

## A Longitudinal Examination of Familial Risk Factors for Depression Among Inner-City African American Adolescents

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This research examines longitudinally associations between family risk factors and child and parent depression in 302 urban, low-income, African American adolescents (ages 9–15) and their parents across 2 waves of data collection. Diagnostic data revealed that 7.3% of parents and 3.0% of children at Time 1 and 5.4% of parents and 2.8% of children at Time 2 were clinically depressed. Regression analyses revealed that changes in family functioning were concurrently associated with changes in depression for both children and parents. Specifically, increases in conflict and decreases in parental monitoring were associated with increases in child depressive symptomatology, and increases in conflict and decreases in positive parenting were associated with increases in parental depressive symptomatology. Findings are discussed within a framework of understanding family protective factors and the prevention of depression.

Depression in children and adolescents has been found to be associated with a variety of mental health disorders (e.g., conduct disorder, anxiety disorder; Compas & Hammen, 1994; Kovacs, 1990), adverse behavioral outcomes (e.g., delinquency, school problems, substance use, teen pregnancy; Horwitz, Klerman, Sungkuo, & Jekel, 1991; Petersen, Compas, & Brooks-Gunn, 1992; Petersen et al., 1993), suicidal ideation and attempts (Wagner, 1997), and depression in adulthood (Lewinsohn, Rohde, Klein, & Seeley, 1999; McCauley et al., 1993). As such, child and adolescent depression has become an area of focus for intervention.

Risk factors for adolescent depression have been studied extensively. In a comprehensive review, Fleming and Offord (1990) concluded that consistent associations were found between depression and increasing age, family dysfunction (e.g., marital conflict), low self-esteem, and stress-

ful life events, whereas associations between depression and gender, parent psychopathology, race, school performance, and socioeconomic status (SES) were inconsistent (Fleming & Offord, 1990). However, the majority of the research conducted in this area is on White, middle-class samples and relies on cross-sectional, self-report methodologies. Furthermore, most studies of depression that assess African American youth focus on rates of depression and links to externalizing problem behaviors rather than on factors such as family functioning. Similar to White, middle-class populations, however, family process may be an important predictor of adolescent depression. This effect may be stronger among low-income, urban families, as they are exposed to high levels of stress associated with poverty, a risk factor for depression (Lempers & Clark-Lempers, 1990; McLoyd, 1990), but may not have adequate resources available to cope with the challenges of parenting children in the inner city.

The current study examines associations between family risk factors and child depression in a sample of low-income, urban, African American adolescents and their parents. The purpose of the study is threefold. First, we provide descriptive data on depression, depressive symptomatology, and anxiety in the current sample, including associations between parent and child depression and anxiety, age, and age of first parenthood for the mothers. Second, we examine associations between parent and child reports of parent-child conflict (i.e., verbal and aggressive conflict tactics, number of conflictive issues, frequency of conflict, and intensity of conflict), parenting behaviors (i.e., monitoring, positive parenting skills), observational codes of parent-child interactions, and child depressive symptomatology. Third, we examine associations between the same predictors and parent depressive symptomatology.

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Epidemiological data indicate that depression and depressive symptoms increase in late childhood and early adolescence (Rutter, 1986) and typically persist into adulthood (McCauley et al., 1993). Prevalence rates are difficult to determine, as studies vary in the definition and measurement of depression, ranging from depressed mood, to depressive syndrome, to depressive disorders (see Compas, Ey, & Grant, 1993; Garber & Flynn, 2001, for a complete discussion). Among community samples of adults, rates of clinical depression range from 5% to 16% (Kashani et al., 1987; Myers et al., 1984). Studies of depressed mood indicate rates as high as 40% among adolescents (Achenbach, 1991; Petersen et al., 1992; Rutter, 1986). Rates of clinical depression among community samples of adolescents range from 3% to 8% (Kashani et al., 1987; Petersen et al., 1993; Rohde, Lewinsohn, & Seeley, 1991), with between 20% and 75% exhibiting comorbidity with anxiety (Fleming & Offord, 1990; Kashani et al., 1987; Rohde et al., 1991). A review of studies suggests that those with comorbid depression and anxiety have an earlier age of onset of depression and, in the majority of cases, anxiety developed prior to depression (Compas & Hammen, 1994; Kovacs, 1990). Kovacs suggested that in some children, comorbid anxiety and depression may be a single disorder, whereas in other children the two disorders may be distinct and may indicate a higher level of vulnerability. Although there are few studies of comorbidity across development, evidence suggests that anxiety and depression are comorbid across the lifespan (Compas & Hammen, 1994).

Prevalence statistics indicating group differences in depression (e.g., gender, race, SES) are inconsistent (Fleming & Offord, 1990; Nettles & Pleck, 1994); however, when differences are reported, rates of depression are higher among girls than boys (Allgood-Merten, Lewinsohn, & Hops, 1990; Kandel & Davies, 1982) and higher among lower SES than higher SES adolescents (Bird et al., 1988; Schoenbach, Kaplan, Grimson, & Wagner, 1982). Findings with regard to race differences in depression among adolescents also are mixed. Some studies show higher rates among African American than White adolescents (Garrison, Schluchter, Schoenbach, & Kaplan, 1989; Schoenbach et al., 1982), whereas others report the opposite pattern (Nettles & Pleck, 1994). In adulthood, women generally report higher rates of depression than men (Culbertson, 1997), whereas race differences in depression appear not to persist with age (Hammen, 1991). It is possible that the inconsistencies across studies of race and gender differences in adolescent depression may reflect differences among samples with respect to other social structural factors, such as SES.

