Early Pubertal Timing, Race, and Girls' Orientation to Sex in Adolescence

Kimberly Daniels

Shannon Cavanagh

Population Research Center
The University of Texas at Austin
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Puberty is a time of qualitative change in the body. Because of the social values attached to the body, the female body especially, the significance of puberty extends beyond the physiological or biological for girls. Simply put, the appearance of adult characteristics is often linked with adult expectations of behavior (Graber, Petersen, & Brooks-Gunn, 1996). Thus, girls' transforming bodies signal their reproductive capacity, usher in a more sexualized image of the self, and elicit new expectations from others (Caspi et al., 1993; Martin, 1996). Puberty also marks the transition into the adolescent life stage.

As a unique moment in human development in which the biological, psychological, and sociological dimensions of young peoples' lives change in fundamental ways, puberty is a life course transition, a physiological change that also redefines social roles and brings about new expectations and obligations (Elder 1998). According to the life course perspective, the significance of such a transition is dependent, in part, on its timing. Indeed, ample evidence has documented that *early* pubertal transitions have implications for girls' emotional, social, and sexual development. Moreover, the salience of puberty and its implications for later development appear to vary across race and ethnic groups (Obeidallah, Brennan, Brooks-Gunn, Kindlon, and Earls, 2000; Cavanagh, 2004).

Building on previous work, this study employs a social psychological framework and advanced statistical techniques to examine the linkages among early pubertal timing, race and ethnicity, and sexuality among American girls. We do this by drawing on the life course perspective and sexual scripting theory, using a longitudinal sample drawn from the National Longitudinal Study of Adolescent Health (Add Health), and estimating a set of statistical models, including proportional hazard models. Specifically, we consider the association between early pubertal timing and the salience of social sanctions against sexual activity in adolescence and the

timing of first sexual intercourse. Overall, we expect that early maturing girls will report weaker commitments to social norms limiting sexual intercourse in adolescence as the earlier transition to the romantic role shapes the way these girls think about sex and romance. Moreover, using a proportional hazards model approach, we expect that early maturers will report an accelerated transition to sexual intercourse compared to their peers. Second, we expect that these linkages will vary by race and ethnicity, emphasizing how social, not biological, factors that shape girlhood, puberty, and sexuality in adolescence.

The Sociological Significance of Puberty

For girls, the typical sequence of pubertal change includes a growth spurt, weight gain, breast development and pubic hair growth, and the onset of menstruation or menarche (Marshall and Tanner 1969). Of these changes, menarche is the primary event around which girls organize and incorporate the myriad changes that define puberty (Koff, Rierdan, and Silverstone 1978; Martin 1996). These changes, however, extend beyond the physiological or biological. Along with important changes in the way girls understand themselves and are perceived by those in their immediate social world (Ge et al. 1996; Cavanagh 2004), puberty can represent girls' transitions into the romantic market (Lee 1994). Middle schoolers, of course, are not engaging in relationships similar to those of young adults or older teens (Meier and Allen 2009), and children can be sexualized well before puberty (Thorne and Lurie 1986). Still, puberty marks the moment when the cultural meanings, expectations, opportunities, and limitations of gender, sexuality, and romance become real for girls and boys and the moment when others—boys but also girls and adults—perceive girls as sexual actors, laying the foundation for opposite-sex relationships in adolescence and beyond (Brumberg 1998; Cavanagh 2010; Hirschman, Impett, and Schooler 2006; Simon and Gagnon 1986).

Puberty also occurs at a developmentally "dense" period in the life course. Not only must young people learn to incorporate the physiological, psychological, and social changes that puberty ushers in, this transition also overlaps with the transition to middle school, increases in academic pressures, and a rising significance of friendship and opposite sex relationships as a source of social support, social status, and socialization (Eccles and Midgely 1989; Eder, Parker, and Evans 1995; Brown 1999). At the same time, young people are granted more autonomy from parents and have more opportunities to engage in behaviors, proscribed or not, outside of the purview of adults (Collins 1984). Thus, puberty, and how young people make this transition in the context of other important social and institutional transitions, can have a cascading impact on a host of trajectories—academic, romantic, behavioral—that shape the early life course (Cavanagh 2010).

