Individual and Familial Influences on the Onset of Sexual Intercourse Among Urban African American Adolescents

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A sample of 198 African American families, living in urban poverty, participated in a longitudinal study of adolescent sexual development beginning when children were in the 4th or 5th grade. Self-reports of family conflict and pubertal development and videotaped family interaction data were collected at 2 time points approximately 2 years apart. Youths reported on sexual debut at each time point. More boys than girls reached sexual debut early. Greater levels of family conflict predicted early sexual debut. Observational data indicated more developed preadolescents with greater family conflict and less positive affect were least likely to delay debut. Changes in pubertal development and observed family conflict were associated with early debut. Possible mediating mechanisms and implications for preventive interventions are discussed.

This study assessed family and individual factors at preadolescence and early adolescence, with emphasis on factors that may either promote health or increase risk for sexual debut over time. Using multiple reporters (parent, child, and observer), we examined the effects of family process (conflict, affect, and collaboration) and individual factors (puberty, gender, and age) on the onset of sexual intercourse (hereinafter referred to as *sexual debut*) among African American adolescents living in urban poverty. Early sexual debut was selected as the outcome of interest because it allows for the identification of adolescents traveling possibly on a path toward negative consequences. Early sexual debut increases number of lifetime partners, increasing probability of exposure to HIV (Rodrigue, Tercyak, & Lescano, 1997). Younger adolescents are less cognitively mature, suggesting poor decision-making skills; perhaps as a consequence, they are less likely to use contraception (Centers for Disease Control, 1992). They are also less likely to attain their educational goals if they reach sexual debut early and are typically not prepared for early parenthood (Hayes, 1987).

We were particularly interested in the impact of the family on sexual debut. The family is the "most proximal and fundamental social system" affecting the development of the adolescent and is seen as a potentially prominent influence on adolescent sexual behavior (Perrino, González-Soldevilla, Pantin, & Szapocznik, 2000, p. 1). However, most past research on families has been conducted on those from middle-class backgrounds. Such data may not be informative when we seek to understand how low-income families living in urban neighborhoods negotiate parenting and protect developing adolescents from harm (Upchurch, Aneshensel, Sucoff, & Levy-Storms, 1999).

For urban African American adolescents, the risks of early sexual debut appear greater than for European American adolescents and include higher teen pregnancy rates and rates of HIV infection (Black, Ricardo, & Stanton, 1997; Danziger, 1995). Urban African American families, which often have female-headed households, have had to develop ways to protect their children while coping with poverty, high crime, decaying neighborhoods, and the realities of racial discrimination. We sought to understand family process among African American parents and youths to learn what may protect against or, unfortunately, increase the chances of sexual debut. Rather than make comparisons to other groups, we wanted to understand the variability within African American families to learn how some assist their youth in avoiding the high costs associated with early sexual debut (McLoyd, 1998).

Family conflict is a process that has been examined with regard to a number of health-compromising behaviors of adolescence,

including early sexual debut (Black et al., 1997). We chose to examine family conflict in part because it is a construct that is amenable to clinical intervention (Miller, Benson, & Galbraith, 2001). In exploring the role of family conflict in relation to early sexual debut among urban African American youth, it appears that two competing hypotheses could be integrated. That is, given the often dangerous environments in which inner-city families reside, increased family conflict may actually be a proxy for increased supervision and monitoring by concerned parents (Upchurch et al., 1999), where too little conflict may reflect a lack of involved parenting. On the other hand, excessive family conflict may be detrimental, as it can represent a negative and hostile family environment. The need to modify parenting according to environmental risk has been termed *precision parenting* and has been observed in reaction to the presence of problem peers (Mason, Cauce, Gonzalez, & Hiraga, 1996). Hence, one hypothesis that we wished to evaluate was whether family conflict had a curvilinear relationship to sexual debut. In such a relationship, an optimal level of conflict, represented in the middle of a U-shaped function, would be related to less chance of sexual debut, whereas extremes, too little or too much conflict, would increase the likelihood of sexual debut. One of our goals was to determine the nature of the relationship between family conflict and sexual debut for urban African American youths.

In contrast to family conflict, the importance of positive affect between parent and child has been clearly implicated in the delay of early sexual debut. Positive affect reflects an atmosphere of familial warmth, cohesion, and support and is associated with more positive outcomes for adolescents (Rodgers, 1999; Whitbeck, Conger, & Kao, 1993). Although research with adolescents of color is limited, several studies have noted that greater family connectedness and support is associated with delayed sexual debut (Danziger, 1995; Upchurch et al., 1999). We expected findings, similar to other studies with African American youths (Danziger, 1995), showing that greater positive affect in the family would be associated with decreased likelihood of early sexual debut.

