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The Younger Siblings of Teenage Mothers: A Follow-Up of Their Pregnancy Risk

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Abstract

This study followed 243 younger brothers and younger sisters of parenting teens and nonparenting teens across a 1.5-year period. The average age of siblings was 13.6 years at Time 1 and 15 years at Time 2. Relative to other youths, the sisters of parenting teens exhibited a sharp increase in drug and alcohol use and partying behavior across time and had the highest pregnancy rate at Time 2 (15%). The siblings of parenting teens spent 10 hr a week caring for their sisters' children, and, for girls, many hours of child care was associated with negative outcomes including permissive sexual behavior. Findings suggest that the younger sisters of parenting teens are at very high risk of early pregnancy and that this risk becomes increasingly pronounced across time.

Numerous reports have documented that the sisters of teenage mothers have adolescent childbearing rates 2 to 6 times higher than women in the general population depending on the comparison group used (Cox, Emans, & Bithoney, 1993; Friede et al., 1986; Hogan & Kitagawa, 1985; reviewed in East & Felice, 1992). The sisters of teenage mothers have also been shown to be younger at first pregnancy (Cox et al., 1993), younger at sexual onset (Hogan & Kitagawa, 1985), and more likely to have had sexual intercourse during early adolescence (East, 1996b; East, Felice, & Morgan, 1993) than girls of comparable race and socioeconomic status.

Although these studies clearly point to an increased pregnancy risk among the sisters of childbearing teens, they do not address at what point in development these sisters begin to show an increased vulnerability to early pregnancy and which behaviors emerge as indicative of high pregnancy risk. In addition, very little attention has been paid to the likelihood of the brothers of teenage mothers causing a pregnancy during adolescence. Are brothers of teenage mothers more likely to father a child as a teen than other boys their same age, race, and socioeconomic status? If so, at what age is this likelihood apparent and which specific behaviors emerge as risk factors for teen fatherhood for boys? Previous research has also not addressed whether the sisters of childbearing teens are at higher risk for adolescent parenthood than the brothers of childbearing teens. Girls may be more strongly and more negatively affected by a sister's teenage pregnancy than boys because of stronger within-gender modeling and identification processes (Bandura, 1977; Bank & Kahn, 1982). For example, compared with boys, girls would be more likely to identify with their sister's role as mother. Girls may also feel more competitive and jealous of a childbearing sister because the sister has done something that they are also presumably capable of but have not yet done (East, 1996a; East & Shi, 1997). This competitiveness may incite the sisters of childbearing

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teens to also have a baby, whereas it may not be present for or relevant to the brothers of childbearing teens.

The current study addressed these issues by studying a sample of younger brothers and younger sisters of parenting and nonparenting teens. Siblings were assessed twice 1.5 years apart, or when youths were, on average, 13.6 years of age ($SD = 1.7$; range = 11–16) and approximately 15 years of age ($SD = 1.9$; range = 12–17). The younger siblings of parenting teens were compared with the younger siblings of nonparenting teens along a number of attitudinal and behavioral characteristics at both times of assessment, and all younger siblings were contrasted across time to indicate how each group had changed with age. Previous reports using the current data set have already shown that, at Time 1, the younger siblings of pregnant and parenting teens possessed particular psychosocial characteristics known to correlate with early fertility (e.g., greater acceptance of teenage childbearing, higher levels of problem behavior, more sexual behavior) relative to the younger siblings of never-pregnant teens (matched for age, race, and a number of family economic indicators; East, 1996a). The current study follows up this sample 1.5 years later. It was expected that, at this later age, the younger siblings of teenage mothers would depart more dramatically from the younger siblings of nonparenting teens in terms of more deviant pregnancy risk behaviors and more actual pregnancies.

This study also sought to determine how the time siblings spent caring for their sisters' infants might impact siblings' development. Younger siblings often participate in the care of their teenage sisters' children out of social and economic necessity (Burton, 1995; C. W. Williams, 1991). Within teenage childbearing families, child-care assistance provided by early adolescent younger siblings may be favored over other strategies because it makes the best use of available family personnel and because it fosters child-care skills and parent training for siblings who will someday assume parenting responsibilities for their own children. It has been suggested that younger siblings' participation in the care of their teenage sisters' children socializes them for early parenthood and is one pathway through which younger siblings become vulnerable to early pregnancy (East, 1998b). Burton (1995, 1996a, 1996b) and C. W. Williams have also noted that, within African American teenage parenting families, girls' preparation for motherhood often takes place early in life by caring for an older sister's child.

The effects of child caretaking within teenage childbearing families for younger siblings' development has been a largely neglected area of study. Researchers who study caregiving of older siblings to their younger siblings have reported that sibling caretakers gain a sense of competence in their caregiving role and learn to balance their self-concerns with the needs of others (Chase-Lansdale, Wakschlag, & Brooks-Gunn, 1995; Dunn & Kendrick, 1982; Weisner, 1982, 1987; Zukow-Goldring, 1995). However, other research on the after school child care provided by siblings indicates that adolescent children who care for their younger siblings experience more externalizing behaviors and have greater difficulty in school than adolescents who are not responsible for their siblings' after school care (Marshall et al., 1997; Pettine & Rosen, 1998). Whether these effects of sibling caretaking are present for the siblings of teenage childbearers is not known. If sibling caretaking provides an apprenticeship for parenting, perhaps the perceived child-care competence gained by younger siblings leads them to minimize the hardships involved in early parenting and become less diligent in pregnancy prevention. It is also possible that such child care interferes with siblings' time spent on homework or hinders their involvement in school activities (Zukow-Goldring, 1995).

The current study examined the associations between younger siblings' involvement in the care of their sisters' children and younger siblings' childbearing attitudes, schooling

expectations, school grades, and problem behaviors. The mean age of older sisters' children at Time 2 (when siblings' child-care involvement was assessed) was 15 months ($SD = 1.9$). It was expected that high involvement in their sister's child's care would be associated with younger siblings' permissive childbearing attitudes; pessimistic school aspirations; poor school grades; and school problems, such as truancy. It is also possible, however, that participation in their sister's child's care would act as a pregnancy prevention tactic, making younger siblings more aware of all of the responsibilities involved in parenting one's own child. If this were the case, high child-care involvement would be associated with conservative attitudes about early parenting and perceptions that early parenting is problematic. Because this is a new area of study and this issue had not been previously investigated, both expectations appeared plausible.