Early Pubertal Timing and Girls' Sexuality

The pubertal transition, then, is a life course transition (Elder 1998). According to the life course perspective, the significance of such a transition is dependent, in part, on its timing. Ample evidence has documented that *early* pubertal transitions have negative implications for girls' lives. Framed as a biosocial process, early pubertal timing is associated with compromised socioemotional adjustment and accelerated social development for girls. Some scholars suggest that this comes about through the *social* interpretation—by the girl as well as those around her—of the physiological changes of puberty (Stattin and Magnusson 1990). Specifically, early pubertal timing has three main consequences. First, early pubertal timing affects girls' perceptions of self. Early maturing girls are physically out-of-step with age mates at a developmental moment when both the body and social comparison increase in significance. Thus, early maturing girls perceive themselves as different and older (Ge et al. 1996; Stattin and

Magnusson 1990). Second, early pubertal timing is linked to girls' relationships with peers, as all—the girls, peers, and parents—attribute greater maturity to them than is warranted by their age. This is manifested in their friendship groups, with early maturers nominating more boys and older teens in their friendship group compared to girls who mature later (Cavanagh 2004; Haynie 2003). Finally, early maturing girls report higher levels of smoking, delinquency, drinking, and sexual activity compared with others. This comes about, in part, because early maturers are often embedded in social contexts that offer them opportunities to engage in these behaviors, without the socioemotional resources and parental supports they need to make healthier choices (Cavanagh 2004; Haynie 2003; Jessor and Jessor 1979).

Thus, an early pubertal transition can shape girls' lives during adolescence in important ways. One way to organize the associations between early pubertal timing and sexual behavior, and possibly other dimensions of well-being, is through sexual scripts and scripting theory, a theoretical approach that considers the interplay between macro- and micro-level processes on individual behavior (Simon and Gagnon 1987; Laumann et al. 1994). This theory argues that patterns of sexual activity are largely socially constructed, where attitudes and behaviors result from "…a reflective individual interacting socially with others, guided in part by a system of individually interpreted cultural instructions" about sex and romance (Laumann et al. 1996 p. 6). The cultural instruction or script that defines romance in adolescence for contemporary American girls is one in which girls progress through phases of romantic interactions and involvement that become increasingly more intimate and intense (Dunphy 1963; Brown 1999; Meier and Allen 2009). Intrapsychic scripts refer to girls' personal desires, fantasies, and intentions, scripts that vary, in part, by the degree to which girls' perceive themselves as potential sexual or romantic actors. Overall, we expect that early pubertal timing, and the

concomitant changes in the way they are viewed by others and themselves, can shape girls' intrapsychic scripts in early adolescence, increasing the likelihood that they view themselves as a sexual and romantic actor. This self-perception combined with the increased opportunities to engage in relationships can shape the ways that early maturers' interpret cultural scripts about romance and result in the increased salience of sex and romance during adolescence. It can also translate into a more accelerated transition to sexual debut. In other words, early pubertal timing accelerates girls' transition into the romantic (and sexual) market in adolescence.

We measure the transition to the romantic market with two indicators of sexuality: the salience of sexual intercourse norms about adolescent sex and timing of first sexual intercourse. The first dimension, the salience of sexual intercourse norms, taps the degree to which girls avoid sex because of anticipated negative reactions from parents and partners and their own feelings of guilt. In other words, these items capture how embarrassed young people might be about engaging in early sex. How embarrassed they might be does not necessarily mean they have internalized norms against sexual intercourse; rather, it captures the degree to which their view of sexual intimacy is shaped by what significant others think is appropriate (Mollborn 2008). We expect, by virtue of their earlier transition into puberty and the romantic role, early maturers will be less embarrassed about sex than others as they are less bound by existing social norms prohibiting sex and more influenced by the potential benefits (e.g., connectedness, social status) that sex and relationships might offer. We also expect that early maturing girls will report an accelerated transition to first sexual intercourse. Although attitudes and behaviors are often linked (Ajzen and Fishbein 1980), attitudes about sex and actual sexual behavior can be discordant. In other words, young people may report attitudes consistent with norms prohibiting early sex (i.e., higher levels of embarrassment) but still transition to first sex earlier than others.

Thus, we consider both as a way to provide a fuller picture of the link between early pubertal timing and adolescent sexuality.

Race and Ethnicity, Puberty, and Adolescent Sexuality

Up to this point, our discussion has implied that these linkages operate similarly for all young women. Yet, both the life course paradigm and scripting theory present a more nuanced exchange between social context and human behavior. Race and ethnicity are perhaps the most significant stratifiers in American society. Individual characteristics imbued with social meaning, race and ethnicity shape economic prospects, social opportunities, and general well-being (McLoyd 1990). They are also cultural contexts—with customs, rituals, opportunities, constraints, and interaction patterns—in which individuals live their lives (Bronfenbrenner 1986; McLoyd 1998). Thus, a girl's race and ethnicity are related to her physical traits but also to her social group. Social membership is profoundly significant for individual development (Johnson, Jaeger, Randolph, Cauce, Ward, & NICHD Early Child Care Research Network, 2003). In this way, race and ethnicity represent a developmental context through which the broader cultural scripts regarding adolescent sexuality are filtered to differentially shape girls' attitudes and behaviors about sex (Laumann et al. 1996).