Parent–child collaboration, defined as the extent to which each family member may lead or structure an interaction and work together toward a common goal, was another element of family process we investigated. Although parent–child collaboration has not, to our knowledge, been studied in relation to early sexual debut, its clinical importance has been implicated in other health-compromising behaviors, such as substance use (Szapocznik & Kurtines, 1989). In considering parent–child collaboration, if parent and adolescent appear to be of equal standing in the negotiations, this may reflect a lack of parental leadership. Lack of leadership from the parent, or in structural terms, a distorted family hierarchy, can be problematic in familial relationships (Szapocznik & Kurtines, 1989). Anecdotally, as well, our community partners noted it to be particularly problematic if parent and child appeared to have more of a friendship, rather than a parent–child hierarchy. Therefore, in predicting sexual debut, we expected that a higher rate of collaboration attempts from the parent would decrease the chances for sexual debut, whereas a higher rate of collaboration attempts from the child would increase chances for sexual debut.

In addition to family-level variables, we included individual-level characteristics of puberty and gender that impact youths during the transition to adolescence. Pubertal development and the accompanying changes in hormonal levels have often been related to sexual debut among adolescents (Halpern, Udry, & Suchindran, 1997; Udry, Talbert, & Morris, 1986). For African American youths, it may be that earlier maturational rates lead to earlier ages of sexual debut (Sagrestano, McCormick, Paikoff, & Holmbeck, 1999). On the basis of this literature, we expected that greater pubertal development would lead to earlier sexual debut.

It was unclear how pubertal development would interact with familial relationships in predicting adjustment outcomes such as early sexual debut among African American youths (Sagrestano et al., 1999). As we had competing predictions regarding family conflict variables, the interactions of these variables with pubertal development could also lead to differing predictions. More advanced pubertal development and greater conflict could increase the likelihood of early sexual debut by increasing distance and decreasing communication between parent and adolescent. However, more advanced pubertal development and greater conflict could also suggest a realignment of familial relationships in which parents are recognizing and responding to their adolescents' increasing maturity. Finally, we were interested in whether there were gender differences in sexual debut. Although African American boys tend to report younger age of first sex than do girls (Stanton et al., 1994; Upchurch et al. 1999), girls tend to mature earlier than boys do. Moreover, because results for gender have varied in prior studies of family conflict, sexual activity, and puberty, we wanted to be able to disentangle the effects of gender (Miller et al., 2001).

The current article focuses on the effects of familial and individual predictors of early sexual debut over time in a sample of African American families living in urban poverty. A unique feature of our study was the ability to examine the predictive utility of preadolescent variables for later sexual debut. Another unique feature of our study was the availability of self-reports and observer reports on similar constructs in our analyses. Although it is well known that there is often little agreement between a family's report on its own process and the report of an independent observer, it has been suggested that both offer valid, distinct, and overlapping perspectives on the functioning of the family (Gonzales, Cauce, & Mason, 1996; Pequegnat et al., 2001).

Method

Overview and Setting

Data were obtained through the Chicago HIV Prevention and Adolescent Mental Health Project Family Study. Participants were African American preadolescents and their caregivers who were initially recruited during the 4th and 5th grades from elementary schools in urban, low-income neighborhoods. These schools were selected because they served children who lived in or near public housing projects in neighborhoods with high rates of HIV infection.

Participants

Families of all fourth and fifth graders in six public elementary schools were eligible for participation (see Paikoff et al., 1997, for additional details). A total of 315 African American children and their families were seen initially, and 294 (93%) families from this group were seen at a second time point, approximately 2.5 years later. Those adolescents who were not interviewed at the second time point were compared on the initial predictor and outcome variables with those adolescents who were, with no significant differences between the two groups.

Demographics

The current data analyses included 198 children for whom data were complete at both time points. Data were missing for several reasons. First, measures were collected across a total of eight possible assessment sessions, which could result in missing data if either parent or child missed one or more of these sessions. Some missing data for the observational measures were due to videotapes that we were unable to code (e.g., they were inaudible). Additionally, as we were concerned with sexual debut in adolescence, those children who reported having reached sexual debut at Time 1 were not included in this sample (3 of 201, 1.5%). Children with complete data were compared with those children who were missing data on any predictor variables to determine if data were missing in any systematic fashion (Cohen & Cohen, 1983). There were no significant differences on any predictor variables.