Method

Participants

The original sample involved 309 younger siblings of first-time pregnant, parenting, or never-pregnant teens (163 younger sisters and 146 younger brothers). Younger siblings were eligible for the study only if the following criteria were met: (a) they were between 11 and 16 years of age and had never been pregnant; (b) they had an older sister who was between the ages of 15 and 19 who had either never been pregnant, was pregnant for the first time (and was intending to continue with the pregnancy and parent her child), or had delivered her first child not longer than 6 months previously and had kept her child; (c) the older sister was either a full biological sister or half-sister to the younger sibling; (d) both siblings were currently living together and had lived together for at least the past 5 years; and (e) no other child within the family had become pregnant or fathered a child as a teen. All eligible younger siblings within a family were invited to participate in the study.

Younger siblings were recruited by first identifying eligible older sisters. Primigravida and primiparous older sisters were recruited from a university hospital Teen Obstetric Clinic (35% of younger siblings) and four surrounding Planned Parenthood clinics (24% of younger siblings) and by a snowball sampling technique of asking current participants for recommendations of families who might qualify for the study (41% of younger siblings). Older sister's pregnancy or parenting status was verified by older sister report and medical chart review at Time 1 (when available) and again at Time 2 by older sister report (when available) or younger sibling or mother report. Never-pregnant older sisters were recruited from the university hospital's Adolescent Medicine Clinic (28% of younger siblings), from the same four local Planned Parenthood clinics used to recruit the pregnant and parenting teens (16% of younger siblings), and by participant recommendation (56% of younger siblings). All recruitment sites were located within the same urban area within San Diego; thus, the younger siblings of pregnant, parenting, and never-pregnant teens were recruited from roughly the same neighborhoods. The university clinics are part of an inner-city teaching hospital and do not generally serve university students or the families of university faculty but, rather, serve predominately low-income, inner-city youth of color. The families recruited through the various sites did not differ in age or race-ethnicity of the older or younger siblings. Approximately 90% of all eligible families invited to participate did so.

At Time 2, 283 younger siblings, or 92% of the original sample, could be located and were reinterviewed. For 19 of these younger siblings, their older sister was never pregnant at Time 1 but had gotten pregnant prior to the Time 2 assessment; for 16 younger siblings, the target older sister was never pregnant at Time 1, but another sibling had gotten pregnant as a teen prior to Time 2; and 5 younger siblings had lost contact with their older sister and did not know of her parenting status. All of these younger siblings were omitted from the Time 2 analyses, so that the final sample at Time 2 was made up of 243 younger siblings, or 123

siblings of parenting teens and 120 siblings of never-pregnant teens. The younger siblings who participated at Time 2 did not differ significantly from the younger siblings who did not participate at Time 2 in background demographic characteristics (e.g., age, race, family income, mothers' educational level) or adjustment indicators. Of the 146 younger siblings whose older sister was pregnant or parenting at Time 1, 17 older sisters had become pregnant again by Time 2 (12% of the original group). At Time 1, 67% of younger siblings were Hispanic and 33% were African American. The younger siblings of pregnant or parenting teens and the younger siblings of never-pregnant teens did not differ in age or racial-ethnic composition at Time 1 or Time 2.

The average annual family income of the total sample at Time 1 was \$16,500, with the families of pregnant and parenting teens (\$14,303) earning significantly less than the families of never-pregnant teens (\$18,280), $t(173) = 2.88, p < .01$. Seventy-eight percent of the sample had at one time received Aid to Families With Dependent Children (AFDC), and 64% of study families were receiving AFDC at Time 1. Significantly more pregnant and parenting families had ever received welfare (96%) than had never-pregnant families (63%), $\chi^2(N = 174) = 47.13, p < .001$, and significantly more pregnant and parenting families were receiving welfare at Time 1 (76%) than were never-pregnant families (46%), $\chi^2(N = 174) = 21.36, p < .001$. The average family size was four children per family, and 47% of study families were mother-only households. Family size and the percentage of single-mother families did not differ for teen parenting or nonparenting families. Parents' mean educational level was the 10th grade, with teen parenting and nonparenting families having similar parental educational attainment.

Procedure

All participating younger siblings were home-visited at Time 1 and Time 2 by a female research assistant who was bilingual in English and Spanish. The younger siblings completed a short interview and a self-administered questionnaire, both in English, in a room separate from the rest of the family to provide for as much privacy as possible. The home visit at both Times 1 and 2 lasted about 1 hr. All participants were paid \$10 each for their participation, and all participants were assured of the confidentiality of their responses.

Measures

The questionnaire assessed many areas of siblings' attitudes, expectations, and behaviors. The questionnaire contained 193 questions, with several skip patterns so that most participants did not complete all questions. The questionnaire had a 4.6-grade reading level. The scales that constitute the outcome variables can be grouped into the following five domains: (a) perceived mothers' parenting, (b) sexual and childbearing attitudes and expectations, (c) school aspirations and self-esteem, (d) problem behaviors, and (e) sexual behavior and pregnancy. Participants' pubertal development and family background characteristics were also assessed and used as covariates in the analyses (described further below). All questions contained on the Time 2 questionnaire were asked at Time 1, and the scales consisted of the identical items at Times 1 and 2.

Perceived mothers' parenting—Siblings' perceptions of their mothers' strictness and their mothers' monitoring were assessed by four and five items, respectively. An exemplar item for perceived mothers' strictness is "How strict is your mother with you?" with response options ranging from 1 (*not strict at all*) to 5 (*very strict*). The Cronbach's alpha of these items was .80 at Time 1 and .73 at Time 2. Perceived maternal monitoring items asked siblings how much they thought their mothers really knew about their friends, how they spend their money, what they do after school, where they go at night when they go out, and what they do with their free time. Response options ranged from 1 (*doesn't know at all*) to 5

(*knows a lot*). This scale has shown good concurrent validity with other parenting dimensions (e.g., parental emphasis on achievement, joint parent-adolescent decision making; Brown, Mounts, Lamborn, & Steinberg, 1993) and yielded a Cronbach's alpha of .80 in a separate study using a 3-point response option set to these items (Brown et al., 1993). The Cronbach's alpha of these items using the current sample was .85 at Time 1 and .83 at Time 2.

Siblings were also asked four questions about their parents' approval or disapproval if they were to have an early childbearing (e.g., "Would your parents approve or disapprove if you had a baby while still in high school?"). Response options ranged from 1 (*disapprove*) to 5 (*approve*). The Cronbach's alpha of these items was .88 at Time 1 and .89 at Time 2.