Overall, we expect the linkages between pubertal timing and both dimensions of adolescent sexuality will vary across race and ethnic group. We draw on related literatures to support this hypothesis. Beginning with early puberty, race and ethnic differences in the timing of menarche have been identified, with African Americans typically reaching menarche earlier than Mexican Americans and Whites (Obeidallah, Brennan, Brooks-Gunn, Kindlon, & Earls, 2000; Zabin, Smith, Hirsch, & Hardy, 1986). Moreover, the literature on girls' experiences of physical changes at puberty also suggests race and ethnic differences in the implications of early

pubertal timing (Brumberg, 1997; Casper & Offer, 1990; Ge, Elder, Regnerus, & Cox, 2001). More specifically, Latinas and, especially, Whites react more negatively to body changes at puberty (Brumberg, 1997; Ge et al., 2001), while African Americans are better able to thwart the negative feelings that unattainable body images can instill (Milkie, 1999). These differences might reflect differences in girls' self-images. Alternatively, these differences might reflect differences in the social meaning or weight of puberty, regardless of timing, across social groups. Scholars suggest that African American girls are perceived as sexual regardless of age or physical development (hooks 1992; Fields 2008; Roberts 1997). Puberty, and its timing, then, may represent a less meaningful change in the way they and others perceive them and thus, a weak marker of the transition into the romantic market. Alternatively, White girls often benefit from a perceived innocence in childhood (Giroux 2000). An early pubertal transition, however, can chip away at this advantage, making the impact of an early transition more consequential for White girls. Less work has explored the significance of puberty and the body for Mexican American girls. We expect, however, that the salience of puberty will fall between that of White girls and African American girls.

Turning to adolescent sexuality, race and ethnic differences have also been established. For example, the normative timetable by which girls expect sexual, birth, and marital transitions to unfold is constructed differently by race and ethnicity, with Latinas perceiving the youngest desired age for marriage and age for first birth, African American girls perceiving the youngest desired age for sexual first intercourse, and Whites perceiving older ages for each (East, 1998). These timing differences are likely influenced by the prescribed norms within each group's social context, suggesting that the cultural script regarding adolescent sexuality is filtered through race and ethnicity (Coates, 1999; East, 1998; Hogan & Kitagawa, 1985).

At the same time, African American girls also transition to first sexual intercourse sooner than Whites (Miller, Norton, Curtis, Hill, Schvaneveldt, & Young, 1997; Upchurch, Levy-Storms, Sucoff, & Aneschenesel, 1998). In addition, as data that distinguishes generational status among Mexican Americans (and other ethnic groups) becomes available, an emerging literature suggests that immigrant youth experience better health and social adjustment and engage in fewer risk behaviors than their native-born counterparts, despite their higher likelihood of coming from poor families, having undereducated parents, and living in overcrowded housing (Harker 2001; Harris 1999; Hernandez 1999; Kao 1999; Mendoza and Dixon 1999). In terms of sex and fertility, third and later generation women are more likely to have a non-marital birth compared with first or second generation coethnics (Landale, Schoen, and Daniels 2010). Qualitative research on Mexican Americans also suggests that later generations of Mexican American women receive less traditional messages from family about sexuality and more emphasis on educational and career goals (Gonzalez-Lopez 2003). For these reasons, we distinguish between generation among Mexican Americans girls.

Together, this research suggests there are race and ethnic differences in pubertal timing and adolescent sexuality. Moreover, in earlier work with a more selective sample and less sophisticated techniques, Cavanagh (2004) found little impact of early pubertal timing on the transition to first sex among African American girls and a positive effect of early pubertal timing for Latina and especially Whites. We expect similar associations in this study, with the link between early puberty and adolescent sexuality stronger for Whites, followed by Mexican Americans, and then African Americans.

