

Pubertal Development and Parent-Child Conflict in Low-Income, Urban, African American Adolescents

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This research examines associations between pubertal development and parent-adolescent conflict in a sample of 302 urban, low-income, African American adolescents and their parents. Findings revealed that pubertal development was associated with parent-child conflict and that the pattern of results was different for boys and girls. Specifically, parents reported using more verbal aggression with sons during midpuberty than early or late puberty and having more "hot" discussions with sons who matured early or late versus on time. Sons reported discussing more hot issues and having more hot discussions when they were more developed than when they were less developed. Parents reported using more violent tactics with younger daughters than older daughters and discussing more hot issues and having more hot discussions with daughters who matured early versus on time or late. Find-

ings are discussed within a framework of understanding links between parent-child conflict and puberty in more diverse samples of adolescents.

Associations between pubertal development and parent-child conflict have been well studied in White families. As the child matures reproductively, certain aspects of the parent-child relationship appear to change, including changes in communication and levels of conflict (for a review, see Holmbeck, 1996; Paikoff & Brooks-Gunn, 1991). Little research has examined parent-child relationships and pubertal maturation among urban, low-income, African American youth (Paikoff & Brooks-Gunn, 1991; Spencer & Dornbusch, 1990). Our research examines associations between pubertal development and parent-child conflict in a sample of African American adolescents living in an urban, low-income community. The purpose of this study is twofold. First, we provide descriptive data on pubertal development in a sample of inner-city African American adolescents, including age ranges for pubertal stages and the average age for the onset of puberty. Second, we examine associations between puberty and parent-child conflict in these families.

Previous research has indicated that the biological changes of puberty and the associated psychosocial changes that occur in early adolescence may lead to differences in beliefs and expectations regarding interpersonal issues between parent and child (Collins, 1990); these discrepancies can lead to increased parent-adolescent conflict (Holmbeck, 1996; Robin & Foster, 1989). Generally, the transition to puberty is believed to be linearly associated with changes in parent-child relationships, such that pubertal maturation is associated with increases in parent-child distance and conflict (Laursen, Coy, & Collins, 1998). In addition, research has found some curvilinear effects, such that distance is low during early puberty, peaks at the height of pubertal development, and then decreases (Hill & Holmbeck, 1987; Paikoff & Brooks-Gunn, 1991; Steinberg, 1988), although a recent meta-analysis did not find strong evidence for curvilinear associations (Laursen et al., 1998). Pubertal timing may have a greater impact upon parent-child relationships than pubertal status, such that early timing is predictive of increased conflict (Holmbeck & Hill, 1991; Laursen & Collins, 1994; Petersen & Taylor, 1980). However, little is known about these associations in different racial groups. It is likely that linear and curvilinear associations will be evident in urban, low-income, African American families. However, family structures are more frequently single-parent (female), and as a result, the parent-child dynamic may be different during pubertal development (Anderson, Hetherington, & Clingempeel, 1989). For example, research has shown that single parents have less con-

trol over their adolescent children's decision making than do parents in dual-parent households, and children in single-parent homes are more likely to exhibit deviant behavior (Dornbusch et al., 1985).

HYPOTHESES OF THIS STUDY

This study examines associations between pubertal development and parent-child conflict in urban, low-income, African American adolescents. We hypothesized that our sample of fourth and fifth graders would be in early to midpuberty, with girls more mature, on average, than boys (Brooks-Gunn & Reiter, 1990; Herman-Giddens et al., 1997; Morrison et al., 1994). In addition, we hypothesized that associations between pubertal status and parent-child conflict would be curvilinear, with more conflict expected when children were in midpuberty than when they were in early or late puberty. We also hypothesized that pubertal timing would be associated with more conflict between parent and child when parents perceived their children as maturing earlier than their peers.

METHOD

Sample

This research is based on data from the first wave of the Chicago HIV-Prevention Adolescent Mental Health Project (CHAMP), a longitudinal study designed to examine family and mental health factors for adolescent HIV risk among urban, low-income African American families with adolescents. Participants were 131 boys and 171 girls and their parents. The mean age for the children was 10.96 years ($SD = 0.70$, range 9.00 to 12.90; girls: $M = 10.92$, $SD = 0.69$; boys: $M = 11.00$, $SD = 0.71$), and for parents was 34.38 years ($SD = 6.29$). Parents were most frequently (89%) the biological mothers of the children; however, in 33 cases (11%) other family members (i.e., fathers, grandparents) were interviewed. For simplicity, all caregivers will be referred to as parents. More than half of the parents (58.2%) had never been married, 19% were currently married, and 22.5% were separated, divorced, or widowed. The majority of the sample was relatively poor (67% total income under \$10,000) and unemployed (63% of parents did not work in the last year); 54% of parents had not completed high school.

Measures

Data analyses are based on parent reports of pubertal status and timing, and parent and child reports of conflict. Three measures were used to assess pubertal development. These three measures focus on different aspects of pubertal development, and use of all three allows for broader assessment of pubertal development as well as comparisons between this sample and published samples. Modified versions of the scales were developed for parent response, as pilot work with families suggested discomfort in having children self-report on items related to pubertal development. Specifically, parents were concerned that children might feel anxious about their own developmental progress, and parents did not want their children looking at the graphic/line drawing pictures. Studies have indicated that parental ratings of pubertal development are relatively accurate (Brooks-Gunn & Warren, 1985), although they are not as accurate as ratings by trained health care professionals (Dorn, Susman, Nottelmann, Inoff-Germain, & Chrousos, 1990). For example, Dorn et al. reported that correlations between parental ratings and health examiner ratings ranged from $r = .75$ to $r = .87$. Parental ratings are likely more accurate in the case of mothers' ratings of daughters than of sons (Brooks-Gunn & Warren, 1985).