Sexual and childbearing attitudes and expectations—Siblings responded to items that asked about their acceptance of teenage sex (four items: e.g., "What is your attitude about teenagers having sexual intercourse before they get married?"), their acceptance of teenage childbearing (five items: e.g., "It is okay for teenagers to have children"), and their acceptance of nonmarital childbearing (four items: e.g., "People should wait until they are married to have children"). Response options ranged from 1 to 5, with high scores indicating an acceptance of teenage sex, teenage childbearing, and nonmarital childbearing. The Cronbach's alphas of these scales were .80, .70, and .76 (respectively) at Time 1 and .79, .77, and .75 (respectively) at Time 2.

Siblings were also asked about their perceptions of the status or importance brought about by childbearing (six items: e.g., "Having a baby makes you an important person in the community and neighborhood") and about their perceptions of the problems incurred from teenage childbearing (five items: e.g., "If you had a baby as a teenager, how would it affect the chances of you finishing high school?"). Response options ranged from 1 to 5, with high scores indicating perceptions that high status was attained by childbearing and that more problems resulted from early childbearing. The Cronbach's alphas of these scales were .84 and .73, respectively, at Time 1, and .86 and .81, respectively, at Time 2. Siblings were also asked four questions about their intentions of teenage childbearing (e.g., "How likely is it that you will have a child while still a teenager?") with response options ranging from 1 (*very unlikely*) to 5 (*very likely*). The Cronbach's alpha of these items was .86 and .90 at Times 1 and 2, respectively.

Younger siblings also responded to questions about the ideal timing of specific life-course events for boys and for girls. For example, participants were asked to write the best ages for boys to first have sex, get married, and become a father and the best ages for girls to first have sex, get married, and have a baby. These items have been used in previous research (e.g., Zabin, Hirsch, Smith, & Hardy, 1984) and are thought to provide the best measure available for perceived norms regarding the timing of life-course events. The Cronbach's alpha of these items exceeded .69 at both times of assessment.

School aspirations and self-esteem—Siblings' school aspirations were assessed by nine items: four questions that asked about the importance to the participant that he or she graduate from high school, get good grades in school, go to college, and get a good job; three questions that asked about the likelihood that the participant would graduate from high school, go to college, and get a good job; and questions that asked how much schooling the participant wanted to attain (e.g., 1 = *not finish high school* to 5 = *go to graduate school or a professional school after college*) and how much schooling the participant would probably attain. Response options ranged from 1 (*not very important* or *not very likely*) to 5 (*very important* or *very likely*), wherein high scores reflect a strong likelihood and importance placed on school achievements. The internal reliability (Cronbach's alpha) of these items

was .82 at Time 1 and .85 at Time 2. Participants also indicated their typical grades in school, ranging from mostly A's (coded as 8), to about half A's and half B's (coded as 7), to mostly D's or F's (coded as 1). Participants also indicated how often within the last 6 months they had cut a class, cheated on a test, got yelled at by a teacher for acting up in class, and got suspended. Response options ranged from 1 (*never did this*) to 5 (*did this more than 10 times*), with responses to these items summed to form one school problem behavior score. The Cronbach's alpha of these items was .69 at both Time 1 and Time 2.

Siblings' self-esteem was assessed using the Rosenberg Self-Esteem Scale (Rosenberg, 1979), wherein high scores indicate high self-esteem. The 10 items of this scale yielded a Cronbach's alpha of .70 at Time 1 and .76 at Time 2.

Problem behaviors—Siblings' engagement in problem behaviors within the last 6 months was assessed within three domains: drug and alcohol use (five items: e.g., drank beer, wine, or liquor; smoked marijuana; used drugs like speed, crack, or cocaine); partying behavior (six items: e.g., sneaked out of house to meet a boy [or girl], gone to a party where people your own age were drinking alcohol, stayed out all night without parents' permission); and delinquent activity (seven items: e.g., stole something, damaged property, got picked up by the police). Response options ranged from 1 (*never did this*) to 5 (*did this more than 10 times*). The Cronbach's alphas for the above problem behavior domains (at Time 1 and Time 2, respectively) were .82 and .81 (drug and alcohol use), .81 and .86 (partying), and .77 and .79 (delinquency).

Sexual behavior and pregnancy—Siblings responded to several questions that asked about whether they had ever engaged in a list of 11 specific sexual behaviors with a person of the opposite sex, ranging from holding hands (coded as 1), kissing, necking ("french kissing for a long time"), light petting above the waist (touching over clothes), light petting below the waist, heavy petting above the waist (touching under clothes or with no clothes on), heavy petting below the waist, to sexual intercourse (coded as 11). Each participant received a score that reflected the highest level of sexual behavior in which he or she had engaged. This sexual activity progression scale has been shown to reflect the typical developmental progression toward sexual intercourse among American adolescents (Smith & Udry, 1985) and has been validated by studies on early-, mid-, and late-adolescents (Rodgers & Rowe, 1993; Udry & Billy, 1987). Participants' virginity status was ascertained using the sexual intercourse item on this scale (0 = *virgin*, 1 = *nonvirgin*). All participants were also asked to indicate how many times they had had sexual intercourse within the past 6 months, using the response options of *never* (coded as 0), *once* (1), *2 to 3 times* (2), *4 to 10 times* (3), and *more than 10 times* (coded as 4).

Respondents who indicated that they had had intercourse were asked to write the number of sexual partners they had had within their lifetime and were asked, "When you have intercourse, how often do you or your partner use something so you or your partner won't get pregnant?" Response options ranged from *never* (coded as 1), to *always* (coded as 5). Participants were also asked if they had ever been pregnant (for females) or if they had ever gotten someone pregnant (for males). Response options for girls were 1 = *no*, 2 = *yes*, and 3 = *I might be pregnant now*. Response options for boys were 1 = *no*, 2 = *I'm not sure but I don't think so*, 3 = *I'm not sure but I think so*, and 4 = *yes, I'm sure I've gotten someone pregnant*.

Extent of child care—The siblings of parenting teens were asked to indicate the number of hours per week they spent caring for their older sister's child. This question was asked in the interview at Time 2 only.