Familial risk factors for depression and suicide, and in particular the intergenerational transmission of psychopathology, has been the focus of much research on child and adolescent depression and suicide (Downey & Coyne, 1990; Hammen, 1991; Wagner, 1997). Having a depressed parent is a major risk factor for depression in childhood and adolescence (Downey & Coyne, 1990; Fendrich, Warner, & Weissman, 1990; Hammen, 1991). The transmission of depression from parent to child may take place through a

variety of mechanisms (Garber & Flynn, 2001; Petersen et al., 1992, 1993), including genetic predisposition (Weissman, 1990), emotional unavailability of parents (Gjerde, Block, & Block, 1991; Simons et al., 2002), and dysfunctional family relationships (e.g., low cohesion, hostility, marital and family conflict, divorce, poor parenting skills; Downey & Coyne, 1990; Fleming & Offord, 1990; Formoso, Gonzales, & Aiken, 2000; Garber & Flynn, 2001; Olsson, Nordstrom, Arinell, & von Knorring, 1999). Although the age of first parenthood has not been well studied, it may be an additional mechanism for intergenerational transmission, because children of adolescent mothers who themselves became adolescent mothers report significant depressive symptoms predating the pregnancy and are often the children of mothers suffering from lifetime depression (Horwitz et al., 1991). Children of adolescent mothers also tend to have less favorable mental health outcomes more generally (Hardy, Astone, Brooks-Gunn, Shapiro, & Miller, 1998).

Most studies of family functioning and depression focus on warmth and cohesion. For example, adolescents who report higher levels of depression also report less support, positive affect, warmth, closeness, and intimacy, and more hostility from parents (Carlton-Ford, Paikoff, Oakley, & Brooks-Gunn, 1996; Greenberger, Chen, Tally, & Dong, 2000), although this may be due to self-report bias among depressed respondents. Specific parenting behaviors are also associated with child depression. For example, depression among adolescents is associated with harsher discipline (Kandel & Davies, 1982; Simons et al., 2002), lower rates of rewarding by parents (Cole & Rehm, 1986), and authoritarian or laissez-faire parenting styles (Kandel & Davies, 1982). This may be manifested as lower levels of engagement during interactions. Less is known about parental depression and parental monitoring of child behaviors, although parental depression is associated with reduced efforts toward parenting in general (Downey & Coyne, 1990), which may extend to monitoring children's behavior. One way in which this may be exhibited is in the area of role relations or boundaries. Specifically, if parents put reduced effort into the parenting role in general, they may be less likely to set limits or boundaries, placing children in a more peerlike role, which could become burdensome over time.

Associations between parent-child conflict and depression have received very little attention (Greenberger & Chen, 1996). Instead, the family environment has been examined primarily as a resource that is used to buffer against the adverse effects of various stressors that might otherwise lead to depression (e.g., Carlton-Ford et al., 1996). However, an increase in parent-child conflict at the transition to adolescence (Hill & Holmbeck, 1987; Paikoff & Brooks-Gunn, 1991; Sagrestano, McCormick, Paikoff, & Holmbeck, 1999) may be a source of stress in and of itself, such that parent-child conflict results in a stressful environment. Research suggests that stress plays an important role in the development of depression (Ge, Lorenz, Conger, Elder, & Simons, 1994). In the few studies that have exam-

ined depression and family conflict, results indicated that perceptions of higher levels of family conflict are associated with higher levels of depression among early adolescents, although this association diminishes in later adolescence (Burt, Cohen, & Bjorck, 1988; Greenberger & Chen, 1996). Furthermore, research suggests that parent-child conflict and harsh discipline are related to both attempted and completed suicide (Fergusson & Lynskey, 1995).

Finally, it should be noted that a combination of several of the causal sequences outlined above may be at play in explaining child depression. More specifically, different causal sequences may be operating for different children. In addition, multiple factors may be implicated for some children, and the interrelationships among causal sequences may vary. As such, examination of any single risk factor may not be sufficient to explain child depression.

The present study examined associations between family risk factors and child and parent depression in a sample of low-income, urban, African American adolescents. We selected younger adolescents because depressive symptoms have been found to increase in late childhood and early adolescence (Rutter, 1986). We assessed parent-report, child-report, and observational measures that represent various components of family functioning across two waves of data collection, including family conflict, parenting behaviors, and warmth and cohesion. The study is strengthened by the inclusion of both self-report and observational measures, which reduces problems associated with common method variance that arise from purely self-report measures.

We hypothesized that family functioning would be related to depression. Specifically, we expected that parent<sup>1</sup> depression at Time 1 would be positively associated with child depression at Time 2, child age would be positively associated with child depression (i.e., older children would be more depressed than younger children), parent age would be negatively associated with parent depression (i.e., younger parents would be more depressed than older parents), and that mother's age at first childbirth would be negatively associated with mother's depression (i.e., those having children when younger would be more depressed than those having children when older). For the parent- and child-report measures, we hypothesized that higher levels of parent-child conflict at Time 1 and lower levels of parental monitoring and positive parenting at Time 1, would be associated with higher levels of child depression at Time 2. For the observational codes of parent-child interactions, we expected that higher levels of parent engagement-collaboration, child engagement-collaboration, parent positive affect, and child positive affect at Time 1 would be associated with lower levels of child depression at Time 2, whereas the degree to which there is a peer relationship between parent and child, the degree of conflict in the family, parent intensity of emotion, and child intensity of emotion at Time 1 would each be associated with higher levels of child depression at Time 2.