Sexual Maturation Scale (SMS; Brooks-Gunn & Warren, 1985; Marshall & Tanner, 1969, 1970; Morris & Udry, 1980; Tanner, 1962). This scale was designed to assess pubertal status by using line drawings of breasts and genitals at the five stages of pubertal development initially suggested by Tanner (1962). Parents looked at a series of drawings and were asked to choose the one closest to their own child's pubertal development. For girls, two sets of five drawings, representing development of breasts were assessed (Stage 1, no development; Stage 2, first signs of breast development; Stage 3, breasts more distinct but no separation between contours; Stage 4, breasts enlarged, distinction between contours, nipple forms secondary mound on breast; Stage 5, fully developed) and development of pubic hair (Stage 1, no pubic hair; Stage 2, small amount of pubic hair; Stage 3, hair darker, curlier, curlier; Stage 4, hair adult in type but covering smaller area; Stage 5, hair adult in type and distributed in inverse triangle).

For boys, genital (Stage 1, infantile stage; Stage 2, some scrotum enlargement, some reddening of scrotal skin; Stage 3, penis increased in length and breadth, further growth of scrotum; Stage 4, increased penis length and breadth, scrotum further enlarged, darkening of scrotal skin; Stage 5, genitalia of adult size and shape) and pubic hair (see previous description) development were similarly assessed. It should be noted that for boys the sample size was slightly reduced for this measure ($n = 110$), as 21

(16%) of the parents either declined to answer or felt they were unable to rate genital and pubic hair development.

Pubertal Development Scale (PDS; Petersen, Crockett, Richards, & Boxer, 1988). A modified version of the PDS was developed for parent report of pubertal status. Items from the original scale, consisting of five items for boys (body hair, voice change, skin change, growth spurt, and facial hair) and five items for girls (body hair, breast change, skin change, growth spurt, and menarche) were rated on a 4-point Likert scale from 1 (*not started*) to 4 (*already past or finished*). In addition, an item assessing body shape was included. The interitem reliability of the original PDS for girls was adequate ($\alpha = .77$), whereas for boys, the inter-item reliability of the original 5-item scale was not sufficiently high ($\alpha = .43$). The boys' scale was therefore modified to include the most highly intercorrelated items: voice change, growth spurt, and body shape. The inter-item reliability for this modified scale was moderate ($\alpha = .68$).

Pubertal timing. Parents rated their perceptions of their child's timing of pubertal development relative to peers using a 5-point Likert scale from 1 (*much earlier*) to 5 (*much later*). Although this sample is too young (11 years old) to assess on-time versus late maturers, the measure was intended to capture parent perceptions, which may have a real impact on behavioral outcomes (Dorn et al., 1990). That is, although the adolescents in the sample were too young for parents to accurately assess late maturers, parents who perceive their children as late maturers, regardless of age, may behave in ways that systematically differ from parents who perceive their adolescents to be on-time or early maturers. Thus, scores for on-time and late maturers were not combined.

Conflict Tactics Scale (CTS; Straus, 1979). The CTS was designed to assess the interaction techniques used by parents during conflicts with their child. Parents responded to 15 items from the Parent to Child Form using a 7-point Likert scale ranging from 0 (*never used in the past year*) to 6 (*used more than 20 times in the past year*). Two scales from the measure were used. The Verbal Aggression scale included six items pertaining to verbal and nonverbal acts to symbolically hurt the other (e.g., insulted or swore at child; threw or smashed or hit or kicked something), and had an adequate inter-item reliability ($\alpha = .73$). The Violence scale included five items pertaining to the use of physical force (e.g., pushed, grabbed or shoved child; kicked, bit, or hit child with a fist). Three items (beat up the child, threatened child with a knife or gun, used a knife or gun) were dropped from the

original eight-item scale due to their extremely violent content. This scale had an adequate inter-item reliability ($\alpha = .75$).

Issues Checklist, brief version (Holmbeck & O'Donnell, 1991; Robin & Foster, 1989). Intended to measure parent-adolescent conflict, this interview was completed independently by children and by parents. Participants indicated whether or not 17 issues (e.g., chores, curfew, homework) were discussed in the past 2 weeks (incidence). Issues most frequently endorsed by parents included chores, homework, and bedtime, and by children included where they were when not at home, bedtime, chores, and curfew. For each issue that was discussed, participants indicated how many times it had been discussed in the past 2 weeks (frequency) and how "hot" the discussions were (intensity) on a 5-point Likert scale ranging from 1 (*calm*) to 5 (*angry*). Based on these scores, three scales were formed. First, number of issues that had been discussed in the past 2 weeks for which intensity was rated 2 or higher (e.g., number of hot issues, potential range 0-17) was calculated. For example, suppose a respondent said she had discussions about curfew, homework, and bedtime all at a level of intensity greater than 2; then regardless of the number of times these issues had been discussed, the score for the number of hot issues would be 3. Second, the frequency of discussions about these hot issues was calculated using the total number of discussions in the past 2 weeks for which intensity was rated 2 or higher (e.g., number of hot discussions, potential range unlimited). Finally, the average intensity across issues was calculated by averaging the intensity ratings across the 17 issues (e.g., average intensity, potential range 1-5).