Pubertal development—At both times of testing, girls were asked six questions about their pubertal development (whether they had begun menstruating, their age at menarche, breast development, height changes, skin changes, and pubic hair changes), and boys were asked five questions (the development of facial hair, the development of pubic hair, height changes, voice changes, and skin changes). The Cronbach's alpha of the six items for girls was low at both times of testing ($<.57$); thus, only age at menarche was used as a covariate in analyses involving girls. Ninety-one percent of girls had reached menarche by Time 2. Those who had not were followed up at age 18 and asked to indicate their age at menarche. The five items for boys had a satisfactory Cronbach's alpha (.68 at Time 1 and .70 at Time 2). Thus, all five items (as assessed at Time 2) were used to form one score that served as a covariate in analyses involving boys.

Family background demographic information—Participants' family's receipt of welfare, total annual family income, and parents' educational level were gathered by interview with the siblings' mothers. For 16% of siblings who did not have accompanying mother data, the mean value of these scores was substituted for the missing value for the siblings of pregnant and parenting teens and, separately, for the siblings of never-pregnant teens in the relevant analyses. Participants who had missing family background information did not differ from participants who had available family background data on key participant variables (e.g., age, race, sibling group, virgin-nonvirgin status, etc.).

Results

Overview

The primary goal of data analysis was to determine whether the siblings of pregnant and parenting teens displayed greater pregnancy risk behaviors across age than the siblings of nonparenting teens. To address this issue, we first selected control variables from several possible participant background characteristics so that all contrasts would control for sibling group differences in family background factors. A series of multivariate analyses of covariance (MANCOVAs) were then computed to determine whether youths' outcomes differed by older sister's parenting status, gender, and time of assessment. This was done by sequentially evaluating the three-way interaction effect first (Sibling Group $\times$ Gender $\times$ Across Time); the 3 two-way interaction effects next (i.e., Sibling Group $\times$ Gender, Sibling Group $\times$ Across Time, and Gender $\times$ Across Time); and, finally, the three main effects (of sibling group, gender, and across time) associated with all of the outcome variables. Two-way interaction effects and main effects were not tested in the presence of a significant three-way interaction, and main effects were not tested in the presence of a significant two-way interaction. For these analyses, the dependent variables were grouped along the lines described in the Method section.

For sibling group, a two-level categorical variable was formed, with the siblings of pregnant and parenting teens at Time 1 merged to form one group and the siblings of nonparenting teens forming the other group. Only those participants who had data available for both times of assessment were included in the analyses. This involved 57 sisters of nonparenting teens, 68 sisters of parenting teens, 63 brothers of nonparenting teens, and 55 brothers of parenting teens, for a total analysis sample of 243 participants. Finally, to examine how the time younger siblings spent caring for their teenage sisters' children was related to youths' outcomes, we computed correlational analyses.

Covariate Selection

Given the goals of this study, appropriate control variables were selected based on two conditions: first, whether participant background characteristics differed between the

siblings of pregnant or parenting teens and the siblings of nonparenting teens and, second, whether certain participant background characteristics significantly contributed to the variance of the outcomes. Regarding the first condition, because the siblings of pregnant or parenting teens were more likely than the siblings of nonparenting teens to have lower family incomes and to have ever received AFDC (at both times of assessment), family income and family's AFDC receipt were used as control variables in all analyses. Participant age, race-ethnicity, and pubertal development did not differ between the two sibling groups. Regarding the second condition, younger siblings' age, race-ethnicity (African American vs. Hispanic), and pubertal development consistently contributed modest, though statistically significant, amounts of variance to some outcome variables. Thus, these variables were also incorporated as covariates in all analyses. By statistically controlling for these variables, we ensured that any differences that emerge between the two sibling groups cannot be said to be due to factors related to family income, AFDC receipt, or younger siblings' age, race-ethnicity, or pubertal development. Effects for each of the covariates are reported only when statistically significant.

Multivariate Repeated Measures Analyses

Perceived mothers' parenting—To determine whether youths' perceptions of their mothers' parenting differed by older sisters' parenting status, gender, and across time, we computed a 2 (sibling group) $\times$ 2 (gender) $\times$ 2 (time of assessment) MANCOVA on the three variables associated with perceived mothers' parenting (perceived mothers' strictness, perceived mothers' monitoring, and perceived mothers' approval of teenage childbearing). The five control variables discussed above were entered as covariates. The multivariate F value for the three-way repeated measures MANCOVA was not statistically significant, $F(3, 223) = 0.61, p > .05$. Results of each of the 3 two-way interaction effects also were not statistically significant. When the three main effects were evaluated, only the effect associated with gender was statistically significant, $F(6, 225) = 3.79, p < .001$. Results of univariate follow-up analyses (incorporating the five covariates) indicated that boys perceived significantly greater maternal approval of teenage childbearing than did girls at both Time 1 and Time 2, $F(1, 255) = 12.66, p < .001$. The mean values (merged across time) for perceived maternal approval for boys and girls were 2.39 and 2.00, respectively.

When the covariates were considered, there was a significant main effect for race, $F(6, 216) = 2.73, p < .05$, with African American youths reporting greater maternal strictness ($p < .05$) and maternal monitoring ($p < .01$) than Hispanic youths at Time 1 only. The means for perceived mothers' strictness for African Americans and Hispanics were 3.40 and 3.24, respectively, and the means for perceived mothers' monitoring for African Americans and Hispanics were 3.11 and 2.94, respectively. There was also a significant main effect for age, $F(6, 216) = 5.03, p < .001$, such that older youths reported less maternal strictness and less maternal monitoring at both Time 1 and Time 2.

Sexual and childbearing attitudes and expectations—A 2 (sibling group) $\times$ 2 (gender) $\times$ 2 (time of assessment) MANCOVA was conducted on the eight variables indexing youths' sexual and childbearing attitudes and expectations. The multivariate F value associated with the three-way interaction effect was not statistically significant, $F(8, 223) = 0.89$. Results of the 3 two-way interaction effects showed a significant Gender $\times$ Across Time interaction, $F(8, 234) = 2.97, p < .01$, and a significant Sibling Group $\times$ Across Time interaction, $F(8, 234) = 2.20, p < .05$. The Gender $\times$ Sibling Group interaction effect was nonsignificant. The mean values of participants' attitude and expectation scores by time of assessment for both gender and sibling group are shown in Table 1.

Results of the univariate analyses showed that there was a significant Gender $\times$ Across Time interaction for participants' perceived problems associated with early childbearing and participants' perceived life transition norms for boys. Boys significantly increased their perceived hardships associated with early parenting across time ($p < .05$), whereas girls' perceptions remained fairly stable. In contrast, girls perceived significantly older ages as appropriate for when men should have major life transition events from Time 1 to Time 2 ($p < .01$), whereas boys perceived fairly stable male life-course norms across time.