## Method

### Sample

Participants were drawn from the first and second waves of data collection of the Chicago HIV Prevention Adolescent Mental Health Project, a study of familial influences on HIV risk. Participants were 302 urban, low-income, African American adolescents (171 girls and 131 boys) and their primary caregivers at Time 1 and 275 adolescents (161 girls and 114 boys) and their primary caregivers who returned for Time 2. The mean age of the children was 10.96 years ( $SD = 0.70$ , range = 9.00–12.90; girls:  $M = 10.92$ ,  $SD = 0.69$ ; boys:  $M = 11.00$ ,  $SD = 0.71$ ) at Time 1 and 12.96 years ( $SD = 0.77$ , range = 11.00–15.00; girls:  $M = 12.94$ ,  $SD = 0.76$ ; boys:  $M = 12.98$ ,  $SD = 0.78$ ) at Time 2. The mean age of the parents was 34.38 years ( $SD = 6.30$ ) at Time 1 and 37.68 years ( $SD = 8.74$ ) at Time 2. The majority of parents (89%) were biological mothers of the children, although other family members (i.e., fathers, grandparents) were interviewed in 33 cases (11%). The average age at first childbirth for the parents was 19.24 years ( $SD = 5.18$ ). The participants were primarily low-income and living in federally subsidized housing projects, with 67.0% of parents reporting a total income under \$10,000, 63.0% of parents reporting not working in the last year, and 54.0% of parents reporting having not completed high school. Furthermore, more than half the parents (58.2%) had never been married, 19.0% were currently married, and 22.5% were separated, divorced, or widowed.

### Measures

Measures included parent and child reports of depression, anxiety, family conflict, and parenting behaviors as well as observational codes from parent-child interactions.

#### *Depression and Anxiety Measures: Parents*

*Diagnostic Interview Scale (QDIS).* The QDIS (Robins & Marcus, 1987) is a diagnostic interview used to measure psychiatric symptoms and global psychological functioning in adults. The current version allows for computerized coding and scoring according to the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., rev.; *DSM-III-R*; American Psychiatric Association, 1987), Research Diagnostic Criteria, and Feighner criterion, and has been validated on urban populations (Helzer et al., 1985). Parent diagnoses for major depressive disorder and generalized anxiety disorder were determined on the basis of standard QDIS scoring criteria.

*Symptom Checklist (SCL-90-R).* The SCL-90-R (Derogatis, 1992) is a 40-item self-report measure of psychiatric symptomatology designed for adults. For each item, participants indicated the extent to which the problem had distressed or bothered them in the past 7 days, using a 5-point Likert scale, ranging from 0 (*not at all*) to 4 (*extremely*). The Depression subscale consists of 13 items, and the mean score on the subscale was 0.56 ( $SD = 0.68$ ) for Time 1 and 0.61 ( $SD = 0.73$ ) for Time 2. The alpha reliability of the Depression subscale was .90 for Time 1 and .91 for Time 2. The Anxiety subscale consists of seven items, and the mean score on the subscale was 0.47 ( $SD = 0.66$ ) for Time 1 and 0.51 ( $SD =$

<sup>1</sup> Although the majority of caregivers were biological mothers of the children (89%), caregivers are referred to as *parents* for simplicity.

0.67) for Time 2. The alpha reliability of the Anxiety subscale was .85 for both Time 1 and Time 2.

### *Depression and Anxiety Measures: Children*

*Diagnostic Interview for Children and Adolescents—Revised (DICA-R).* The DICA-R (Kaplan & Reich, 1992) is a widely used psychiatric interview designed specifically for school-age children and adolescents. The revised version allows for ratings of psychiatric symptoms along *DSM-III-R* diagnostic categories, as specified for childhood and adolescent disorders, and has been validated with urban and minority populations (Welner, Reich, Herjanic, Jung, & Amado, 1987). Child diagnoses for major depressive disorder and generalized anxiety disorder were determined on the basis of standard DICA-R scoring criteria according to the *DSM-III-R*.

*Child depressive symptoms.* A continuous scale measuring depressive symptomatology was developed using items from the DICA-R. Initial gateway items for each symptom category were used to form a 21-item scale of depressive symptomatology. For each item, responses of “yes” or “sometimes” were coded as 1, and responses of “no” were coded as 0. Items were then summed to form a continuous scale with a range of 0–21. The data were inspected to ensure that more extreme symptoms were endorsed only by participants who also endorsed less extreme symptoms, and all participant responses complied with this standard. The mean score on the scale was 5.27 ( $SD = 4.36$ , maximum = 17) for Time 1 and 3.99 ( $SD = 3.51$ , maximum = 17) for Time 2, and there were no gender differences in children’s reports of depressive symptomatology for either wave of data collection. The alpha reliability for the Depressive Symptomatology scale was .84 at Time 1 and .79 at Time 2.

*Child anxiety symptoms.* A continuous scale measuring anxious symptomatology was developed using 15 items from the DICA-R in a manner similar to that described above for depressive symptoms. The mean score on the scale was 5.03 ( $SD = 3.99$ , maximum = 15) for Time 1 and 4.09 ( $SD = 3.73$ , maximum = 14) for Time 2, and there were no gender differences in children’s reports of anxious symptomatology for either wave of data collection. The alpha reliability for the scale was .74 at Time 1 and .73 at Time 2.