Data Collection Procedures

Families of fourth- and fifth-grade children were recruited from six public schools located in primarily African American neighborhoods with high concentrations of urban poverty. Recruitment and interviews were conducted by a team of community consultants, graduate-level students, and full-time (college-educated) employees. Interviewers contacted the families by telephone or in person to answer questions about the study and set up interview appointments with children and their parents. Three interviews (parent interview, 1.5 hr; child interview, 1.5 hr; and videotaped interview of the parent and child together, 1 hr) were conducted in a university setting during a single visit. The parent and child interviews were conducted privately in separate rooms. Parents and children were compen-

sated for their interviews. See Paikoff et al., 1997, for a complete description of the recruitment and additional interview procedures.

RESULTS

Descriptive Data on Pubertal Development

Sexual Maturation Scale. For girls, the mean SMS rating of breast development was 2.33 ($SD = 1.04$) and of pubic hair development was 2.04 ($SD = 1.15$), and the two ratings were correlated .70. This suggests that girls were in early puberty, and breast development was somewhat more advanced than pubic hair development. For boys, the mean SMS rating of genital development was 2.61 ($SD = 1.07$) and of pubic hair development was 2.09 ($SD = 1.15$), and the two ratings were correlated .58. This suggests that boys were in early puberty, and genital development was somewhat more advanced than pubic hair development. Mean ages for children at each stage of pubertal development on the SMS are presented in Table 1. It should be noted that our sample ranged in age from 9.00 to 12.90 years ($M = 10.96$), thus restricting the number of children at the higher stages of pubertal development. Therefore, mean ages at the higher levels (4–5) should be regarded with caution.

Pubertal Development Scale. For girls, the mean pubertal status score was 1.94 ($SD = 0.66$; body hair, $M = 2.11$; breast change, $M = 2.16$; skin change, $M = 1.74$; growth spurt, $M = 2.16$; menarche, $M = 1.49$; body shape, $M = 2.04$), suggesting that, as with the Tanner ratings previously mentioned, parents perceived their girls to be in early puberty. For boys, the mean pubertal status score on the revised PDS was 1.69 ($SD = 0.61$; body hair, $M = 1.43$; voice change, $M = 1.31$; skin change, $M = 1.32$; growth spurt, $M = 1.83$; facial hair, $M = 1.09$; body shape, $M = 1.92$), suggesting that parents perceived their boys to be in prepuberty to early puberty. Direct comparisons of means with data collected by Petersen et al. (1988) are not possible, as data from their sample were collected beginning with sixth graders, with an average age of 11.5. However, for both boys and girls, ratings for the two samples are similar, with our sample scoring higher on several items, which may reflect ethnic differences between the samples.

The mean pubertal timing score for boys was 3.18 ($SD = 0.98$) and for girls was 2.98 ($SD = 1.09$) on a 5-point scale ranging from 1 (*much earlier*) to 5 (*much later*), indicating that, in general, parents perceived their children's pubertal development to be on time with respect to their peers.

TABLE 1
Mean Age of Children Rated by Parents To Be at Each Stage of Puberty

Stage	M	SD	Range	N	M	SD	Range	N
Boys					Pubic Hair Development			
I	10.6	.56	9.8–11.8	17	10.8	.68	9.8–12.8	46
II	10.9	.81	9.0–12.8	36	11.1	.80	9.0–12.3	26
III	11.1	.56	10.3–12.4	34	11.1	.56	10.3–12.1	23
IV	11.1	.72	9.8–12.2	17	10.9	.67	9.8–12.2	12
V	11.3	.75	10.6–12.0	5	11.7	.41	11.3–12.1	3
Girls					Pubic Hair Development			
I	10.7	.67	9.4–12.3	39	10.7	.61	9.4–12.3	67
II	10.8	.64	9.3–12.4	61	10.9	.76	9.3–12.4	52
III	11.0	.75	9.1–12.4	45	10.9	.62	9.1–11.7	24
IV	11.3	.66	10.5–12.9	17	11.6	.64	10.5–12.9	11
V	11.6	.23	11.3–11.8	5	11.4	.67	10.4–12.6	9

Descriptive Data on Parent–Child Conflict

Conflict Tactics Scale. For the CTS (parent report only), the mean score on the verbal aggression subscale was 1.53 ($SD = 1.25$), suggesting that parents used each of the verbal aggressive tactics approximately once or twice in the past year. On the violence subscale the mean score was 1.09 ($SD = 1.14$), again suggesting that parents used each of the violence tactics approximately once in the past year. Sex differences in the use of conflict tactics were found such that parents of boys used more verbal aggression (boys, $M = 1.72$; girls, $M = 1.37$; $t = 2.37$; $p < .05$) and more violence (boys, $M = 1.29$; girls, $M = 0.94$; $t = 2.65$; $p < .01$) than did parents of girls.