Data

The data are from the National Longitudinal Study of Adolescent Health (Add Health). Add Health is a nationally representative sample of U.S. students in grades 7 through 12 in 1994. The data include four waves of in-home interviews, which were conducted in 1995 (Wave I), 1996 (Wave II), 2001-02 (Wave III), and 2008 (Wave IV). The data for the present study are taken from Waves I, II, and III. We restrict our sample to female adolescents who are White, Black, or Mexican American, have a valid sample weight, are at least age 15 by Wave II, and in Waves I and III. Because questions that tap social norms about sex and sexual behavior were limited to respondents who were at least 15 years old at Waves I or II, we limited our sample to those at least 15 years of age by Wave II to ensure all had an opportunity to answer these items. The restriction for respondents being in Wave III is a result of our focus on predicting sexual debut since we take the reports of age at first sex from Wave III. Past research cites difficulties making generalizations for Hispanics due to heterogeneity among this group, so this analysis focuses on Mexican Americans (Bean and Tienda 1987; Landale and Oropesa 2007). Our analytical sample is 5,576 adolescent females.

Measures

Level of embarrassment, our first outcome, is an index of items representing the salience of social norms prohibiting sexual intercourse. Results from a factor analysis suggested that the following three items hang together: "If you had sexual intercourse…your partner would lose respect for you, afterward you would feel guilty, and it would upset your mother." The response categories for each item were strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree. These items were summed, with higher scores indicting more embarrassment about sexual activity in adolescence. A second scale based on the items that tapped the degree to which girls might be motivated to engage in sex (If you had sexual intercourse…it would give

you a great deal of physical pleasure, it would make you more attractive to the opposite sex, and you would feel less lonely) was also identified in the factor analysis. Preliminary analyses, however, found no association between pubertal timing and this index.

The second outcome is the *timing of sexual debut*. In Wave 3, respondents are asked whether or not they have ever had sexual intercourse. If they have, they were asked to report their age at the time of first sex. We constructed a measure of the duration or time until first sex measured in whole years from age 12. For respondents who indicate they have not had sex, the value for this measure is the duration from age 12 until Wave 3.

Self-reported age at menarche, measured in whole years at Wave I, served as a proxy for *early pubertal timing*. Early maturing girls were those who reached menarche before age 12. Overall, about 32% were early maturing (1) on-time and later maturing girls reached menarche at or after age 12 (0).

Our models also include a set of individual and family level control variables. In all models, race/ethnicity, age, maternal education, family income, family structure, the respondent's report of how close they are with their mother, and grades, all measured at Wave I, were included. Race/ethnicity was coded as White, Black, and Mexican American. Mexican American girls were categorized into first or second generation and third and higher generations. The first generation is defined as the foreign born, the second generation as the native born of foreign parentage (one or both parents foreign born), and the third generation as the native born of native parentage. Due to the sample sizes limitations, we grouped first and second generation girls together. Our measure of third generation captured respondents who are third and higher generations. These items were used in interaction models to determine whether the links between early pubertal timing and adolescent sexuality varied by race and ethnicity.

Maternal education was taken from the parent reports at Wave 1; adolescent reports of maternal education were used only if the parental report were not available. The variables indicate a less than high school (reference), high school, some college, and college education. Family income was taken from the parental reports at Wave I and indicated household income in thousands of dollars. Family structure at Wave I is captured with four indicators: two biological parent family (reference), a two-parent family that does not include both biological parents, a single mother family, and all other family structures. We measure the respondent's report of their closeness to their mother with and index of three items (alpha=.87). Respondents were asked: "Most of the time, your mother is warm and loving to you," "You are satisfied with the way your mother and you communicate with each other," and "Overall, you are satisfied with your relationship with your mother." Responses were strongly agree, agree, neither agree or disagree, disagree, and strongly disagree. Higher scores were coded to reflect greater closeness. The measure of grades at Wave I ranged from 0 to 4 and was an average of students' reports of their most recent grades in math, English, science, and history. Finally, models predicting the salience of social control norms also included a control for whether the respondent had sex before Wave I.

Analytic Strategy

The first step in our analyses explores the main effect of early pubertal timing on the salience of social control norms around sex and the timing of sexual debut. To predict the salience of social control norms, we use linear regression models. To estimate the degree to which early pubertal timing accelerated the transition to first sex, we employed Cox proportional hazards models. For both outcomes, we employed an additive modeling technique. Although our goal was not to examine how other characteristics mediated the early pubertal timing and

adolescent sexuality link, this strategy allowed us to evaluate the effects of the predictor variables separately. For each outcome, Model 1 included early pubertal timing, race/ethnicity and generational status, and age at Wave I. Model 2 added maternal education, family structure, family income, and the respondent's report of maternal closeness, and grades at Wave 1. In the model predicting the salience of social control norms on sex, the indicator tapping whether the respondent transitioned to sexual intercourse before Wave I was also included. Model 3 included the interaction terms between early pubertal timing and race/ethnicity.