Regarding the Sibling Group $\times$ Across Time interaction, follow-up contrasts (controlling for the five covariates) indicated a significant interaction for perceived status brought about by child-bearing and perceived problems associated with early parenting. These interactions indicate that although youths from both sibling groups decreased their perceptions about the status gained from childbearing from Time 1 to Time 2, youths who had a teenage parenting sister had a sharper decrease over time ($p < .001$) than did youths who had a nonparenting sister ($p < .05$). Regarding participants' perceptions of the hardships involved in early parenting, youths who had a teenage parenting sister perceived significantly more problems associated with early childbearing across time ($p < .05$), whereas youths who had a nonparenting sister had fairly stable perceptions of the hardships involved in early parenting over time (*ns*).

School aspirations and self-esteem—A 2 (sibling group) $\times$ 2 (gender) $\times$ 2 (time of assessment) MANCOVA was conducted on the four variables assessing youths' school aspirations and self-esteem. The multivariate F value associated with the three-way repeated measures MANCOVA was not statistically significant, $F(4, 223) < 1$. All of the 3 two-way interactions were also not statistically significant. Results of the three main effect MANCOVAs revealed significant across time effects, $F(4, 223) = 2.85, p < .05$, and sibling group effects, $F(4, 255) = 2.57, p < .05$. The main effect for gender was not statistically significant.

To analyze the across time effects further, we computed univariate follow-up tests on the four variables of participants' grades, school aspirations, school problems, and self-esteem. These results indicated that participants' school aspirations decreased significantly from Time 1 ($M = 4.42$) to Time 2 ($M = 4.34$), $F(1, 223) = 4.21, p < .05$. All other across time effects were nonsignificant. To analyze the sibling group effects, we computed univariate follow-up tests (using the same controls as in the MANCOVA) on the four variables combined across Time 1 and Time 2. These results are shown in Table 2. Results indicated that, compared with the siblings of nonparenting teens, the siblings of parenting teens had significantly lower school aspirations ($p < .05$) and significantly more school problems ($p < .05$). There were no group differences in participants' grades or self-esteem.

When the covariates were considered, there was a significant main effect for race, $F(8, 213) = 2.51, p < .05$, and age, $F(8, 213) = 4.53, p < .001$. Results of univariate contrasts indicated that Hispanic youths had significantly lower self-esteem than African American youths at both Time 1 and Time 2. The means for self-esteem for Hispanic and African American youths at Time 1 were 3.71 and 4.03 ($p < .01$), respectively, and the means for Hispanic and African American youths at Time 2 were 3.18 and 4.18 ($p < .001$), respectively. Regarding the age effect, older participants had significantly lower grades at Time 1 ($p < .001$) and more school problems at Time 1 ($p < .001$) than younger participants.

Problem behaviors—For the three-way repeated measures MANCOVA for the variables associated with siblings' problem behavior (e.g., drug and alcohol use, partying behavior, and delinquent behaviors), $F(3, 220) = 4.15, p < .01$. The multivariate F values and means of

each problem behavior by gender, sibling group, and time of assessment are shown in Table 3. Figure 1 illustrates the interaction effects.

Results of follow-up contrasts indicated that, for the sisters of parenting teens, there was a significant across time increase in their drug and alcohol use ($p < .001$) and their partying behavior ($p < .02$). However, all problem behaviors of the sisters of nonparenting teens remained remarkably stable across time. In contrast, for boys, the brothers of parenting teens did not have any significant across time changes in their problem behaviors. The brothers of nonparenting teens, though, significantly increased their drug and alcohol use from Time 1 to Time 2 ($p < .01$), and although these boys also increased their partying behavior from Time 1 to Time 2, this difference was not statistically significant. There was not a significant interaction effect for youths' delinquency.

When the covariates were considered, there was a significant main effect for race, $F(6, 236) = 2.36, p < .05$, and age, $F(6, 236) = 10.61, p < .001$. Results of univariate analyses indicated that Hispanic youths had significantly higher drug use ($p < .01$) and more frequent delinquent behavior ($p < .05$) than African American youths at Time 1 only. The means for drug use for Hispanic and African American youths were 1.60 and 1.39, respectively, and the means for delinquent behavior for Hispanic and African American youths were 1.50 and 1.44, respectively. Regarding the age effect, older youths engaged in all problem behaviors more frequently at both Time 1 and Time 2 ($p < .001$ for all effects).

Sexual behavior and pregnancy—The variables that compose this domain were analyzed by two separate MANCOVAs. This was done because participants who were virgins would not have scores for some of these outcomes. The first MANCOVA included all participants and analyzed the variables of sexual behavior progression (ranging from holding hands, kissing, etc., to sexual intercourse), sexual status (virgin vs. nonvirgin), and frequency of intercourse within the past 6 months. Virgins received a score of 0 for frequency of intercourse. The second MANCOVA included only nonvirgins and was conducted on participants' number of sexual partners and consistency of birth control use. The sample size in this MANCOVA was 66. Because no participant had experienced a pregnancy at Time 1 (as a condition of study eligibility), pregnancy status at Time 2 was analyzed as a 2 (sibling group) $\times$ 2 (gender) analysis of covariance only.

The results of the three-way MANCOVA conducted on participants' sexual behavior progression, sexual status, and frequency of intercourse was not statistically significant, $F(3, 200) = 1.91$. Results of the 3 two-way interaction effects showed a significant Sibling Group $\times$ Across Time interaction, $F(3, 207) = 2.69, p < .05$, but the Gender $\times$ Across Time interaction and the Sibling Group $\times$ Gender interaction were not statistically significant. The mean scores of participants' sexual outcomes by sibling group and time of assessment are shown in the top panel of Table 4. Results of the Sibling Group $\times$ Across Time univariate analyses showed a significant interaction effect for frequency of sex, with youths who had a parenting sister significantly increasing their frequency of intercourse from Time 1 to Time 2 ($p < .01$), whereas youths who had a nonparenting sister had a relatively stable frequency of intercourse across time. Although the siblings of parenting teens had a significantly higher nonvirgin rate than the siblings of nonparenting teens at both times of testing, both sibling groups increased their percentage of nonvirgins across time; thus, the Sibling Group $\times$ Across Time effect was not statistically significant. The interaction effect for youths' sexual behavior progression was also not statistically significant.