Issues Checklist. For the Issues Checklist, significant differences emerged between parent reports and child reports such that parents reported higher levels of conflict on all three scales (hot issues: parents, $M = 3.49$, children, $M = 2.73$, $t = -3.00$, $p < .01$; hot discussions: parents, $M = 22.14$, children, $M = 12.05$, $t = -5.62$, $p < .01$; average intensity: parents, $M = 1.96$, children, $M = 1.74$, $t = -3.48$, $p < .01$). Correlations between parent reports and child reports were not significant (hot issues, $r = .05$; hot discussions, $r = .04$; average intensity, $r = .10$). No significant differences in reports of conflict emerged between parents of boys and parents of girls, nor were there sex differences in children's reports of conflict.

Relations Between Pubertal Development and Parent-Child Conflict

To examine associations between pubertal development and parent-child conflict, a series of hierarchical regressions was performed for each conflict scale (parent reports of verbal aggression, parent reports of violence, parent and child reports of number of hot issues, parent and child reports of number of hot discussions, parent and child reports of average intensity), separately by gender. For each regression, age was entered in the first step, followed by pubertal status in the second step, pubertal timing in the third step, and curvilinear terms for pubertal status and timing (forward entry) in the fourth step. For boys, pubertal status was represented by scores on the PDS, as scores on the SMS reduced the sample size (as mentioned previously). For girls, scores on the PDS, SMS, and menarche were highly intercorrelated (ranging from .63 to .72), and therefore only scores on the PDS were used in the regressions so as to be comparable with boys. Pubertal status and timing were correlated $-.26$ and $-.39$ (although high, not collinear) for boys and girls, respectively, such that earlier timing was associated with higher levels of maturity. Curvilinear terms for pubertal status and pubertal timing were created by squaring scores on the PDS and the timing measure, respectively. Results were interpreted by using beta weight signs and data plots. Curvilinear effects of age were also examined, but as none were significant, they were dropped from the analyses.

Boys. Regressions were conducted for each of the conflict scales (see Table 2). For the CTS Verbal Aggression scale, age was associated with parents' reports of their use of verbal aggression with their sons. The curvilinear term for pubertal status also was associated with parents' reports of their use of verbal aggression with their sons, when controlling for age and timing (see Figure 1). Specifically, parents of older boys reported using more verbal aggression than did parents of younger boys, and parents of boys at midpuberty reported using more verbal aggression than parents of children at early puberty or late puberty. The regression for the Violence scale yielded no significant effects for pubertal status, timing, or age.

Three regressions were conducted to examine parent reports of the Issues Checklist scales. For the Number of Hot Discussions scale, the curvilinear term for pubertal timing was associated with the number of hot discussions, when controlling for age, pubertal status, and the linear timing scale (see Figure 2). Specifically, parents who reported their child ma-

TABLE 2
Significant Multiple Regression Results for Associations Between Pubertal Status and
Timing and Parent-Child Conflict

<i>Step and Variable</i>	β	<i>R</i>	<i>R² Change</i>	<i>F change</i>
Boys^a				
Verbal aggression (parent report)				
1. Age	.213	.213	.046	6.11**
2. Pubertal status	.112	.241	.012	1.66
3. Pubertal timing	-.005	.241	.001	0.01
4. Status ²	-1.01	.319	.044	6.13**
Timing ²	.422	.331	.008	1.10
Number of hot discussions (parent report)				
1. Age	-.005	.005	.000	0.01
2. Pubertal status	.110	.110	.012	1.54
3. Pubertal timing	-.096	.143	.009	1.10
4. Timing ²	1.06	.265	.049	6.70**
Status ²	-.674	.300	.020	2.70
Number of hot issues (child report)				
1. Age	-.056	.056	.003	0.40
2. Pubertal status	.204	.210	.041	5.44**
3. Pubertal timing	.042	.214	.002	0.21
4. Timing ²	.337	.225	.005	0.66
Status ²	-.244	.231	.002	0.34
Number of hot discussions (child report)				
1. Age	.032	.032	.001	0.13
2. Pubertal status	.198	.199	.038	5.08**
3. Pubertal timing	-.046	.203	.002	0.26
4. Timing ²	-.540	.233	.013	1.69
Status ²	.420	.249	.008	1.03
Girls^b				
Violence (parent report)				
1. Age	-.151	.151	.023	3.94*
2. Pubertal status	-.009	.152	.001	0.01
3. Pubertal timing	-.024	.153	.001	0.08
4. Timing ²	-.354	.172	.007	1.05
Status ²	-.300	.180	.002	0.45
Number of hot issues (parent report)				
1. Age	.102	.102	.010	1.77
2. Pubertal status	-.016	.103	.001	0.02
3. Pubertal timing	-.180	.190	.025	4.54*
4. Timing ²	.935	.281	.043	7.82**
Status ²	.463	.292	.006	0.99

TABLE 2 (Continued)

Step and Variable	β	R	R ² Change	F Change
Number of hot discussions (parent report)				
1. Age	.090	.090	.008	1.36
2. Pubertal status	.008	.090	.001	0.01
3. Pubertal timing	-.069	.109	.004	0.63
4. Timing ²	.954	.238	.045	7.82**
Status ²	-.132	.239	.001	0.09

Note. All statistics for a given independent variable were computed at the step that the variable entered the equation. Status² = curvilinear pubertal status; timing² = curvilinear pubertal timing.