The boys ($n = 87$) and girls ($n = 111$) were an average of 11.0 years of age ($SD = 0.7$, range: 9.0–12.8) at Time 1 and an average of 13.3 years ($SD = 0.8$, range: 11.3–16.1) at Time 2, with varying lengths of time between assessments ($M = 2.4$, $SD = 0.4$, range: 1.4–3.9). All children in the sample were African American and the majority (60%) lived in single-parent (typically female) households. The majority of the sample was poor (67% had incomes less than $10,000 per year) and unemployed (61%). The median income for neighborhoods from which the sample was drawn was $5,000, suggesting that this sample's level of impoverishment was typical (U.S. Bureau of the Census, 1990). Fifty-one percent of caregivers reported that they did not have a high school diploma or its equivalent.

Self-Report Measures

Individual level. Parental report of adolescent's pubertal development was obtained using a modified version of the Pubertal Development Scale (PDS; Petersen, Crockett, Richards, & Boxer, 1988; Sagrestano et al., 1999). Parents evaluated their child's physical development using six items for boys (body hair, voice change, skin change, growth spurt, facial hair, and body shape) and five items for girls (body hair, breast change, skin change, growth spurt, and body shape). Items were rated using a Likert scale that varied from 1 (*not started*) to 4 (*already past or finished*). As a modification, menarche was added to the PDS for girls. Because menarche was originally coded as 1 = no and 2 = yes, it was recoded as 1 = no and 4 = yes to create a more comparable metric for this scale. The six items were averaged to create a mean score indicating level of pubertal development. Total scores ranged from 1 to 4 with higher average scores indicating more advanced puberty. Interitem reliabilities were estimated at .75 for the boys and .80 for the girls.

Familial level. Family conflict was assessed by average intensity of discussion between parent and child using the Issues Checklist, Brief Version (Robin & Foster, 1989). Participants indicated whether they had discussed 17 possible issues (i.e., curfew, homework, choice of friends) during the past 2 weeks. For each issue discussed, participants indicated how hot (intensity) the discussions were using a 5-point Likert scale, which ranged from 1 (*calm*) to 5 (*angry*). Average intensity of discussions for each reporter (i.e., parent and child) was calculated by computing the mean of the intensity ratings for the 17 issues discussed. Total scores ranged from 0 to 5, with a score of 0 indicating no conflictual issues were discussed and higher scores indicating greater conflict. Interitem reliability was .84 for the parent report and .80 for the child report.

Observational Measures

Observational tasks. At Time 1 and Time 2, parents and youths participated in a videotaped family interaction in which they were asked to complete several tasks. For purposes of this study, we coded only the conflict task. In the conflict task, the child and parent were each asked to select an issue for discussion that had recently been a source of conflict and

to discuss each issue for a total of 5 min (Smetana, Yau, Restrepo, & Braeges, 1991).

Adaptation of the coding system. The videotaped family interaction task was coded using a global coding method developed by Holmbeck et al. (1996), adapting Smetana et al.'s (1991) system for use with inner-city, single-parent African American families. A committee of parents and a doctoral-level sociologist commented on the cultural relevance of the codes, and modifications were made on the basis of their suggestions. All raters who coded the videotapes were African American individuals who lived in the community or who had worked extensively with community members (Gonzales et al., 1996).

Observational scales. Coders viewed an entire task and then provided 5-point Likert scale ratings on a variety of dimensions on the basis of behavioral descriptions included in the manual (Holmbeck et al., 1996). Two coders rated parent and child behaviors across all families. These coders received at least 20 hr of training and were required to achieve an initial reliability of 90% (agreement = ratings within 1 Likert-scale point) on five tapes with the trainer prior to beginning the global coding process.

The coding system taps several dimensions of parenting behavior, child behavior, and parent–child relationships. The following scales were formed rationally (as opposed to empirically) by selecting items from the list of codes that reflected the definitions of each construct (items included within each scale are also listed): (a) Degree of Conflict in the Family (level of conflict within the family, parent frequently disagrees with child, child frequently disagrees with parent; three items), (b) Parent Engagement/Collaboration (parent listens to child, parent involvement in task, parent on-task during discussion, parent structuring of task, parent promotion of dialogue, parent promotion of collaboration; six items), (c) Child Engagement/Collaboration (child listens to parent, child involvement in task, child on-task during discussion, child structuring of task, child promotion of dialogue; five items), (d) Parent Positive Affect (parent warmth, parent supportiveness, parent anger [reverse scored], parent humor and laughter; four items), and (e) Child Positive Affect (child warmth, child supportiveness, child anger [reverse scored], child humor and laughter; four items). Means of two raters were used in data analyses.

Intraclass interrater reliability correlations (Suen & Ary, 1989) for the six scales ranged from .62 to .81 ($M = .74$) for both Time 1 and Time 2. In addition, Cronbach's alphas for the six observational scales ranged from .69 to .95 ($M = .83$) for both time points. Parent and Child Positive Affect scales were highly correlated ($r = .81$); therefore, the mean of the Parent and Child Positive Affect scales was computed and used in all analyses.