When the effects of the covariates were considered, the main effect for age on youths' sexual behavior was significant, $F(6, 210) = 15.45, p < .001$, with older participants engaging in more permissive sexual behavior, being more likely to be a nonvirgin, and

having sex more frequently than younger participants at both times of assessment ($p < .001$ for all effects for both times of testing). There was no significant main effect for race, but there was a significant effect for pubertal development for boys, $F(6, 100) = 3.56, p < .01$, and for girls, $F(6, 101) = 3.75, p < .01$. For both boys and girls, more pubertally mature youths engaged in more sexually intimate behavior, were more likely to be nonvirgins, and had sex more frequently than less pubertally mature youths at both times of assessment (when we independently controlled for participants' age and the other covariates).

The multivariate F value associated with the three-way interaction for nonvirgin participants' number of sex partners and consistency of contraception was not statistically significant, $F(2, 59) < 1$. Results of the MANCOVA for the 3 two-way interaction effects indicated a significant Gender $\times$ Across Time interaction, $F(2, 64) = 3.52, p < .05$, but the Sibling Group $\times$ Across Time interaction and the Sibling Group $\times$ Gender interaction were not statistically significant. The mean scores of participants' sexual outcomes by gender and time of assessment are shown in the middle panel of Table 4.

Results of follow-up analyses (including the five covariates) indicated that although both boys and girls increased their number of sexual partners from Time 1 to Time 2, boys experienced a greater increase in the number of sexual partners ($p < .001$) than did girls ($p < .05$). The Gender $\times$ Across Time interaction effect associated with consistency of contraceptive use was not significant, with both boys and girls increasing their consistency of contraception from Time 1 to Time 2. There were no significant effects for any of the covariates for either of these sexual outcomes.

For pregnancy status at Time 2 (where 1 = *experienced a pregnancy* for female participants and *caused a pregnancy* for male participants, and 0 = *never experienced a pregnancy* for female participants and *never caused a pregnancy* for male participants), the two-way interaction effect of Sibling Group $\times$ Gender was significant, $F(1, 62) = 7.23, p < .01$. Follow-up analyses showed that 12 girls had experienced a pregnancy at Time 2, 10 of whom were the sisters of parenting teens (10 girls out of 68 girls in that group, or 14.7%) and two of whom were the sisters of nonparenting teens (2 girls out of 57 girls possible, or 3.5%; $p < .01$). Only one boy had caused a pregnancy at Time 2; he was the brother of a nonparenting teen (1 boy out of 63 possible, or 1.6%; shown in Table 4). (At Time 2, 1 female participant responded that she "might be pregnant now" and 1 male participant responded that "I'm not sure, but I think so." These youths were coded as not experiencing a pregnancy for these analyses.) Thus, at Time 2, the sisters of parenting teens had a significantly higher pregnancy rate than the sisters of nonparenting teens, but the two brother groups did not differ in their likelihood of causing a pregnancy as a teen. There were no significant effects for any of the covariates for pregnancy.

Relations Between Youths' Outcomes and Time Spent Caring for Their Sisters' Children

The mean number of hours younger siblings spent caring for their older sister's child is shown in Table 5. Mean scores are shown for younger sisters and younger brothers, for Hispanics and African Americans, and for boys and girls separately by racial-ethnic group. On average, youths spent over 10 hr a week caring for their sister's child (range = 0 to 72 hr per week), with girls spending almost 12 hr a week and boys spending close to 8 hr a week looking after their sister's child.

To determine whether the time spent in child care differed for boys and girls, for Hispanics and African Americans, and for boys and girls within each racial-ethnic group, t tests were conducted. Results indicated only one significant difference: Hispanic girls spent more time caring for their older sister's child (13.2 hr) than did Hispanic boys (7.3 hr), $t(82) = 2.14, p < .05$.

Correlations were computed between siblings' hours of child care and the 21 outcome scores assessed at Time 2 while controlling for the outcome score as assessed at Time 1. (Variables assessed on nonvirgins only were not included in the correlations because of the relatively small sample size of nonvirgins.) Correlations were conducted separately for boys and for girls. Three significant correlations emerged for girls, with many hours spent in child care correlated with girls' pessimistic school aspirations ($r = -.35, p < .01$), positive intentions to have a child right away ($r = .25, p < .05$), and advanced sexual progression ($r = .24, p < .05$). Correlations conducted within racial-ethnic group revealed that, for Hispanic girls only, many hours spent in child care was related to pessimistic school aspirations ($r = -.45, p < .01$) and a nonacceptance of nonmarital childbearing ($r = -.29, p < .05$). (All correlation coefficients for African American girls were nonsignificant and less than .21.) No significant correlations were found between the amount of time boys spent in child care and their outcomes, and no significant correlations emerged for African American boys (all r s $< .19$). However, two relations emerged for Hispanic boys, with many hours caring for their sister's child correlated with a lack of sexual experience (i.e., low sexual progression, $r = -.50, p < .01$) and perceptions that their mothers disapproved of early childbearing ($r = -.47, p < .01$).

Discussion

As a whole, results from this study indicate that the younger sisters of parenting teens, relative to all other groups, appear particularly vulnerable to early pregnancy. These younger sisters had the highest pregnancy rate and the highest levels of drug and alcohol use and partying behavior at follow-up. The elevated levels of problem behavior among these girls were discernible at Time 1 and became increasingly pronounced at Time 2. Because these behaviors have been shown to be predictive of adolescent pregnancy (Moore, Miller, Gleib, & Morrison, 1995), the high prevalence and sharp increases over time of these problem behaviors among the sisters of parenting teens clearly portend these girls' high risk for teenage pregnancy, as well as more serious future delinquent activity (Centers for Disease Control and Prevention, 1992; Loeber, 1982). The relatively high rate of pregnancy found among the sisters of parenting teens may also merely be a foreshadowing for these girls as they approach late adolescence, a time when most teenage pregnancies occur (Alan Guttmacher Institute, 1994).