^an = 131. ^bn = 171.

tured early or late also reported more hot discussions than did parents of on-time maturers. The regressions for the Number of Hot Issues and the Average Intensity scales found no significant effects.

Three regressions were conducted for child reports of the Issues Checklist scales. For the Number of Hot Issues scale, parent reports of pubertal status were associated with child reports of the number of hot issues, when controlling for age. Specifically, more developed boys reported more hot issues than less developed boys. Similarly, for the Number of Hot Discussions scale, parent reports of pubertal status were associated with child reports of the number of hot discussions, when controlling for age. As before, more developed boys reported more hot discussions than less developed boys. The Average Intensity scale was not associated with pubertal status, timing, or age.

Girls. Regressions were conducted representing each of the conflict scales (see Table 2). Two separate regressions were run to predict the two CTS scales. The Verbal Aggression scale was not associated with pubertal status, timing, or age. For the Violence scale, age was associated with parents' reports of their use of violence with their daughters, such that parents of younger girls reported using more violent tactics than did parents of older girls.

Three regressions were conducted to examine parent reports of the Issues Checklist scales. For the Number of Hot Issues scale, pubertal timing was associated with parent reports of the number of hot issues, both linearly and curvilinearly, when controlling for age and pubertal status (see Figure 3). Specifically, parents who reported their children were maturing earlier than their peers also reported more hot issues than did parents of on-time or late maturers, and parents of late maturers reported more hot

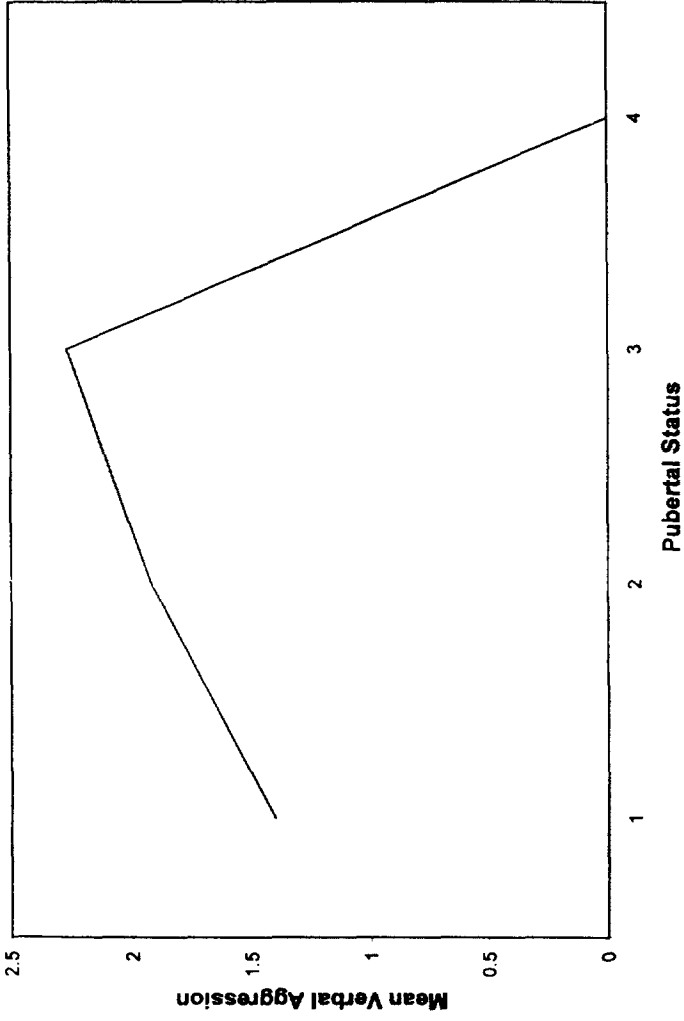


FIGURE 1 Parent report of the CTS Verbal Aggression scale by pubertal status for boys.