### *Family Measures*

*Issues Checklist, brief version.* The brief version of the Issues Checklist (Holmbeck & O’Donnell, 1991; Robin & Foster, 1989), designed to measure parent–adolescent conflict, was completed independently by children and by parents. The checklist consists of 17 issues (i.e., chores, curfew, homework). Participants indicated whether each issue was discussed in the past 2 weeks (number of conflictive issues). For each issue that was discussed, they indicated how many times discussion occurred in the past 2 weeks (frequency). Finally, they rated how “hot” the discussions were (intensity) on a 5-point Likert scale, ranging from 1 (*calm*) to 5 (*angry*). Three subscales were formed on the basis of these scores. First, the number of issues for which intensity was rated 2 or higher was calculated (number of hot issues). Second, the number of hot discussions (frequency) for which intensity was rated 2 or higher was calculated. Finally, the average intensity across issues was calculated. All of the scales had moderate to high interitem reliability (number of hot issues: parents,  $\alpha = .79$  for Time 1,  $\alpha = .83$  for Time 2; children,  $\alpha = .78$  for Time 1,  $\alpha = .74$  for Time 2; number of hot discussions: parents,  $\alpha = .82$  for Time 1,  $\alpha = .86$  for Time 2; children,  $\alpha = .71$  for Time 1,  $\alpha = .73$  for Time 2;

average intensity: parents,  $\alpha = .84$  for Time 1,  $\alpha = .84$  for Time 2; children,  $\alpha = .79$  for Time 1,  $\alpha = .78$  for Time 2). Significant differences emerged between parent reports and child reports for both waves of data collection, such that parents reported higher levels of conflict on all three subscales, hot issues (parents,  $M = 3.35$ ; children,  $M = 2.73$ ),  $t(301) = -2.61$ ,  $p < .01$ ; hot discussions (parents,  $M = 22.14$ ; children,  $M = 12.05$ ),  $t(301) = -5.62$ ,  $p < .01$ ; and average intensity (parents,  $M = 1.96$ ; children,  $M = 1.74$ ),  $t(286) = -3.48$ ,  $p < .01$ , for Time 1, and on two subscales, hot issues (parents,  $M = 4.03$ ; children,  $M = 2.69$ ),  $t(267) = -5.41$ ,  $p < .01$ ; and hot discussions (parents,  $M = 23.57$ ; children,  $M = 12.18$ ),  $t(267) = -5.66$ ,  $p < .01$ , for Time 2. No significant differences in reports of conflict emerged between parents of boys and parents of girls, nor were there gender differences in children’s reports of conflict for both Time 1 and Time 2.

*Parental Monitoring and Positive Parenting subscales.* The Parental Monitoring and Positive Parenting measure adapted items from Gorman-Smith, Tolan, Zelli, and Huesmann (1996) and Lamborn, Mounts, Steinberg, and Dornbusch (1991) to create subscales designed to assess parental monitoring and positive parenting. Items were rated on either 3-point or 5-point scales, and all were converted to a 5-point scale, with higher scores denoting higher levels of monitoring and supervision.

For Time 1, the Parental Monitoring subscale consisted of 21 items assessing the extent to which parents monitor where their children are, who they are with, curfews, and plans for the coming day. This subscale was administered to both parents ( $M = 4.43$ ,  $SD = 0.37$ ,  $\alpha = .71$ ) and children ( $M = 3.93$ ,  $SD = 0.52$ ,  $\alpha = .73$ ); parents reported significantly higher levels of monitoring than did children,  $t(301) = -14.66$ ,  $p < .01$ . There were no gender differences in children’s reports of levels of monitoring; however, parents of girls ( $M = 4.48$ ,  $SD = 0.35$ ) reported significantly higher levels of monitoring than did parents of boys ( $M = 4.36$ ,  $SD = 0.39$ ),  $t(300) = -2.67$ ,  $p < .01$ . For Time 2, a shorter version (10 items) of the scale was used, because some items were omitted from the interview protocol. Parents ( $M = 4.38$ ,  $SD = 0.40$ ,  $\alpha = .42$ ) reported significantly higher levels of monitoring than did children ( $M = 3.94$ ,  $SD = 0.55$ ,  $\alpha = .53$ ),  $t(267) = -11.53$ ,  $p < .01$ . There were no gender differences in children’s reports of levels of monitoring, nor were there significant differences between parents of girls and parents of boys. It should be noted that the reliability of this scale at Time 2 was low, and therefore results involving this measure should be evaluated with caution.

The Positive Parenting subscale for Time 1 consisted of 12 items assessing the extent to which parents use positive parenting techniques with their children (e.g., time spent together, positive reinforcement). This subscale was administered to both parents ( $M = 4.17$ ,  $SD = 0.53$ ,  $\alpha = .75$ ) and children ( $M = 3.82$ ,  $SD = 0.61$ ,  $\alpha = .72$ ), and parents reported significantly higher levels of positive parenting than did children,  $t(301) = -8.46$ ,  $p < .01$ . There were no gender differences in children’s reports of levels of positive parenting; however, parents of girls ( $M = 4.23$ ,  $SD = 0.53$ ) reported significantly more positive parenting than did parents of boys ( $M = 4.10$ ,  $SD = 0.53$ ),  $t(300) = -2.17$ ,  $p < .05$ . For Time 2, a shorter version (6 items) of the scale was used. Parents ( $M = 4.05$ ,  $SD = 0.69$ ,  $\alpha = .78$ ) reported significantly higher levels of positive parenting than did children ( $M = 3.88$ ,  $SD = 0.79$ ,  $\alpha = .74$ ),  $t(267) = -3.27$ ,  $p < .01$ . There were no gender differences in children’s reports of levels of monitoring, nor were there significant differences between parents of girls and parents of boys.

## Observational Measures

**Observational tasks.** At Time 1, parents and children engaged in three interactions that were videotaped and coded. Data from two of the interactions, the unfamiliar board game task and the conflict task, were included in the present analyses. At Time 2, families did not engage in the same game task, and therefore only data from the conflict task were included in the present analyses. For the game task, families spent 10 min playing an educational game, available only through a mail order catalog. This included establishing their own rules and making decisions regarding how to play the game. For the conflict task (adapted from Smetana, Yau, Restrepo, & Braeges, 1991), parent and child were each asked to select an issue that had recently been a source of conflict. They spent 10 min discussing each issue, stating their viewpoints, and attempting to come to some form of resolution of each issue.