We used SAS Proc MI with five imputations to repair missing data. We analyzed the data using the survey commands in SAS to obtain correct estimates and standard errors for the complex sampling design. In all analyses, the data are weighted by the longitudinal weight appropriate for analyses based on data from Waves I and III. The models predicting the timing of sexual debut were run in STATA using the stcox command using one imputed dataset.

Results

Table 1 presents the descriptive results for the sample. As noted above, about a third of the sample reported an early pubertal transition. The average on the embarrassment scale was about 10. More than 40% of the sample reported having sex by the time of Wave I. This proportion is high but recall that our selection criteria limited the analysis to girls at least age 15 or older at Wave I. The majority of the sample was White (73.8%). The average GPA at Wave I was about 2.88. Just over half of the girls grew up in a two-biological parent household (53.1%). The modal category for maternal education was high school and the mean family income at Wave I was $50,443.

[Table 1 about here]

Next we consider the bivariate association between early pubertal timing and the level of embarrassment and timing to first sexual intercourse. Early maturing girls reported lower levels of embarrassment regarding early sex, suggesting that the salience of norms regarding early sex was lower compared with later maturing girls. Race differences were also detected. Compared to White girls, African American girls reported less embarrassment and first and second generation Mexicans report higher levels of embarrassment. No significant differences were detected between Whites and third and later generation Mexican Americans. Turning to the timing of sexual debut, early pubertal timing sped up the transition to first sex. Compared to Whites, Black girls transitioned somewhat earlier and first and second generation Mexican Americans transitioned significantly later. Again, no statistically significant difference is found between White and third generation Mexican American girls.

[Table 2 about here]

Next, multivariate analyses explored the focal association between early pubertal timing and girls' embarrassment, net of individual and family characteristics (see Table 3). Findings from Model 1 suggest that early pubertal timing decreased girls' embarrassment about sex in adolescence compared with other girls. Model 2 included family background characteristics and girls' grades and sexual activity at Wave 1. Once individual level factors like grades and sexual experience were taken into account, the link between early pubertal timing and reports of embarrassment were only marginally significant. The final model included the interaction terms between early pubertal timing and race/ethnicity. As illustrated in Figure 1, the link between early pubertal timing and girls' reports of embarrassment varied by race and ethnicity. For both Whites and 1st and 2nd generation Mexican American girls, being an early maturer decreased

feelings of embarrassment about sexual intercourse compared with their later maturing peers. Conversely, for Black girls and 3rd plus generation Mexican American girls, being an early maturer actually increased their reports of the salience of social control norms about sex. These differences reached statistical significance for all but 3rd plus generation Mexican Americans.

[Table 3 about here]

[Figure 1 about here]

Table 4 displays results from proportional hazards models predicting the timing of sexual debut. Model 1 controlled for race and ethnicity and age at Wave 1. The inclusion of these variables did little to change the strength of the focal relationship. Model 2 included individual and family-level characteristics. Pubertal timing remained significantly associated with the timing of first sex. Model 3 included interaction terms between early pubertal timing and race/ethnicity and generational status for Mexican Americans. Consistent with expectations, race and ethnicity moderated these links. For Whites and Mexican American girls, regardless of generational status, early pubertal timing accelerated their transition to first sex relative to their later maturing counterparts. The impact for Whites and 3rd plus generation girls was especially pronounced. For Black girls, however, pubertal timing did not condition this link. In other words, early maturing Blacks transitioned to first sex in a similar way as later maturing Blacks.

[Table 4 about here]

Conclusion

The connections among the transition to adolescence, adolescent sexuality, and race and ethnicity provide a clear illustration of the central imagery of the life course perspective—the interlocking nature of biological and social trajectories, embedded in social structure, that make up individual lives. Here, we focused on the links between key markers of these transitions:

pubertal timing during the transition to adolescence and attitudes or orientations to adolescent sexuality and sexual debut. In doing so, we drew on sexual scripts theory to help elucidate why an early transition might have a cascading effect on girls' sexual lives. Three themes emerged.