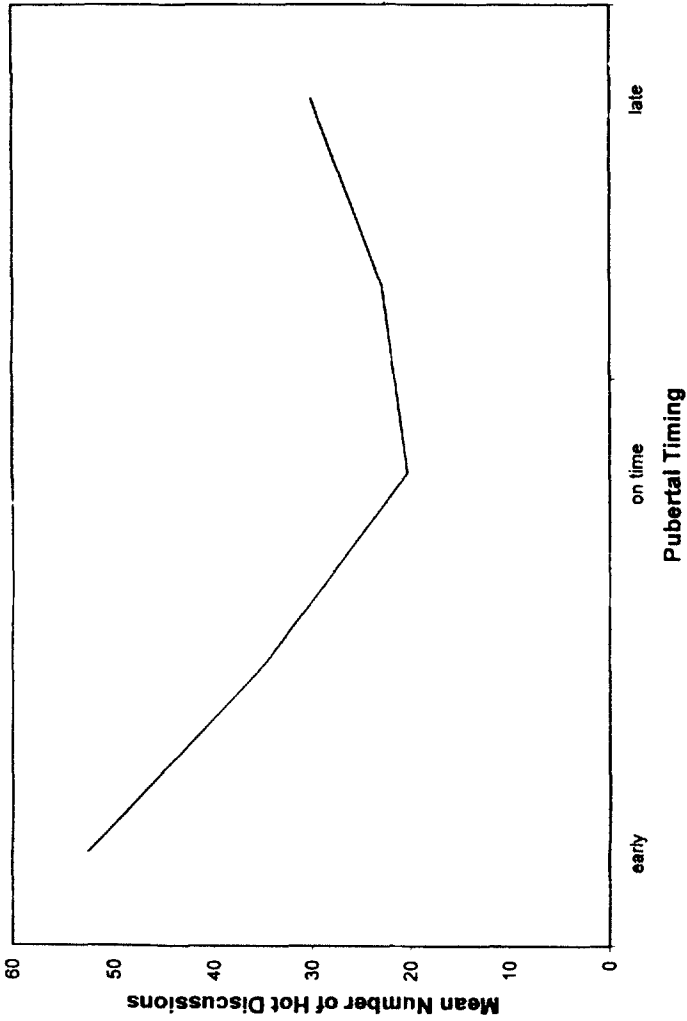


FIGURE 2 Parent report of the Number of Hot Discussions scale by pubertal timing for boys.

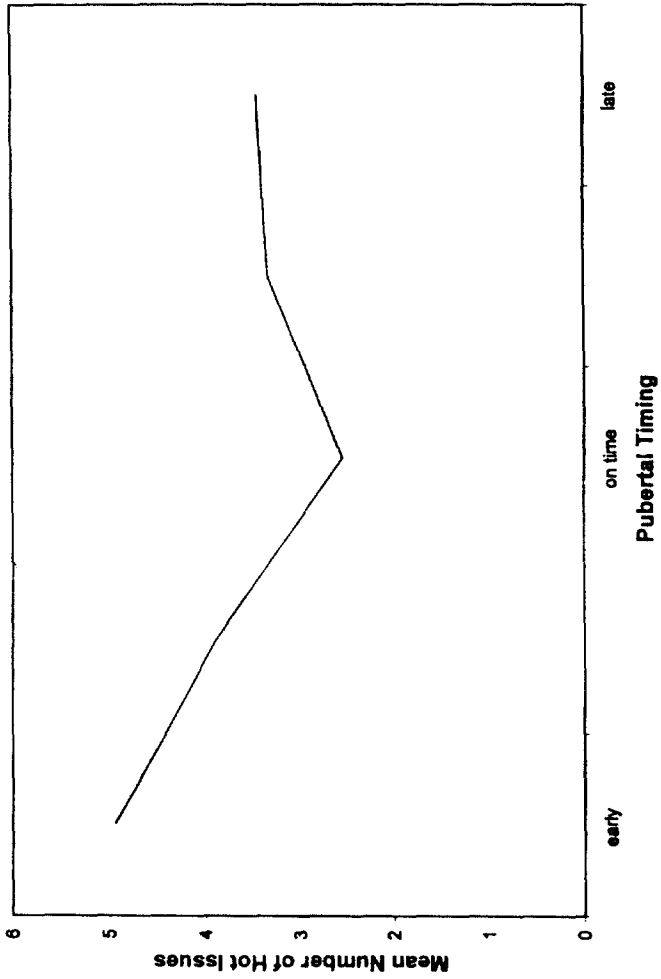


FIGURE 3 Parent report of the Number of Hot Issues scale by pubertal timing for girls.

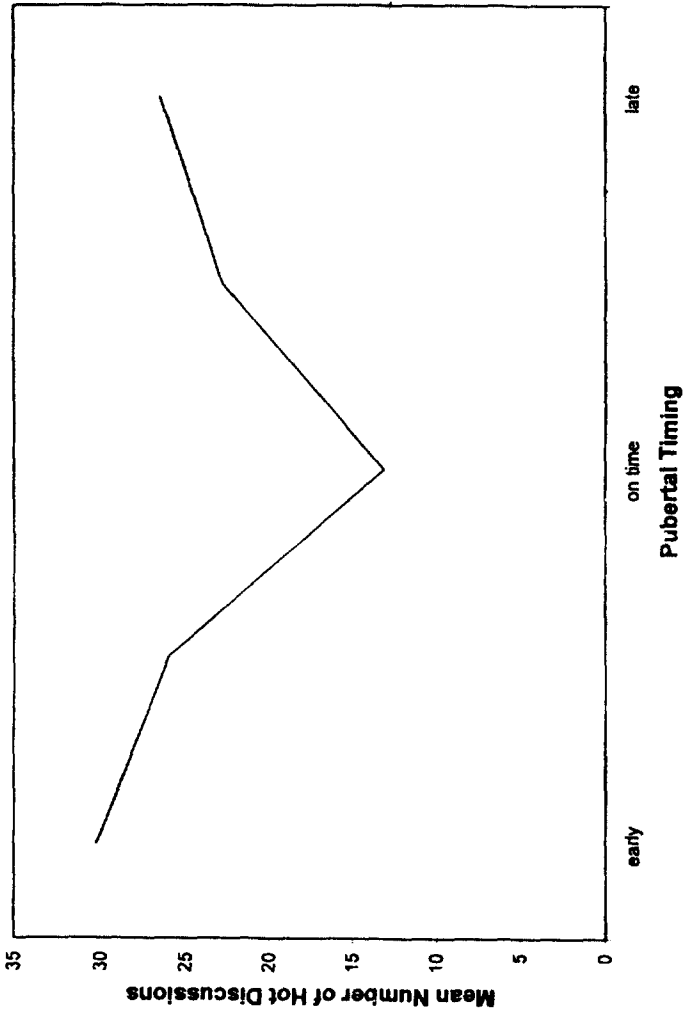


FIGURE 4 Parent report of the Number of Hot Discussions scale by pubertal timing for girls.

issues than parents of on-time maturers. For the Number of Hot Discussions scale, the curvilinear term for pubertal timing was associated with the number of hot discussions, when controlling for age, pubertal status, and the linear timing scale (see Figure 4). Specifically, parents who reported their child matured early or late also reported more hot discussions than did parents of on-time maturers. Average Intensity was not associated with pubertal status, timing, or age. In addition, three regressions were conducted to examine child reports of the Issues Checklist scales. None of these (Number of Hot Issues, Number of Hot Discussions, and Average Intensity) revealed significant associations.