**Observational coding system.** A global-coding method was developed by Holmbeck et al. (1995) based on a system originally developed by Smetana et al. (1991) for use with European American families. Specifically, the coding method was adapted to be appropriate for use with inner-city, single-parent, African American families, such that relevant family processes within these families were represented, and care was taken to guard against inadvertently identifying pathology due to cultural differences. This was accomplished by asking parents from the target community to review the coding manual, comment on the codes, suggest new codes, and suggest codes that could be dropped. A doctorate-level sociologist with considerable experience running focus groups in the relevant population commented on the cultural relevance of the codes to the target population. On the basis of these comments, the coding system was modified. In addition, all interactions were coded by African American individuals who had lived in the community or had extensive experience working with community families. The use of raters of similar ethnic background was based on research that suggests that ratings by individuals of similar ethnic backgrounds were more highly correlated with self-reports by family members than were ratings by individuals of different backgrounds (Gonzales, Cause, & Mason, 1996).

**Observational scales.** Each interaction was coded by two coders who watched the entire interaction task and then made ratings on 5-point Likert scales for a variety of dimensions. For each dimension, the coding manual included behavioral descriptions corresponding to each point on the Likert scale. Coders participated in 20 hr of training prior to beginning coding.

Five dimensions of parenting behavior, child behavior, and parent-child relationship (each with multiple codes for each family member) are assessed with the coding system, including (a) interaction style, (b) conflict, (c) affect, (d) control, and (e) child-centered and collaborative problem solving. Family atmosphere variables were assessed as well. A rational, rather than empirical, procedure was used to form scales, such that items that reflected a construct were selected from the list of codes to create the scale. The eight scales were *peer relationship between parent and child* (e.g., Is there a peer relationship between parent and child? Does the parent ever act like a child? Does the child ever act like a parent?); *degree of conflict in the family* (e.g., level of conflict within the family, parent frequently disagrees with child, child frequently disagrees with parent); *parent engagement/collaboration* (e.g., parent listens to child, parent involvement in the task, parent on-task during discussion, parent structuring of task, parent promotion of dialogue, parent promotion of collaboration); *child engagement/collaboration* (e.g., child listens to parent, child involvement in the task, child on-task during discussion, child structuring of task, child promotion of dialogue); *parent positive affect* (e.g., parent warmth, parent supportiveness, parent anger [reverse scored], parent humor and laughter); *child positive affect* (e.g.,

child warmth, child supportiveness, child anger [reverse scored], child humor and laughter); *parent intensity of emotion*; and *child intensity of emotion*. For Time 1, intraclass interrater reliabilities (Suen & Ary, 1989) were satisfactory, ranging from .52 to .82 ( $M = .70$ ). Cronbach's alphas for scale reliabilities were also satisfactory, ranging from .68 to .93 ( $M = .84$ ). For Time 2, intraclass interrater reliabilities ranged from .34 to .81 ( $M = .63$ ), and Cronbach's alphas for scale reliabilities ranged from .70 to .95 ( $M = .85$ ).

## Data Collection Procedures

Six public schools located in primarily African American neighborhoods with high concentrations of urban poverty and above-citywide rates of HIV infection were used to recruit families of fourth- and fifth-grade children for Time 1 of the project. Recruitment and interviews were conducted by a team of graduate-level students and full-time (college-educated) employees on the project who were trained for approximately 30 hr. Members of the interview team represented diverse backgrounds (45% African American, 45% European American, 10% other; 60% women, 40% men). Interviewers visited the schools periodically at the beginning of the school year to develop a relationship with the students. Flyers were then sent home to the parents of 740 fourth- and fifth-grade students introducing the project. Of those sent the flyer, 455 families (61%) returned the flyer expressing interest to participate, 72 (10%) returned flyers expressing no interest in participating, and 213 families (29%) did not return the flyer. Attempts were then made to reach all families that returned flyers expressing interest as well as several families that did not respond favorably to the initial flyer but later called to volunteer or were recruited through community consultants. Ultimately, 238 of the 455 families who responded favorably participated (76% of final sample), 11 of the 72 families who responded negatively eventually participated (4% of final sample), and 64 of the 213 families who did not respond eventually participated (20% of final sample), primarily through hearing positive things about the study from participants. Eleven families were dropped from the current analyses because of incomplete data, resulting in a final Time 1 sample size of 302. For Time 2, attempts were made to contact each family who had participated in Time 1. Of the 302 Time 1 families, 279 (92%) participated in Time 2, and 23 families (8%) did not participate, primarily because the research team was unable to locate them (e.g., they had moved and no forwarding information was available). Comparisons of families who did and did not return for the second wave revealed no significant differences in the Time 1 variables of interest in this study (i.e., parent age, child age, parent age at first childbirth, parent depression, child depression, parent and child reports of conflict and monitoring, observational codes), suggesting that families lost to attrition did not differ significantly from those who participated in the second wave.

Families were contacted by telephone or in person to set up interview appointments with children and their parents. When more than one child in a family was eligible for participation (either twins or siblings close in age), two children per family were interviewed; however, data from only one child (the child closest to 11 years of age at Time 1) per family are included in the present analyses. Parents and children were compensated \$100 (per family) for their interviews at each wave of data collection.

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 for each wave of data collection. The parent and child interviews were conducted in separate rooms to assure privacy. Children and parents were reminded throughout the interviews that their answers were confidential and they could choose not to respond to any questions that made them uncomfortable.