Outcome Measure

Interview on Sexual Behavior. This structured interview was developed on the basis of pilot interviews with urban African American 4th and 5th graders (Paikoff, 1995; Paikoff et al., 1997) and in collaboration with elementary school parents and staff. At preadolescence, the interview was a gated face-to-face interview. Interviewers initially assessed participation in heterosocial situations in a public place and later clarified whether unsupervised heterosocial interactions in a private place (e.g., sexual possibility situations) also had occurred (the 1st gate). Only those children who stated they had experienced sexual possibility situations were then asked what occurred within these situations, including specific heterosocial behaviors such as hugging and kissing games with groups and with one opposite sex peer and sexual debut (i.e., "Have you ever had sexual intercourse?"; the 2nd gate).

At early adolescence, the interview was changed primarily to account for the perceived need for privacy in disclosure of sexual behavior at this age. Rather than interviewing, adolescents completed the interview in booklet form by themselves, with the aid of headphones and a portable cassette player if they chose, where the entire interview was on tape (recorded by a same-gender African American young adult). The first booklet asked questions relevant to sexual possibility situations up to and including whether the adolescent had engaged in sexual debut.

Data collection. In the vast majority of cases, interviewers were the same gender and ethnicity as the pre- or young adolescent; in no case did an adult male interview a pre- or young adolescent girl. Interviews were administered primarily in private rooms at the children's schools or other local institutions. Adolescents and parents were paid for their participation in each interview, with times ranging from 20 min to 4 hr.

Results

Descriptives

At Time 2, 33.3% of the boys and 11.7% of the girls reported having had sexual debut. Hence, significantly more boys reported having reached sexual debut by Time 2, $\chi^2(1, N = 198) = 13.64$, $p < .01$. Table 1 presents the means, standard deviations, and ranges of each predictor variable at Time 1 and Time 2.

Hierarchical Logistic Regression Analyses

Because sexual debut was a dichotomous outcome variable, logistic regression was the most appropriate analytic technique for examining predictors. Survival analysis was not a feasible option because the data did not include the date of sexual debut.

Prior to the regression analyses, all continuous predictors were centered on the mean to improve the interpretation of possible interactions and to reduce multicollinearity (Aiken & West, 1991). A hierarchical logistic regression analysis was conducted in several blocks for each predictor. The initial block included age at Time 2 because the children varied in ages, and older children would be more likely to have become sexually experienced (i.e., 5 adolescents were over 14 years of age, and 3 of the 5 had reached sexual debut). In the next block, gender and pubertal development were entered. In the following block, Time 1 heterosocial behaviors of hugging and kissing games with groups and with one opposite-sex peer were entered to control their paths to sexual debut. After the control variables, each of the Time 1 predictor variables and quadratic terms for all reports of family conflict (i.e., the predictor squared, along with the predictor itself) were entered individually. Next, all Time 1 two-way interactions between predictor variables, pubertal development, and gender were entered, and using a stepwise procedure, we eliminated those not reaching

significance. Last, Time 1 three-way interactions between the predictor variables, gender, and pubertal development were entered. For all variables included in the two- or three-way interactions, the individual variables were included in a prior block to the interactions, and all two-way interactions were included prior to the three-way interaction.

The same sequence was repeated for the Time 2 predictors, using pubertal development at Time 2 as a control and then including each Time 2 predictor variable with all corresponding Time 1 variables already in the model. By adding the Time 2 predictor variables after the same Time 1 variables, we were able to make the analysis relevant to change in the predictors over time by partialling out the earlier levels of the same variables. In other words, these analyses allowed us to determine whether certain Time 1 variables had long-lasting effects on the Time 2 outcome of sexual debut and help us to understand the strength of the cross-sectional relationships of Time 2 variables with sexual debut.

After examining the effects of each predictor variable individually on the outcome (i.e., after the control variables), we conducted analyses to reduce the number of predictors included in the model. Variables showing a minimum predictive relationship with the outcome variable ($p < .20$) were included in these analyses to avoid including irrelevant or noise variables in the models (Hosmer & Lemeshow, 2000). Such a reduced model reflects only the relevant control, self-report, and observational variables in one analysis. The statistics for the reduced model analyses are presented for each variable, adjusting for all the other variables included in that block of the analysis. As such, this reduced model analysis portrays the unique effects of each predictor variable on the outcome.

Intercorrelation Among Variables

Table 2 presents correlations for the Time 1 and Time 2 control, self-report, and observational variables. In addition to these correlations, we evaluated multicollinearity, using multivariate regression equations, and found that estimates of tolerance were not less than 0.45, which indicated that collinearity between variables was not high enough to warrant concern.