The high pregnancy rate of the younger sisters of parenting teens (14.7%) relative to the absence of any of the younger brothers of parenting teens causing a pregnancy is noteworthy and could be occurring for several reasons. A teenager's pregnancy may have stronger and more profound effects for her sisters than for her brothers. Modeling is likely to be stronger for same-sex siblings as opposed to opposite-sex siblings (Bank & Kahn, 1982), and younger sisters would be more likely to identify with their sister's role as mother. A sister's childbearing might also provoke more jealousy and competition among younger sisters than younger brothers, with younger sisters possibly acting out in sexually permissive behavior to rival the older sister (East & Shi, 1997). In addition, sisters are probably more apt to share the same group of friends than are an older sister and younger brother (Greenfield & Weatherley, 1986), and the shared friendship network could be exerting pressures for both girls to become sexually active and pregnant at an early age (cf. East et al., 1993). In any case, at least as studied in the current sample, the brothers of childbearing teens do not appear particularly likely to father a child as a teen nor to engage in especially high levels of problem behavior. Understanding why the brothers of teenage mothers appear less vulnerable to adolescent parenting than the sisters of teenage mothers may reveal important protective processes that potentially buffer boys from the ill effects of a teen's childbearing on her family.

Other results of this study showed that the siblings of parenting teens (irrespective of gender) had significant increases in the frequency of sex over time, whereas the siblings of nonparenting teens had a stable frequency of intercourse across time. Moreover, the siblings of parenting teens had nonvirgin rates 4 times higher at Time 1 and twice as high at Time 2, when half of the siblings of parenting teens were sexually active, compared with 24% of the siblings of nonparenting teens who were nonvirgins. Although there were no sibling group differences in youths' number of sexual partners or consistency of contraceptive use, the aforementioned patterns of sexual behavior suggest that the siblings of parenting teens are engaging in intercourse at rates and frequencies indicative of a high risk for pregnancy. In addition, the siblings of parenting teens had lower educational aspirations and significantly more school problems at both times of assessment than the siblings of nonparenting teens. Academic problems and negative attitudes toward school have been found to increase the probability of childbearing during the teenage years (Moore, Glei, Morrison, & Manlove, 1995; Plotnick & Butler, 1991) and, again, point to a higher risk of early pregnancy for the siblings of parenting teens relative to the siblings of nonparenting teens.

The two sibling groups also exhibited some unique across time changes in their parenting attitudes, with the siblings of parenting teens sharply decreasing their perceptions about the status attained through childbearing from Time 1 to Time 2 while increasing their perceptions about the problems associated with early parenting from Time 1 to Time 2. Whether these attitude changes resulted from the older sister's pregnancy and parenting is difficult to know. A teenager's pregnancy and subsequent parenting is certainly a major life event that likely impacts the entire family (East, 1998b). It is entirely possible that having a teenage sister become a mother causes other children within the family to recalibrate the costs and responsibilities involved in early parenting. It is interesting that these kinds of attitudes were also apparent among the mothers in this sample: Compared with the mothers of nonparenting teens, the mothers of pregnant and parenting teens perceived that childbearing brought about more status and was less problematic (East, 1999). The mothers of pregnant and parenting teens did not, however, evidence notable changes in these attitudes across time. Nevertheless, this kind of reverent view of parenting seems to be a common thread among the families of early childbearers and may be a link in the shared proclivity for early childbearing both within and across generations.

Results of the current study also revealed several gender differences across time, particularly in boys' and girls' sexual behaviors. Specifically, boys significantly increased their number of sexual partners from Time 1 to Time 2, having an average of about four different sexual partners at Time 1 and increasing to over seven different sexual partners by Time 2, or 1.5 years later. Girls, on the other hand, had approximately 2.5 sexual partners at Time 1 and increased to about four sexual partners by Time 2. In essence, boys acquired approximately two new sexual partners a year, whereas girls acquired about one new sexual partner each year. In both instances, these are fairly large numbers of sexual partners and present a significant risk for pregnancy, HIV infection, and other sexually transmitted diseases for the youths in this sample, particularly so for boys (Centers for Disease Control and Prevention, 1992).

Other results of this study showed that the younger siblings of parenting teens were spending an average of more than 10 hr a week caring for their sisters' children, and this care was related to specific sibling outcomes. Regarding the extent of child care, Hispanic girls provided the most child care (more than 13 hr a week), and Hispanic boys provided the least (about 7 hr a week). African American girls and boys provided about the same amount of care, or about 9 hr a week. Given that siblings are spending relatively large amounts of time caring for their sisters' children, it would seem important for future research to examine

more closely how child caretaking affects siblings' daily lives. For example, what kinds of activities are younger siblings missing out on while caring for their older sisters' children?

It was revealing that, for girls, a high level of child care was associated with more pessimistic school expectations, more positive intentions to have a baby right away, and more permissive sexual behavior. Taking part in the care of the older sister's child thus appears to have negative ramifications for girls' development. For Hispanic girls only, extensive child-care assistance was also associated with a lack of acceptance of nonmarital parenting. Perhaps these younger sisters become frustrated with the notion that child rearing is mostly "women's work"—which it largely is in the Mexican American culture (N. Williams, 1990; Zambrana, 1995)—and believe that childbearing should occur only within marriage, making it more likely that fathers coparticipate in their children's care. High child-care assistance by Hispanic boys, however, was related to a lack of sexual experience and perceptions that their mothers disapproved of teenage parenting. Given that boys assisted relatively little with the sister's child's care, and Hispanic boys helped the least, it may be that the Hispanic boys who actually cared for their sisters' children were the most conservative to begin with. In these cases, caretaking as performed by younger brothers may be less obligatory than when performed by younger sisters (cf. Weisner, 1987; Weisner, Gamier, & Loucky, 1994). This may be an interesting line to pursue in future research.

There were several notable limitations of the current study that deserve mention. Perhaps the most significant limitation was the absence of information about younger siblings prior to the older sister's pregnancy. This would have been useful for interpreting siblings' postpregnancy outcomes and for discerning whether the differences found between the two sibling groups existed prior to the older sister's becoming pregnant. That is, there may be factors present in siblings' shared environment and shared family background that escalate the pregnancy risk for all children within a family (East, 1998b; East & Jacobson, 2000). Accounting adequately for selection into teenage childbearing, even within families, is enormously difficult and continues to be a central challenge in this area of research (Geronimus, 1991; Hoffman, 1998). Thus, the current findings should be interpreted judiciously and cautiously in light of these and other alternate explanations.

A second limitation was that many older sisters who were never pregnant at Time 1 became pregnant prior to Time 2 and these teens' younger siblings were deleted from all analyses. As a result, the sample size was somewhat small for the younger siblings of nonparenting teens. We maintain, though, that for the purposes of this study—that is, to determine how the siblings of parenting teens fare when compared with the siblings of nonparenting teens—it was necessary to omit the siblings of teens who were never pregnant at Time 1 but who became pregnant by Time 2. To not have done so would have blurred the differences between the two sibling groups.