## Results

### *Descriptive Data on Depression and Anxiety*

The first goal of this study was to provide descriptive data on depression, depressive symptomatology, anxiety, and oppositional defiant disorder (ODD) in the current sample, including comorbidity, continuity from Time 1 to Time 2, associations between parent and child depression, gender differences, age, and age of first parenthood for the mothers.

Descriptive analyses indicated that 7.3% ( $n = 22$ ) of parents and 3.0% ( $n = 9$ ) of children at Time 1 and 5.4% ( $n = 17$ ) of parents and 2.8% ( $n = 8$ ) of children at Time 2 were clinically depressed, on the basis of diagnostic interviews. With respect to anxiety, 3.2% ( $n = 10$ ) of parents and 7.9% ( $n = 26$ ) of children met diagnostic criteria for generalized anxiety disorder at Time 1, and 2.2% ( $n = 7$ ) of parents and 4.1% ( $n = 13$ ) of children met diagnostic criteria at Time 2. With respect to comorbidity, 1.0% ( $n = 3$ ) of parents and 1.6% ( $n = 5$ ) of children met criteria for both disorders at Time 1, and 1.0% ( $n = 3$ ) of parents and 0.6% ( $n = 2$ ) of children met criteria for both at Time 2. Within the groups reporting depression, 13.6% of parents and 55.6% of children at Time 1 and 17.6% of parents and 25.0% of children at Time 2 were comorbid with anxiety. Finally, ODD was assessed in children. According to *DSM* criteria, 9.4% ( $n = 28$ ) met criteria at Time 1, and 6.4% ( $n = 18$ ) met criteria at Time 2. ODD was comorbid with depression in 1.9% ( $n = 6$ ) of cases at Time 1 and 1.0% ( $n = 3$ ) of cases at Time 2. Within the group of children reporting depression, 66.7% at Time 1 and 37.5% at Time 2 were comorbid with ODD. Given the small absolute numbers of participants exhibiting comorbidity, only depression was considered in the remaining analyses.

Parents who were clinically depressed at Time 1 reported significantly higher levels of depressive symptomatology, as assessed by a self-report questionnaire ( $M = 1.42$ ,  $SD = 0.97$ ), than did parents who were not clinically depressed at Time 1 ( $M = .49$ ,  $SD = .61$ ),  $t(294) = -6.47$ ,  $p < .05$ . Similarly, at Time 2, parents who were clinically depressed reported significantly higher levels of depressive symptomatology ( $M = 2.17$ ,  $SD = 0.84$ ) than did parents who were not clinically depressed ( $M = .54$ ,  $SD = .65$ ),  $t(215) = -6.61$ ,  $p < .01$ . Compared with normative nonclinical samples, a score of .49–.54 would be just above average; whereas a score of 1.42 would be approximately 1.5 standard deviations above the mean, and a score of 2.17 would be approximately 2 standard deviations above the mean, indicating that those who met criteria for clinical depression on the diagnostic interview score within the range of clinical depression on the SCL-90-R (Derogatis, 1992). Children who were clinically depressed at Time 1 ( $M = 12.67$ ,  $SD = 2.45$ ) reported significantly higher levels of depressive symptomatology, as assessed by a self-report questionnaire, than did children who were not clinically depressed at Time 1 ( $M = 5.07$ ,  $SD = 4.21$ ),  $t(294) = -8.90$ ,  $p < .05$ . A similar pattern was noted at Time 2 (clinically depressed:  $M = 10.29$ ,  $SD = 4.23$ ; not clinically depressed:  $M = 3.74$ ,  $SD = 3.24$ ),  $t(257) = -5.23$ ,  $p < .01$ . Because the child self-report items were derived from the diagnostic interviews, this difference was expected.

Parents of children who were clinically depressed at Time 1 reported significantly higher levels of depressive symptomatology, as assessed by a parent-report questionnaire ( $M = 1.04$ ,  $SD = 1.07$ ), than did parents of children who were not clinically depressed at Time 1 ( $M = .54$ ,  $SD = .65$ ),  $t(294) = -2.25$ ,  $p < .05$ , although this pattern was not significant at Time 2. Children of parents who were clinically depressed did not significantly differ in depressive symptomatology, as assessed by a child-report questionnaire, from children of parents who were not clinically depressed at Time 1 or Time 2. Finally, depressive symptomatology among parents was not significantly associated with depressive symptomatology among children at Time 1 or Time 2.

Tests for gender differences in child depression revealed no significant differences in the likelihood of child clinical depression or in child depressive symptomatology at Time 1 or Time 2. Similarly, child age was not significantly related to child clinical depression or child depressive symptomatology at Time 1 or Time 2. The age of the parent at the time of data collection was significantly related to levels of parent depressive symptomatology ( $r = -.14$ ,  $p < .05$ ) at Time 1, such that younger parents reported more depressive symptoms, and clinically depressed parents at Time 1 were significantly younger ( $M = 31.37$ ,  $SD = 4.37$ ) than parents who were not clinically depressed ( $M = 34.60$ ,  $SD = 6.40$ ),  $t(293) = 3.13$ ,  $p < .05$ . These differences were not significant at Time 2. The age of the parent when she gave birth for the first time was also significantly related to levels of parent depressive symptomatology at Time 1 ( $r = -.14$ ,  $p < .05$ ), such that parents who gave birth for the first time at younger ages were more likely to report being depressed than those who gave birth at older ages. However, this correlation was no longer significant at Time 2. Similarly, clinically depressed parents at Time 1 ( $M = 16.74$ ,  $SD = 2.37$ ) were significantly younger at first childbirth than parents who were not clinically depressed at Time 1 ( $M = 19.41$ ,  $SD = 5.31$ ),  $t(291) = 4.38$ ,  $p < .05$ . These differences were not significant at Time 2.<sup>2</sup>