Table 1

Summary Statistics for Predictor Variables at Time 1 and Time 2

| | Time 1 | | Time 2 | |
Variable	M (SD)	Range at Time 1	M (SD)	Range at Time 2
Age at interview, years	10.96 (0.69)	9.00–12.78	13.33 (0.83)	11.31–16.14
Self-report				
Pubertal development	1.79 (0.65)	1.00–4.00	2.30 (0.71)	1.00–4.00
Family conflict (child)	1.66 (0.80)	0.00–5.00	1.81 (0.87)	0.00–5.00
Family conflict (parent)	1.86 (0.92)	0.00–5.00	1.95 (0.85)	0.00–4.41
Observer report				
Family Conflict	1.88 (0.57)	1.00–4.17	2.23 (0.62)	1.00–4.67
Child Engagement/Collaboration	3.31 (0.67)	1.10–4.70	3.33 (0.78)	1.20–5.00
Parent Engagement/Collaboration	3.86 (0.53)	1.75–5.00	3.96 (0.58)	1.50–5.00
Child Positive Affect	3.36 (0.43)	1.50–4.63	3.23 (0.48)	1.38–4.25
Parent Positive Affect	3.41 (0.43)	2.13–4.50	3.30 (0.50)	1.00–4.50
Parent and Child Positive Affect	3.39 (0.41)	2.19–4.56	3.26 (0.46)	1.69–4.31

Table 2
Intercorrelations of Time 1 and Time 2 Predictor Variables

Variable	1	2	3	4	5	6	7	8
1. Child's age	**.90****	.23**	.01	.06	−.03	.04	.05	.04
2. Pubertal development	.26**	**.61****	−.01	.08	−.04	−.04	.04	.07
3. Family conflict (child report)	.05	.02	**.33****	.13	.11	−.09	.04	−.14
4. Family conflict (parent report)	.08	−.10	.17*	**.38****	.14*	−.08	−.10	−.17*
5. Observed Family Conflict	.20**	.13	.11	.13	**.25****	.25**	.20**	−.33**
6. Observed Parent Engagement/Collaboration	−.02	−.03	−.20**	−.15*	.04	**.45****	.60**	.41**
7. Observed Child Engagement/Collaboration	−.06	−.08	−.07	−.09	.06	.61**	**.44****	.56**
8. Observed Parent and Child Positive Affect	−.05	.05	−.09	−.20**	−.34**	.37**	.49**	**.31****

Note. Correlations above the diagonal are for Time 2 and below the diagonal are for Time 1. Correlations on the diagonal, in bold, are the correlations between the same variables at each of the two time points.
* $p < .05$.   ** $p < .01$.

Time 1 and Time 2 Self-Report Variables as Predictors of Time 2 Sexual Debut

Hierarchical logistic regression analyses were used to examine the relationship of gender, Time 1 pubertal development, Time 1 heterosocial behaviors, Time 1 child and parent reports of family conflict (average intensity of discussions), and quadratic terms for each Time 1 report of family conflict with the outcome variable (sexual debut at Time 2). Gender was a significant predictor of sexual debut at Time 2, $\chi^2(1, N = 198) = 17.90$, $p < .01$. Boys had increased odds of sexual debut, by a factor of 6.08. After controlling for age, gender, pubertal development, and heterosocial behaviors, we found child's report of family conflict at Time 1 was a significant predictor of sexual debut at Time 2, $\chi^2(1, N = 198) = 14.02$, $p < .01$, odds ratio (OR) = 2.49. The other self-report variable in the analysis (parent's report of family conflict) was not significant, nor were its interactions with gender or pubertal development. Neither quadratic term for child or parent report of family conflict was significant, indicating that there was not a curvilinear relationship between these predictor variables and the outcome. After controlling for Time 1 variables, we entered the same variables at Time 2. None of the Time 2 self-report variables or interactions was a significant predictor of sexual debut at Time 2.