First, early pubertal timing shapes both the ways girls think about sex and their timing of sexual debut. Although the link between early pubertal timing and sexual activity has been established, this study incorporated a proxy about how girls' think about sex during adolescence. To the extent that early puberty reflects, for some, a fundamental shift in orientation and behaviors, understanding the ways this change plays out in terms of how young people think about sex is an important contribution. We capture girls' embarrassment at age 15 or higher, when nearly half have already transitioned to sexual intercourse. A better test of why puberty matters might be to explore how pubertal development intersects with the development of romance identity among girls in elementary school, examining whether pubertal timing represents a critical transition point for girls. Although such data are not included in Add Health, the NICHD Study of Early Child Care and Youth Development, a prospective cohort study that follows young people from birth through high school graduation, includes state-of-the-art measures of romantic interest and involvement across elementary, middle and high school and state-of-the-art measures of pubertal development beginning at age 8(Belsky et al. 2010). This is an ideal study to explore whether and when the romantic transition is manifested in early maturing girls' lives.

We also find very good evidence that early pubertal timing accelerates the transition to sexual intercourse. Although these findings are consistent with previous research with Add Health data (Cavanagh 2004), our study does uses a less selective sample and more sophisticated modeling techniques to capture the association. These findings, together with the ones described

above, highlight our thesis that early puberty represents a transition to the romantic market. A transition that, based on our findings related to girls' romantic involvement (Cavanagh 2010) and academic careers (Cavanagh, Riegle-Crumb, and Crosnoe 2007), can have a meaningful and cascading impact on young women's lives in adolescence and beyond.

By incorporating puberty into our understanding of adolescent sexuality in a theoretically informed way, this study also broadens the way sociologists typically think about adolescent sexuality. Consistent with guiding theories of adolescent development and sexuality, scholars often emphasize the individual characteristics like academic achievement or socioemotional resources or family-level characteristics like family structure and social class. Yet, the body—how girls' relate to it and are perceived physically by others—is also related to human development in general and sexuality in particular. Pursuing aspects of the body, by itself and with individual and family level characteristics, provides a more complete picture of adolescent sexuality.

The second theme relates to the significance of race and ethnicity and the pubertal transition. Consistent with our expectations, the pubertal timing and adolescent sexuality link was present for Whites and Mexican Americans but was not significant for African American girls. These differences suggest a couple of things: First, because it varies across groups, the implications of early pubertal timing are more than a result of a biological process. We conceptualize the association between pubertal timing and adolescent sexuality as a *social* phenomenon. In other words, the social interpretation of early pubertal timing is what can be disruptive for girls and can shape their development across the early life course. Moreover, we conceptualize the way young people think about sex and the timing of their sexual debut as a function of social processes, not biological impulses (Laumann et al. 1994).

Others, however, might argue that the link is spurious, with hormones or evolutionary impulses driving both girls' pubertal timing and their sexual behaviors. Beginning with the hormone argument, to the extent that researchers have had both hormone and social data on young women, early pubertal timing remained linked to outcomes of interest for girls (Udry 1988; Graber and Sontag 2006). The persistence of the pubertal timing effect suggests that the social side of puberty is substantial and important for girls' development. Alternatively, evolutionary psychologists offer another interpretation (Belsky et al. 2009; Belsky, Steinberg and Draper 1991; Ellis 2004). Specifically, they view the link between early pubertal development and earlier transitions to first sexual is a function of young women's biological imperative to meet reproductive ideals, an imperative magnified by early environmental stress that drives early pubertal timing (Belsky et al. 2009; Ellis 2004). As parsimonious as this model of human behavior is, we argue that its guiding assumption that sexual expression is largely a function of individual-level responses is not supported in the broader sociological literature (Laumann et al. 1994; Gagnon and Simon 1987).

Additional, the observed moderation effect suggests that the salience of puberty for girls' intrapsychic scripts and interpretation of cultural scenarios about sex, gender, and the romantic market may not be universal for all girls. In other words, whether girls are viewed as players in the romantic market following the onset of puberty maybe contingent, in part, on whether they were perceived as 'innocent' or 'not sexual' before their transition to adolescence. Culture theorists argue that the salience of the female body—its shape, size, the degree to which it is perceived as sexual—varies by race (Macpherson 2004; Roberts 1997). These differences can be especially pronounced among girls in childhood and adolescence and help us explain differences between white and Black girls. White girls, on one hand, are more likely to be perceived as

innocent through childhood and into adolescence. Black girls, on the other hand, tend not to benefit from this perception and are more likely to be sexualized regardless of age or degree of physical development (hooks 1992; Roberts 1997; Fields 2008). Thus, for White girls, early puberty "disrupts" innocence, alters intrapsychic scripts, and represents an important marker of their entry into the romantic market. For Black girls, pubertal timing makes little difference to they way they behavior in the romantic market.