DISCUSSION

The first goal of this study was to describe pubertal development in this sample of urban, low-income, African American children. Results indicated that in our sample (mean age 11.0), parents perceived their children to be in the early stages of puberty, with girls somewhat more advanced than boys. Two measures of pubertal status, the SMS and the PDS, were used to allow for comparisons with data on other samples. Comparisons to data collected from British and European American, middle-class samples suggest that the urban, low-income, African American children in our sample are developing earlier than normative samples of British and European American youth, as has been found previously (Herman-Giddens et al., 1997; Marshall & Tanner, 1969, 1970; Petersen et al., 1988); however, evidence is inconclusive given the restricted age range in this sample. For example, Herman-Giddens et al. reported that the mean age of girls in Stage III of pubic hair development was 11.53 for the White sample and 10.35 for the African American sample, as compared to 10.9 for our sample; however, the age range of their sample was 3 to 12 years, as compared to 9 to 12.9 years for our sample. Therefore, the different mean ages of children at different developmental stages may be an artifact of the different ranges of ages in the samples being compared. They may also reflect differences in the validity of parental ratings versus ratings by trained health care professionals, as were used in Herman-Giddens et al. In addition, the Herman-Giddens et al. sample was derived from a clinic rather than the community, as in this sample. Adolescents seen in a clinic may have been brought to a pediatrician's office due to growth issues. Longitudinal data currently being collected on this sample will further elucidate the timing of pubertal development, as increased numbers of children will have entered into the more developed stages.

The second goal of this study was to examine associations between pubertal development and parent-child conflict in this sample. Reports of the

level of family conflict differed between parents and children in the sample. Specifically, parents reported higher levels of conflict than did their children. Our finding that parents report more conflict than their children is in contrast to research findings in European American samples, in which children report more conflict than their parents (Montemayor, 1983; Paikoff, Carlton-Ford, & Brooks-Gunn, 1993; although see Galambos & Almeida, 1992 for an exception). One explanation is that parents in European American families may be less willing to report conflict than children (Montemayor, 1983). Such social desirability constraints may not operate in the same way in urban, African American families. In particular, African Americans may not perceive family conflict as socially undesirable (McLoyd, 1990).

In addition, different patterns of parent-child conflict emerged for boys and girls, such that parents of boys reported higher rates of conflict than parents of girls. Given that 89% of the parents were biological mothers, this suggests the possibility of more conflict in the mother-son relationship than in the mother-daughter relationship in this sample. In contrast, research on European American families suggests that although increases in conflict are apparent in all parent-adolescent dyad configurations, such increases are more frequent and intense in the mother-daughter dyad. However, these increases are moderated by the type of issue being discussed as well as pubertal status and timing (Hill, 1988; Montemayor, 1982, 1983, 1986; Paikoff & Brooks-Gunn, 1991; Papini & Sebbly, 1988).

Several explanations can be advanced for the varying patterns of findings for boys and girls. First, the community context may affect patterns of gender differences in parent-child conflict. The families in our sample reside in urban housing projects, and inner-city adolescents are exposed to increasing levels of violence and gang behavior (Bell & Jenkins, 1993; Richters & Martinez, 1993). In an effort to protect their sons from involvement with gangs, parents may be more restrictive of their sons than their daughters. Such limiting of autonomy during adolescence may give rise to increased conflict in the parent-son relationship, more so than in the parent-daughter relationship.

Second, there are family structural differences between the current sample and most previous research. Specifically, more than 80% of the families in the current sample are single-parent households, whereas most research on European American samples has been conducted on two-parent households. Research on adaptation to divorce and remarriage in a European American sample (Anderson et al., 1989) suggests that the changes in parent-child relationships at puberty hold for nondivorced, biological families, but not in divorced, single-mother families or at initial remarriage in

remarried families, which experience less mother-child conflict. Our research further suggests that patterns of conflict may differ according to family structure and, more specifically, that the absence of a second parent changes the nature of family conflict in ways that may differ by child gender. Further research is needed to disentangle family structure from other factors unique in this sample relative to prior work, such as poverty, minority status, culture (Allison & Takei, 1993), and poor educational opportunities (Kozol, 1991; Nettles & Pleck, 1994), which in the context of development may result in unique, challenges and difficulties leading to increases in family conflict.