Time 1 and Time 2 Observational Variables as Predictors of Time 2 Sexual Debut

Next, the observational variables of family process, including a quadratic term for observed family conflict, were examined individually for their prediction of sexual debut. Age, gender, pubertal development, and heterosocial behaviors were entered in the first blocks to control for these effects. Observed family conflict at Time 1 was a significant predictor of the outcome, $\chi^2(1, N = 198) = 3.95$, $p < .05$, OR = 2.03. No other observational variables of family process or the quadratic term for family conflict were significant. The interaction of Observed Family Conflict × Pubertal Development was significant, $\chi^2(1, N = 198) = 6.66$, $p < .05$, OR = 2.03, such that more pubertally developed adolescents were more likely to debut when there was greater observed family conflict, $\chi^2(1, N = 81) = 9.10$, $p < .01$, OR = 5.37, whereas for less developed adolescents there was not a significant relationship, $\chi^2(1, N = 117) = 0.01$, *ns*. There was also a significant interaction between Observed Positive Affect × Pubertal Development, $\chi^2(1, N = 198) = 4.90$, $p < .05$, OR = 0.18, such that more pubertally developed adolescents were less likely to debut when there was greater observed positive affect, $\chi^2(1, N = 117) = 4.53$, $p < .05$, OR = 0.18, whereas for less developed adolescents there was not a significant relationship, $\chi^2(1, N = 117) = 1.49$, *ns*. Last, there was a significant three-way interaction between observed positive affect, gender, and puberty, $\chi^2(1, N = 198) = 5.23$, $p < .05$, OR = 0.00, such that among boys, those who were more pubertally developed were more likely to debut, $\chi^2(1, N = 54) = 9.12$, $p < .01$, OR = 33.37, with less observed positive affect, compared with those who were more developed with more observed positive affect, $\chi^2(1, N = 3) = 0.04$, *ns*. None of the other interactions of family process variables, pubertal development, and gender were significant.

Next, Time 2 family process variables were added after controlling for the same Time 1 variables. There was a significant two way interaction between Family Conflict × Pubertal Development, $\chi^2(1, N = 198) = 7.48$, $p < .01$, OR = 5.00, such that those with increases in family conflict relative to the sample and more pubertal development were more likely to debut, $\chi^2(1, N = 90) = 6.47$, $p < .01$, OR = 7.96, whereas those with decreases in family conflict relative to the sample and more pubertal development did not have a significant relationship to sexual debut, $\chi^2(1, N = 90) = 0.00$, *ns*. There was also a significant interaction between Family Conflict × Gender, $\chi^2(1, N = 198) = 5.82$, $p < .05$, OR = 9.28, such that boys with increases in family conflict had greater odds of sexual debut, $\chi^2(1, N = 87) = 13.21$, $p < .01$, OR = 73.95, than boys with decreases in family conflict, $\chi^2(1, N = 87) = 9.08$, $p < .05$, OR = 6.07. There were no other significant Time 2 observed family variables or interactions.

Reduced Model Predicting Time 2 Sexual Debut

After examining the relationships of each predictor variable to the outcome, we combined control, self-report, and observational variables (that reached the $p < .20$ criterion) in one analysis to assess the unique effects of the variables. Each variable that met the criterion was entered as a unique effect (i.e., in a last step after the control and other predictors in the same block) and then to determine if the interactions were significant, a stepwise procedure (eliminating nonsignificant interactions) was used. By reducing the

model and entering each block's predictor into the analysis last, we were able to determine the contribution of that predictor above and beyond the other variables included.

Table 3 presents the reduced model analysis for Time 1 self-report and observational variables. Age and gender were both significant predictors of sexual debut (with older youths and boys at increased risk), $\chi^2(1, N = 198) = 12.93, p < .01$, OR = 2.15, and $\chi^2(1, N = 198) = 17.90, p < .01$, OR = 6.08, respectively. It was determined that child's report of family conflict, $\chi^2(1, N = 198) = 11.78, p < .01$, OR = 2.38, and the interaction of Observed Positive Affect × Pubertal Development, $\chi^2(1, N = 198) = 4.60, p < .05$, OR = 0.19, were significant predictors of the outcome. For the interaction of Observed Positive Affect × Pubertal Development, when observed positive affect was lower, greater pubertal development increased the odds of sexual debut by a factor of 10.21, $\chi^2(1, N = 103) = 12.35, p < .01$, whereas when observed positive affect was greater, greater pubertal development did not relate to the outcome of sexual debut, $\chi^2(1, N = 95) = 0.37, ns$.

For Time 2, a similar procedure to determine unique effects was used. The same Time 1 variables were included in the second block (after the first block of control variables) to show how change in the level of the Time 2 variables among the sample predicted the outcome. In the third block, the Time 2 observational variables of family conflict and positive affect were entered. Next, the two-way interactions of Time 2 Observed Family Conflict × Gender and Observed Family Conflict × Pubertal Development, Time 2 Positive Affect × Gender and Positive Affect × Pubertal Development, and Time 2 Pubertal Development × Gender were included. Next, the three-way interaction of Time 2 Positive Affect × Gender × Pubertal Development was entered. As was done with Time 1, all Time 2 interactions were evaluated using a stepwise procedure.