<sup>2</sup> On the basis of the literature, pubertal development was examined as a predictor of depression. Measures of puberty included the Sexual Maturation Scale (Brooks-Gunn & Warren, 1985; Marshall & Tanner, 1969, 1970; Morris & Udry, 1980; Tanner, 1962), the Pubertal Development Scale (Petersen, Crockett, Richards, & Boxer, 1988), and a single item rating pubertal timing (Sagrestano et al., 1999). Analyses were conducted separately for boys and girls, as puberty may moderate the onset of gender differences in depression. At Time 1, both boys and girls were in the early stages of puberty, and none of the measures of puberty were associated with children's or parent's levels of depression. At Time 2, both boys and girls were in mid-puberty, and none of the measures of puberty were associated with children's or parent's levels of depression. Therefore, puberty was not included in the current analyses. Printouts of these analyses are available from Lynda M. Sagrestano. See Sagrestano et al. (1999) for an examination of associations between puberty and parent-child conflict in the current sample at Time 1.

### Associations Between Family Variables and Child Depression

The second goal of this study was to examine associations between parent and child reports of parent-child conflict, parenting behaviors, observational codes of parent-child interactions, and child depressive symptomatology. We examined associations between self-reports and observational measures of parent-child conflict and parenting behavior at Time 1 and child depressive symptomatology at Time 2 using a series of hierarchical linear regressions. For each regression, we entered Time 1 child depression in the first step, because Time 1 depression is highly correlated with Time 2 depression, Time 1 child age and child gender in the second step, Time 1 parent depressive symptomatology in the third step, Time 1 child or parent score for the Conflict or Parenting Behavior scale in the fourth step, and Time 2 child or parent score for the Conflict or Parenting Behavior scale in the fifth step. We examined parent and child reports in separate regressions. We selected this method of analysis following Cohen and Brook (1987), who suggested that if the Time 2 independent variable is significant, then change in the independent variable is associated concurrently with change in the dependent variable (e.g., depression). We used depressive symptomatology as the

outcome variable, because the frequency of clinical depression was very low in the sample. The average age of the children in this sample was 10 at Time 1 and 12 at Time 2, which may be too young to reflect significant increases in clinical depression associated with adolescence (Radloff, 1991), and depressive symptomatology often serves as a precursor to the first episode of major depression (Horvath, Johnson, Klerman, & Weissman, 1992).

*Child reports of conflict.* Results of the linear regressions indicated that Time 2 child reports of the number of hot issues was significantly related to Time 2 child reports of depressive symptomatology when controlling for Time 1 child depression, Time 1 child age and gender, Time 1 parent depressive symptomatology, and Time 1 child reports of the number of hot issues (see Table 1). Specifically, children who reported more depression at Time 1, and more hot issues at Time 2, reported higher levels of depressive symptomatology at Time 2 than did children who reported less depression at Time 1 and fewer hot issues at Time 2. This suggests that the change in the number of hot issues was associated concurrently with change in depression (Cohen & Brook, 1987). We found a similar pattern for the number of hot discussions and for parental monitoring, such that children

Table 1  
Significant Multiple Regression Results for Self-Report and Observational Family Risk Variables at Times 1 and 2 Predicting Child Depressive Symptomatology at Time 2

Step and variable	$\beta$	$R$	$\Delta R^2$	$\Delta F$
All regressions				
1. Time 1 child depression	.308**	.308	.095	25.69**
2. Time 1 child age	.004	.311	.002	.273
Child gender	.045			
3. Time 1 parent depression	.025	.312	.001	.167
Child report of number (no.) of hot issues ( $R^2 = .132$ )				
4. Time 1 child report of no. of hot issues	.100	.326	.009	2.37
5. Time 2 child report of no. of hot issues	.179**	.364	.026	7.21**
Child report of no. of hot discussions (disc.; $R^2 = .220$ )				
4. Time 1 child report of no. of hot disc.	.045	.315	.002	.503
5. Time 2 child report of no. of hot disc.	.403**	.469	.120	36.98**
Child report of average (avg.) intensity of emotion ( $R^2 = .144$ )				
4. Time 1 child report of avg. intensity	.142*	.360	.018	4.89*
5. Time 2 child report of avg. intensity	.129*	.379	.014	3.89*
Child report of parental monitoring ( $R^2 = .127$ )				
4. Time 1 child report of monitoring	-.013	.313	.000	.041
5. Time 2 child report of monitoring	-.180**	.356	.029	7.95**
Parent report of positive (pos.) parenting ( $R^2 = .124$ )				
4. Time 1 parent report of pos. parenting	-.126*	.336	.015	4.14*
5. Time 2 parent report of pos. parenting	-.114	.352	.011	2.94
Observational peer relationship between parent and child ( $R^2 = .125$ )				
4. Time 1 peer relationship	.118	.333	.014	3.39
5. Time 2 peer relationship	.132*	.354	.015	3.70*

\* $p < .05$ . \*\* $p < .01$ .

who reported more hot discussions or less parental monitoring at Time 2 reported higher levels of depressive symptomatology at Time 2 than did children who reported fewer hot discussions or more parental monitoring at Time 2.

A somewhat different pattern of findings emerged for the average intensity of emotions displayed during discussions. Both Time 1 and Time 2 child reports of average intensity were significantly related to Time 2 child reports of depressive symptomatology when controlling for Time 1 child depression, Time 1 child age and gender, and Time 1 parent depressive symptomatology. Specifically, children who reported greater intensity at Times 1 and 2 reported higher levels of depressive symptomatology at Time 2 than children who reported lesser intensity at Times 1 and 2. Regressions for child reports of positive parenting were not significant.