But what about Mexican American girls, how do they fit into this framework for understanding the interplay among the body, privilege and sexuality? Beginning with the salience of social control norms, first and second generation girls reported higher levels of embarrassment overall and looked more like White girls in terms of how early pubertal timing chipped away at the extent to which they worried about parental or partner disapproval or feelings of guilt. Conversely, third plus generation Mexican Americans looked more like African Americans in terms of reporting embarrassment and in the way puberty moderated this link. This suggests, for children of immigrants at least, early puberty can disrupt "innocence" and change the way others view them and the way they view adolescent sexuality. The same was not true for third plus generation Mexican American girls. Turning to the timing of first sex, Mexican Americans looked more like Whites in terms of the puberty-sexual debut link. Early puberty may not have shaped they way they think about sex but it did accelerate their transition to sexual debut. These associations need to be fleshed out further but do provide clues to the way girlhood, romance and the body are constructed among Mexican American girls.

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Table 1. Descriptive Statistics (n=5,576)

	Percent	Mean
Social control motivations to avoid sex (3-15)		10.2
Age at sexual debut		16.3
Early Pubertal Timing	31.9	31.9
Individual Characteristics		
Race/ethnicity		
White	73.8	
Black	19.0	
1ar and 2nd Generation Mexican Americans	4.4	
Third+ Generation Mexican Americans	2.8	
Age at Wave 1		15.8
Grades		2.88
Sex by Wave 1	44.1	
Family Background Characteristics		
Maternal education		
Less than high school	17.2	
High school	43.7	
Some college	17.4	
College	21.6	
Income		50,443
Family Structure		
Two biological parent family	53.1	
Other two parent family	17.0	
Single mother	21.3	
Other family structure	8.6	
Closeness to mother		12.3

Table 2. Bivariate Associations between Key Analytic Variables and Dimensions of Adolescent Sexuality

	Level of Embarassment (OLS estimates)	Time to Sexual Debut (Hazard ratios)
Early Pubertal Timing	-.26*	1.18***
Individual Characteristics		
Race/ethnicity		
White	.---	.---
Black	-.34*	1.12†
1st and 2nd Generation Mexican Americans	.69**	.69**
Third+ Generation Mexican Americans	-.05	.97
Age at Wave 1	-.20***	.93***
Grades	.46***	.77***
Sex by Wave 1	-1.88***	
Family Background Characteristics		
Maternal Education		
Less than HS	.---	.---
HS	-.14	1.10
Some College	.07	1.00
College	.23	.80**
Income	.00	.99**
Family Structure		
Two parent Bio	.---	.---
Two parent non-bio	-.58***	1.50***
Single Mother	-.81***	1.39***
Other family Structure	-.29	1.53***
Closeness to mother	.08***	.96***

† p<.10 * p<.05; ** p<.01; *** p<.001

Table 3. Ordinary Least Squared Regression Models Predicting Embarrassment about Sex in Adolescence

	Model 1	Model 2	Model 3
Early Pubertal Timing	-.36***	-.19†	-.34**
Individual Level Characteristics			
Race/ethnicity			
White	.---	.---	.---
Black	-.28*	.07	-.10
1st and 2nd Generation Mexican Americans	.74**	.44†	.14
Third+ Generation Mexican Americans	-.11	.04	-.11
Age at Wave 1	-.25***	-.08	-.08
Grades		.23**	.22**
Sex by Wave 1		-1.69***	-1.70***
Family Background Characteristics			
Maternal Education			
Less than HS		.---	.---
HS		-.05	-.05
Some College		.15	.14
College		.07	.05
Income		-.00†	-.00†
Family Structure			
Two parent Bio		.---	.---
Two parent non-bio		-.27*	-.26*
Single Mother		-.53***	-.53***
Other family Structure		.30†	.30†
Closeness to mother		.01	.01
Interactions			
White*Early			.---
Black*Early			.46*
1st and 2nd Gen. Mexican American*Early			.82*
3+ Gen. Mexican American*Early			.42
Intercept	14.28	11.59	11.67