Table 4 presents the analysis of unique effects for Time 2 observational variables in the last two blocks in which they were entered. The interaction of Observed Family Conflict × Gender was significant in predicting sexual debut, $\chi^2(1, N = 198) = 9.45, p < .01$, OR = 20.49. When there were increases in observed family conflict, boys were at the greatest risk of sexual debut by a factor of 67.88, $\chi^2(1, N = 90) = 12.56, p < .01$, whereas when there were decreases in observed family conflict, boys were at risk of sexual debut by a factor of 5.86, $\chi^2(1, N = 108) = 8.55, p < .01$. The interaction of Time 2 Observed Family Conflict × Time 2 Pubertal Development was also significant, $\chi^2(1, N = 198) = 10.18, p < .01$, OR = 6.70. When there were increases in observed family conflict, greater pubertal development increased the odds of sexual debut by a factor of 11.91, $\chi^2(1, N = 90) = 6.41, p < .05$, whereas when there were decreases in observed family conflict, pubertal development did not predict sexual debut, $\chi^2(1, N = 108) = 0.09, ns$.

Discussion

The purpose of our study was to evaluate familial and individual predictors of sexual debut during the transition to adolescence among urban African American youths. The main results suggest that family conflict is an important predictor of early sexual debut. Some family findings are qualified by the pubertal development of the children. We review each finding in the context of the research literature and then discuss possible factors that may be examined to explain associations between the predictor variables and the outcome. We also discuss future work and clinical implications of our findings.

It appears that family conflict is associated with sexual debut among urban African American youths, in ways similar to findings among European American youths. Although we evaluated the possibility of a curvilinear effect of family conflict, we did not find support for this association. Our findings suggest that if preadolescents perceive greater conflict in the family, they are more likely to sexually debut in early adolescence. The results we found when we examined predictors at Time 2 are also noteworthy. As we included the same Time 1 predictors in an earlier step, the Time 2 results reflect change relative to the sample in these variables. Adolescents who experienced greater increases in observed conflict were more likely to have experienced early sexual debut if there were greater increases in pubertal development. Boys were at increased odds for sexual debut, with greater change in observed family conflict.

Table 3
Reduced Model Testing Unique Effects: Time 1 (T1) Predictors of Time 2 (T2) Sexual Debut

Variable	B	SE	OR	95% CI
Block 1				
T2 age, years	0.72	0.23	2.05**	1.30–3.25
T1 pubertal development	0.62	0.33	1.85	0.97–3.56
Gender (boys)	1.82	0.47	6.15**	2.47–15.34
T1 hugging and kissing games (groups)	0.74	1.01	2.09	0.29–14.98
T1 hugging and kissing (opposite sex peer)	−6.65	20.67	0.75	0.01–0.01
Block 2				
T1 child report of family conflict	0.87	0.26	2.38**	1.43–3.96
T1 parent report of family conflict	0.02	0.23	1.02	0.66–1.59
T1 Observed Family Conflict	0.54	0.40	1.71	0.79–3.71
T1 Observed Parent and Child Positive Affect	0.01	0.55	1.01	0.38–2.96
Block 3				
T1 Observed Parent and Child Positive Affect × Puberty	−1.65	0.81	0.19*	0.40–0.95

Note. OR = odds ratio; CI = confidence interval.
* $p < .05$.   ** $p < .01$.

Table 4

Additional Blocks Testing Unique Effects: Time 2 (T2) Predictors in Relation to Time 2 Sexual Debut

Variable	B	SE	OR	95% CI
Block 3				
T2 pubertal development	0.56	0.41	1.76	0.79–3.91
T2 Observed Family Conflict	−0.23	0.36	0.79	0.39–1.61
T2 Observed Positive Affect	−0.43	0.55	0.65	0.22–1.93
Block 4				
T2 Observed Family Conflict × Gender	3.02	1.06	20.49**	2.57–163.30
T2 Observed Family Conflict × T2 Puberty	1.90	0.67	6.70**	1.80–24.96

Note. Blocks 1 and 2 are identical to those in Table 3. OR = odds ratio; CI = confidence interval.
** $p < .01$.

Several speculations can be advanced to explain the relationship between pubertal development, family conflict, gender, and early sexual debut. For European American youths, past work suggests that there is increased conflict between parents and adolescents around the time of puberty (Paikoff & Brooks-Gunn, 1991). For adolescents living in impoverished environments, sexual activity may be valued as a symbol of attaining adult status, as there are few other opportunities (e.g., employment) or pathways available to demonstrate this status (Herold & Marshall, 1996; Upchurch et al., 1999). For those adolescents who are more developed in pre- or early adolescence, this may signal the transition to adult status, for which parents may not be prepared. Especially for families living in the inner city, parents may perceive their children's movement to adult status as dangerous; parents' subsequent attempts to restrict them may lead to an increase in parent–adolescent conflict.