Too, the select nature of the sample ought to be considered when interpreting this study's results. For example, pregnant and parenting older sisters were eligible only if they had chosen to continue their pregnancies and parent their children. The never-pregnant families were also constrained (i.e., no child in the family had ever been pregnant as a teen), with the resultant sample possibly select on a variety of nonobservable values and attitudes that are correlated with delayed childbearing. Thus, caution should be exercised when generalizing this study's results.

As a whole, though, the results of the current study suggest that the younger sisters of teenage mothers appear singularly at risk of having an early pregnancy. Given these results and the results of other studies (e.g., Cox et al., 1993; East, 1996a, 1996b; Friede et al., 1986; Hogan & Kitagawa, 1985), the sisters of parenting teens represent a strategic group to

target for pregnancy prevention. Issues specific to intervening with this population have been discussed elsewhere (East, 1998a, 1998b). The current findings suggest that prevention efforts targeted at younger sisters may be best timed during early adolescence or prior to when actual pregnancies begin to occur. Continued research on these younger sisters will further illuminate specifically how and when they become at risk.

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Figure 1.
 Mean problem behaviors by gender and sisters' parenting status at Time 1 (T1) and Time 2 (T2).

Table 1

Mean Scores and F Values Associated With Youths' Sexual and Childbearing Attitudes and Expectations by Gender, Sisters' Parenting Status, and Time of Assessment

Variable	Boys		Girls		Gender $\times$ Time F(1, 242)	Nonparenting		Parenting		Sibling Group $\times$ Time F(1, 239)
	T1	T2	T1	T2		T1	T2	T1	T2	
Acceptance of teenage sex	2.74	2.76	2.34	2.21	1.80	2.34	2.36	2.70	2.60	<1
Acceptance of teenage childbearing	2.06	1.96	2.04	1.98	<1	1.83	1.84	2.27	2.13	<1
Acceptance of nonmarital childbearing	2.50	2.40	2.29	2.24	<1	2.14	2.13	2.61	2.47	<1
Status brought about by childbearing	2.61	2.30	2.22	1.84	<1	2.23	1.98	2.65	2.12	5.25*
Problems of early childbearing	3.88	4.07	4.20	4.25	8.64**	4.25	4.27	3.85	4.06	11.14***
Intentions of early childbearing	1.96	1.85	1.64	1.83	3.14	1.60	1.68	1.97	2.05	<1
Life transition norms for girls	21.42	21.48	21.40	21.54	<1	21.68	21.68	21.12	21.49	<1
Life transition norms for boys	21.41	21.45	21.80	22.43	3.89*	21.85	22.37	21.29	21.79	<1

Note. Score ranges are 1–5, with higher scores indicating higher levels of the variables, except for life transition norms, which represent ages. T1 = Time 1; T2 = Time 2.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 2

Mean Scores and F Values Associated With Youths' School Adjustment and Self-Esteem by Sisters' Parenting Status

Variable	Nonparenting	Parenting	F(1, 225)
Grades	5.29	5.15	1.29
School aspirations	4.47	4.30	3.98*
School problems	1.96	2.21	5.73*
Self-esteem	3.96	3.79	2.07

Note. The score range for grades was 1–8, with higher scores indicating better grades. All other scores had a range of 1–5, with higher scores indicating higher levels of the variable. Scores within each domain were combined across Time 1 and Time 2.

*
 $p < .05$.

Table 3

Mean Scores and F Values Associated With Youths' Problem Behaviors by Gender, Sisters' Parenting Status, and Time of Assessment

Variable	Girls				Boys				Gender $\times$ Sibling Group $\times$ Time F(1, 221)
	Nonparenting		Parenting		Nonparenting		Parenting		
	T1	T2	T1	T2	T1	T2	T1	T2	
Drug and alcohol use	1.54	1.57	1.51	1.97	1.39	1.74	1.65	1.64	7.33**
Partying behavior	1.54	1.55	1.70	1.87	1.61	1.81	1.90	1.78	3.91*
Delinquent behavior	1.27	1.27	1.54	1.61	1.52	1.41	1.57	1.54	<1

Note. Scores represent the frequency with which the participant engaged in problem behavior within the past 6 months, rated on a 5-point scale (1 = never did this, 5 = did this more than 10 times). T1 = Time 1; T2 = Time 2.

* $p < .05$.

** $p < .01$.

Table 4

Mean Scores and F Values Associated With Youths' Sexual and Pregnancy Behavior by Sisters' Parenting Status, Gender, and Time of Assessment

Variable	Nonparenting		Parenting		Group $\times$ Time <i>F</i> (1, 207)
	T1	T2	T1	T2	
Sexual behavior progression	4.73	6.54	5.65	7.02	<1
Nonvirgins (%)	8.2	24.3	32.2	50.0	<1
Frequency of sex	2.90	2.89	3.00	3.29	4.16*
	Girls		Boys		
	T1	T2	T1	T2	Gender $\times$ Time <i>F</i> (1, 65)
Number of sexual partners	2.36	4.04	3.86	7.26	4.54*
Consistency of contraception	3.00	3.59	3.55	4.27	1.15
	Girls		Boys		
	Nonparenting	Parenting	Nonparenting	Parenting	Gender $\times$ Group <i>F</i> (1, 62)
Pregnant (T2; %)	3.5	14.7	1.6	0	7.23**
<i>n</i>	2	10	1	0	

Note. Sexual behavior progression was measured on a 1–11 scale, frequency of sex was measured on a 0–4 scale, and consistency of contraception was measured on a 1–5 scale, with higher scores on these scales indicating higher levels of the variables. With respect to the variables in the middle and bottom panels of the table, data were collected from nonvirgins only. T1 = Time 1; T2 = Time 2.

* $p < .05$.

** $p < .01$.

Table 5

Mean Number of Hours Per Week Younger Siblings Cared for Their Older Sister's Child

Younger sibling	<i>M</i>	<i>SD</i>
Younger sisters	11.9	13.7
Hispanic	13.2	13.7
African American	9.3	13.6
Younger brothers	7.8	11.7
Hispanic	7.3	7.6
African American	8.5	16.7
Hispanics	11.2	12.3
African Americans	9.2	14.9
Total	10.3	13.1