Third, the timing of pubertal development may affect parent-child conflict. The average age of the children in our sample is 11 years, thus they are all relatively early in the pubertal process. Therefore, the more developed children are likely to be developing early with respect to their peers. Results of several studies have suggested that both boys and girls who mature early report increased conflict with their parents (Hill, 1988; Hill & Holmbeck, 1987; Savin-Williams & Small, 1986; Steinberg, 1987, 1988); however, for girls, the recent onset of menarche is also related to an increase in mother-daughter conflict (Holmbeck & Hill, 1991). Given that only 17% of the girls in the current sample are postmenarcheal, the rise in levels of conflict in the parent-daughter relationship may not yet have commenced. As such, this sample may not yet be old enough to experience the levels of conflict apparent in other, more mature samples, and therefore does not provide a similar comparison.

Pubertal status and pubertal timing were also differentially related to parent reports of conflict, in that the two different measures of conflict, the CTS and the Issues Checklist, were each related to different aspects of pubertal development. For boys, pubertal status was curvilinearly related to scores on the CTS Verbal Aggression scale, whereas timing was curvilinearly related to scores on the Issues Checklist. For girls, age was related to the CTS Violence scale and, as with boys, timing was curvilinearly related to the Issues Checklist.

These differences may reflect differences between the types of questions posed by each conflict measure. Specifically, the CTS asks about specific behaviors used by parents during conflict. As children become older and more physically mature (including increased physical size), parents may begin to rely on more aggressive techniques that were not needed prior to adolescence as a means of controlling their adolescent children. In contrast, the Issues Checklist measures the types and number of issues discussed, which have been shown to be related to pubertal timing such that children who mature earlier engage in more conflict with parents (Laursen & Collins, 1994; Savin-Williams & Small, 1986; Steinberg, 1987).

Previous research has indicated that such increases in conflict focus on family rules (Hill, 1988; Hill & Holmbeck, 1987) and reflect the adolescent's desire for increased independence and autonomy, which serve as important indications of their maturity (Savin-Williams & Small, 1986). Post hoc examination of correlations between timing and both parent and child reports of conflict on the Issues Checklist reveal that items related to autonomy (e.g., how child spends time after school, whether child can have friends over unsupervised) are most highly (negatively) correlated with timing, suggesting that earlier maturers engage in more conflict over issues of autonomy than on-time or late maturers. This may suggest that adolescents who engage in more conflict with their parents seek to spend more of their discretionary time with peers. Increases in conflict may also reflect a hesitancy on the part of parents to allow their early-maturing children to become more independent at such a young age.

In this sample, the relation between puberty and reports of conflict were significant for parent report for boys and girls, but for child report only for boys, and only with respect to pubertal status. This pattern is similar to findings by Savin-Williams and Small (1986), who found that pubertal development is more important to parent perceptions of family relationships, including conflict, than it is to their adolescent children. They suggest that pubertal development signals a social change to the parent, who may be more aware of the consequences of pubertal changes (including expectations for increased conflict) and as a result interpret interactions from a different perspective. Pubertal status may be more salient for boys than girls, as increases in pubertal maturation are likely accompanied by increases in overall size and strength, impacting sons' perceptions of their potential physical power over their mothers. It should be noted that parents provided the reports of pubertal development and, as such, common method variance may explain why parent reports of conflict were more likely to be associated with puberty than child reports of conflict. Child perceptions of pubertal development would likely be more highly related to child perceptions of conflict. Unfortunately, child reports of puberty could not be obtained.

Differences in parent-child perceptions of conflict may also reflect cognitive differences in development between adolescents and adults. Adolescents' knowledge about conflict may be limited, and they may lack the cognitive skills to estimate the number of conflicts in which they engage in any given time period, in part due to a less developed sense of time perspective, although little research exists in this area (Irwin & Millstein, 1987; Parfenoff & Paikoff, 1997).

Certain limitations of this study are worth noting. First, the sample is nonrandom and therefore cannot be considered a normative sample with

respect to pubertal development. More specifically, the sample represents 43% of the available fourth- and fifth-grade students from six target schools (see Paikoff et al., 1997). There may be differences between the families agreeing to participate and those who chose not to participate; however, no data are available to assess such differences. It is possible that those willing to participate were experiencing less hardship in their lives and were therefore more willing to participate in research. Conversely, those participating may have been experiencing more financial hardship and therefore chose to participate for the monetary compensation. Such differences, if they exist, could also be related to parent-child conflict.

In conclusion, our research was designed to examine the relations between puberty and parent-child conflict in a sample of urban, low-income, African American preadolescents. The findings have potentially important implications. In this sample, earlier-developing adolescents experience more conflict with their parents. This may suggest that earlier-developing adolescents experience more stressful relationships with their parents, reducing the opportunity for parents to buffer children from the challenges of the transition to adolescence. This may put low-income, urban adolescents at particular risk, as they are exposed to increasing levels of violence and gang behavior in their neighborhood environment (Bell & Jenkins, 1993; Richters & Martinez, 1993). Furthermore, both earlier pubertal development and poor parent-child communication have been associated with earlier initiation of sexual behavior (Jessor & Jessor, 1975; Udry, 1988), and as such, these children may be at especially high risk for the adverse outcomes associated with early sexual behavior, including pregnancy, sexually transmitted diseases, and HIV. Further research examining pubertal development using larger, more representative African American samples are needed to evaluate norms for pubertal development. In addition, research examining associations among pubertal development, parent-child conflict, and behaviors that place adolescents at risk for adverse physical and mental health outcomes is needed (Sagrestano & Paikoff, 1997). An understanding of such associations will contribute to the development of preventive interventions, especially for inner-city African American samples.

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