Observed positive affect had a differential impact on the outcome depending on the level of pubertal development. Among families observed to be less positive, greater pubertal development appeared to increase risk of sexual debut. This interaction with pubertal development is a novel finding for African American youth but is consistent with overall findings regarding the importance of family support (Miller et al., 2001; Whitbeck et al., 1993). Although we did not find support for our hypothesis for an effect for pubertal development alone, there are a number of studies that have found hormonal effects of puberty in predicting sexual debut. However, the results from this study suggest that it is important to place these effects in a social context (Udry et al., 1986).

Interestingly, we did not find support for our hypothesis regarding rates of collaboration between parent and child. Although this construct has had clinical utility in other areas (Szapocznik & Kurtines, 1989), additional work may be needed to determine whether it is a useful predictor of sexual debut. We suspect that our measure of this construct may not have been sensitive enough to detect difficulties in the family hierarchy that were the basis for our predictions. A more sensitive measure of family structure may yield interesting results in the future.

The above speculations suggest the need to investigate further associations between family process, pubertal development, and sexual debut. For example, it appears important to evaluate how youths in impoverished communities view sexual activity and whether it is truly seen as symbolic of adult status. In conjunction with this, it may be important to assess the meaning that parents attach to their children's pubertal development and sexual activity. Future work may wish to consider protective factors as well as risk factors. A number of individual and family factors may be important in considering protective factors and strengths (Rodgers, 1999; Underwood, 1998), and such mediating and moderating variables may help to define risk and protective mechanisms within a broader developmental model that may guide intervention.

We did not expect to see significant agreement between parent, child, and observed report of our predictor variables, given that a number of studies have found that these sources do not always concur (Pequegnat et al., 2001). Differing reports by multiple participants may reflect different agendas in relation to the outcome variable (i.e., adolescents wishing to become adults through sexual debut, whereas parents may wish to prevent them from reaching this event). In our study, although there were not significant correlations between self-report measures of family conflict and observer report of family conflict at Time 1, there was a significant negative correlation between observed positive affect and parent report of family conflict. The way that these variables from different reporters are related lends support to the idea that multiple reporters reflect on different yet overlapping components of family process (Gonzalez et al., 1996). By including multiple reporters, we hope that our study may have been more comprehensive in exploring the relationship of the predictor variables and sexual debut.

This study is constrained by several limitations. Although our study asserts a number of significant findings between certain predictor variables and sexual debut, replication of these findings is needed to firmly assert the causal relationships delineated. In addition, our sample size is small and may not generalize to African American adolescents who reside in other, less impoverished settings and in two-parent families. There also may be concerns regarding the accuracy of the adolescents' reports of sexual behavior. Although it is possible that the adolescents did not provide accurate reports regarding their sexual activity (either under- or overreporting), it is difficult to verify this with another method of reporting. In addition, the change in method of reporting sexual activity from Time 1 (face-to-face interview) to Time 2 (completion of a booklet while listening to audiotaped questions) may have created some additional error variance, decreasing our power to detect certain effects, although it was a developmentally appropriate choice (Paikoff, 1995).

Although we have considered those adolescents who have reached sexual debut early with the belief that this early transition increases the likelihood for negative consequences, the circumstances surrounding this transition requires further study. As the adolescents mature and more of them become sexually active, we may be able to make comparisons between those who reached sexual debut early versus those who debut later. In this study, we did not consider whether adolescents who engage in early sexual debut are engaging in behaviors that place them at risk for HIV or pregnancy. It may be that some young adolescents engage in protective behaviors that reduce their chances for contracting HIV or creating a pregnancy, which would represent a form of sexual competence (Underwood, 1998). Answering these questions will require further longitudinal data.

Future research also may assist in determining implications for prevention programs. Should additional research demonstrate a causal pathway between family conflict and early sexual debut, then a focus on familial relationships is warranted in HIV prevention programs. Intervention programs also may need to target younger preadolescents prior to the transition to puberty. As our study found that some prediction of sexual debut was moderated by the pubertal development of preadolescents, it seems important to prepare parents adequately for this transition and to assist them in negotiating it with less conflict. In other words, preventive interventions with African American youths may need to begin at age 8 or 9 because of younger ages of pubertal onset in this population (Herman-Giddens et al., 1997; Sagrestano et al., 1999).

This study has provided a developmental snapshot of preadolescents and early adolescents as they become sexually active. This unique opportunity to examine longitudinal data with African American youths as they enter adolescence has provided some interesting, prospective findings about relations among pubertal development, family conflict, gender, and sexual debut. Yet, the trajectories and outcomes for adolescents with an early sexual debut will become more apparent as the youths age. It is too early to tell whether early debuting adolescents are on a problematic trajectory that increases their possible exposure to HIV or the likelihood of pregnancy. Future research may be able to examine whether youths who become sexually active early still engage in protective behaviors that demonstrate competence, thus widening our understanding of sexual behavior development among urban African American youth.

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