size of the effects found tended to be small, although this is not surprising given the length of time between the measurement of family factors in adolescence and condom use in late adolescence/early adulthood. Differences between the subgroups in these analyses should not be interpreted as statistically significant differences, since we were unable to analyze interaction effects due to some cell sizes being too small. Despite these limitations, the Add Health data set is arguably the best data set available for examination of the relationships posed in this study. Its longitudinal design allowed us to measure family and parenting factors in adolescence and condom use for these same respondents in late adolescence/early adulthood. Moreover, the large, nationally representative sample with sizeable racial/ethnic subgroups enhances the generalizability of the results.

Since Arnett (2000) first developed the concept of emerging adulthood, a growing body of research has focused on this developmental period, yet there is much to be learned. This may be especially important for sexual behaviors not only because of the high rates of STDs in this age group but also because the age of first marriage is considerably older than has been the case in the recent past; the US Census (2010a) indicates that currently the age of first marriage for men is 28.2 and for women 26.1. Given that adolescents become sexually active on average at about age 16, this leaves 10–12 years during which many young people are unlikely to abstain from sex. Moreover, the longer the period between age at first sex and marriage,

the greater the likelihood of having more than one partner as relationships dissolve and are reformed. Thus, there is cause for concern about the sexual health of adolescents making the transition to adulthood, and this concern is heightened for racial/ethnic minorities who have borne the greater burden of STDs in US society. The current study suggests that there are complexities regarding the influence of family and parenting factors in adolescence on the sexual behaviors of these young people that future research should try to unravel so that effective prevention interventions can be implemented. Specifically, the influence of parental control/monitoring of adolescent behaviors and associations, and the nature of the effects for parent–child communication about sexual matters, are worthy of further investigation to determine why these variables seem to have a potentially negative impact on later risky sexual behaviors.

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Conflict of interest The authors declare that they have no conflict of interest.

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