† p<.10 * p<.05; ** p<.01; *** p<.001

Pubertal timing, race/ethnicity, and reports of embarassment

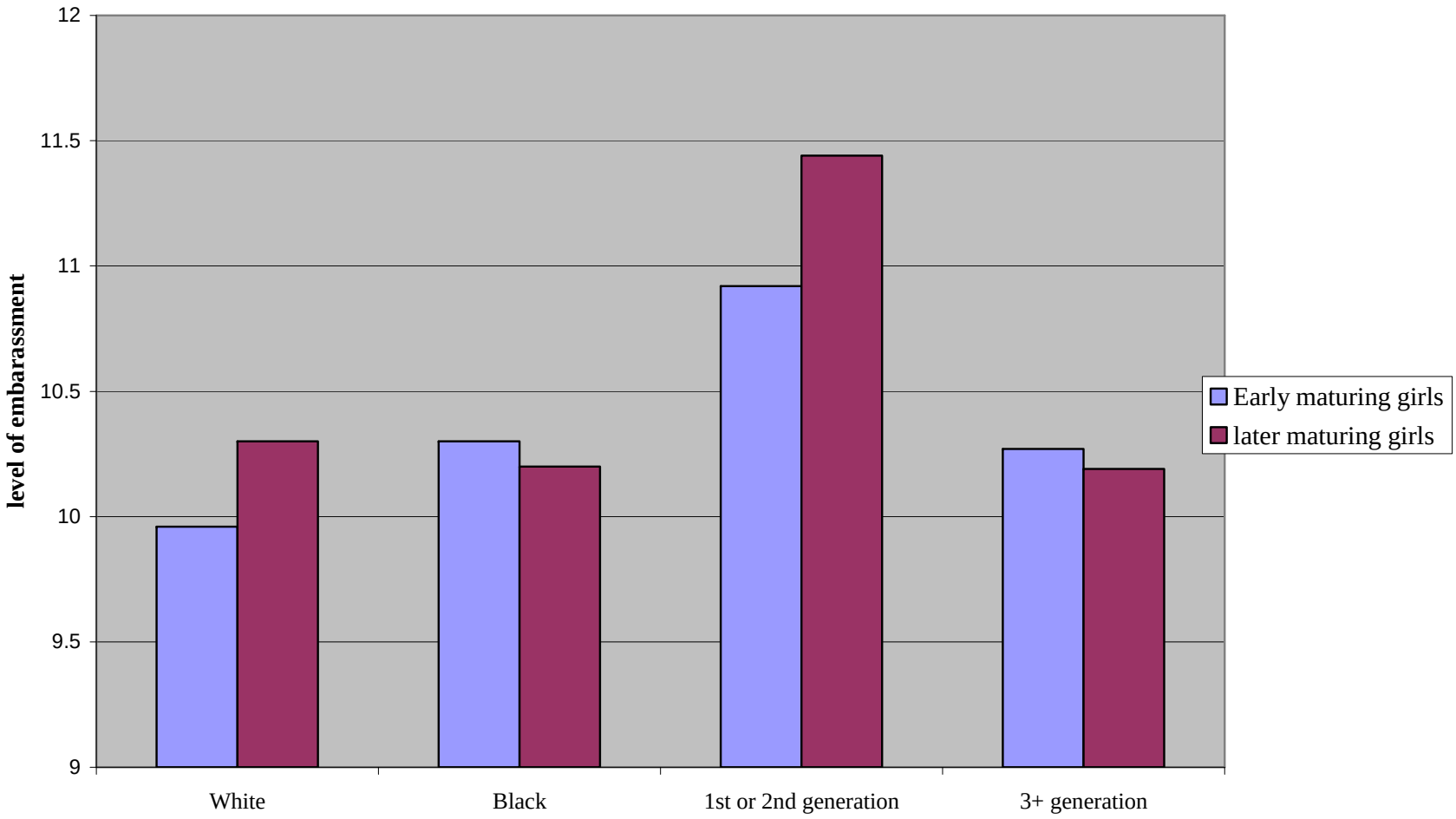

Table 4. Hazard Ratios from Cox Proportional Hazard Models of Sexual Debut (n=5,576)

	Model 1	Model 2	Model 3
Early Pubertal Timing	1.15***	1.10*	1.09†
Individual level characteristics			
Race/ethnicity			
White	.---	.---	.---
Black	1.11*	.94	.97
1st and 2nd Generation Mexican Americans	.69**	.62***	.58
Third+ Generation Mexican Americans	.97	.84	.68
Age at Wave 1	.94***	.92***	.92
Grades		.81***	.81***
Family Background Characteristics			
Maternal education			
Less than HS		.---	.---
HS		1.05	1.05
Some College		.96	.95
College		.84*	.84
Income		1.00	1.00
Family Structure			
Two parent Bio		.---	.---
Two parent non-bio		1.39***	1.39***
Single Mother		1.29***	1.29***
Other family Structure		1.49***	1.48***
Closeness to mother		.96***	.96***
Interactions			
White*Early			.---
Black*Early			.91
1st and 2nd Gen. Mexican American*Early			1.21
3+ Gen. Mexican American*Early			1.99***

† p<.10 * p<.05; ** p<.01; *** p<.001