*Parent reports of conflict–parenting.* With respect to parent reports, the regression for positive parenting was significant (see Table 1). Results indicated that Time 1 parent reports of positive parenting were significantly related to Time 2 child reports of depressive symptomatology when controlling for Time 1 child depression, Time 1 child age and gender, and Time 1 parent depressive symptomatology. Time 2 parent reports of positive parenting were not significant predictors of depressive symptomatology at Time 2. Specifically, parents of children who reported more depression at Time 1, and who reported using less positive parenting skills at Time 1, had children who reported higher levels of depressive symptomatology at Time 2. Regressions for parent reports of the number of hot issues, number of hot discussions, average intensity, and parental monitoring were not significant.

*Observational measures of parent–child interactions.* Observational measures of parent–child interactions yielded one significant regression (see Table 1). Time 2 observational codes of the peer relationship between parent and child were significantly associated with Time 2 child reports of depressive symptomatology when controlling for Time 1 child depression, Time 1 child age and gender, Time 1 parent depressive symptomatology, and Time 1 observational codes of the peer relationship. Specifically, families where the children reported more depression at Time 1, and the parents and children were observed to interact in a peerlike manner at Time 2, had children who reported higher levels of depressive symptomatology at Time 2. Regressions for the other observational codes were not significant.

### *Associations Between Family Variables and Parent Depression*

The third goal of this study was to examine associations between parent and child reports of parent–child conflict, parenting behaviors, observational codes of parent–child interactions, and parent depressive symptomatology. We examined associations between self-reports and observational measures of parent–child conflict and parenting be-

havior at Time 1 and parent depressive symptomatology at Time 2 using a series of hierarchical linear regressions. We used depressive symptomatology as the outcome variable, as the frequency of clinical depression was very low in the sample. For each regression, we entered Time 1 parent depression in the first step, Time 1 parent age in the second step, parent age at first parenthood in the third step, Time 1 child or parent score for the Conflict or Parenting Behavior scale in the fourth step, and Time 2 child or parent score for the Conflict or Parenting Behavior scale in the fifth step. We examined parent and child reports in separate regressions. No regressions for child reports were significant.

*Parent reports of conflict–parenting.* Results of the linear regressions indicated that Time 2 parent reports of the number of hot discussions were significantly related to Time 2 parent reports of depressive symptomatology when controlling for Time 1 parent depression, Time 1 parent age, age at first parenthood, and Time 1 parent reports of the number of hot discussions (see Table 2). Specifically, parents who reported more hot discussions at Time 2 reported higher levels of depressive symptomatology at Time 2 than parents who reported fewer hot discussions at Time 2. This suggests that the change in the number of hot discussions was associated concurrently with change in depression (Cohen & Brook, 1987).

A somewhat different pattern of results emerged for parent reports of positive parenting. Results indicated that Time 1 parent reports of positive parenting were significantly related to Time 2 parent reports of depressive symptomatology when controlling for Time 1 parent depression, Time 1 parent age, and age at first parenthood. Time 2 parent reports of positive parenting were not significant predictors of parent depressive symptomatology at Time 2. Specifically, parents who reported using less positive parenting skills at Time 1, but not at Time 2, reported higher levels of depressive symptomatology at Time 2. Regressions for parent reports of the number of hot issues, average intensity, and parental monitoring were not significant.

*Observational measures of parent–child interactions.* Observational measures of parent–child interactions yielded one significant regression (see Table 2). Time 2 observational codes of the peer relationship between parent and child were significantly associated with Time 2 parent reports of depressive symptomatology when controlling for Time 1 parent depression, Time 1 parent age, age at first parenthood, and Time 1 observational codes of the peer relationship. Specifically, families in which the parents reported more depression at Time 1, and the parents and children were observed to interact in a peerlike manner at Time 2, had parents who reported higher levels of depressive symptomatology at Time 2. Regressions for the other observational codes were not significant.

## Discussion

The data presented in this article contribute to the literature on depression and family process in three basic areas. First, we provided descriptive information on depression and anxiety in a sample of urban, low-income, African

Table 2  
*Significant Multiple Regression Results for Self-Report and Observational Family Risk Variables at Times 1 and 2 Predicting Parent Depressive Symptomatology at Time 2*

Step and variable	$\beta$	$R$	$\Delta R^2$	$\Delta F$
All regressions				
1. Time 1 parent depression	.557**	.557	.310	121.30**
2. Time 1 parent age	.002	.557	.000	.002
3. Age at first parenthood	-.035	.557	.001	.314
Parent report of number (no.) of hot discussions (disc.; $R^2 = .326$ )				
4. Time 1 parent report of no. of hot disc.	.038	.559	.001	.541
5. Time 2 parent report of no. of hot disc.	.142*	.571	.014	5.59*
Parent report of positive (pos). parenting ( $R^2 = .326$ )				
4. Time 1 parent report of pos. parenting	-.103*	.566	.010	3.97*
5. Time 2 parent report of pos. parenting	-.078	.571	.005	2.01
Observational peer relationship between parent and child ( $R^2 = .317$ )				
4. Time 1 peer relationship	.068	.551	.004	1.49
5. Time 2 peer relationship	.124*	.563	.014	4.77*

\* $p < .05$ . \*\* $p < .01$ .

American adolescents and their parents. Second, we examined associations between parent-child conflict, parenting behaviors, and observational codes of parent-child interactions and child depressive symptomatology. Third, we examined associations between parent-child conflict, parenting behaviors, and observational codes of parent-child interactions and parent depressive symptomatology.

The first goal of this study was to provide descriptive data on depression in this sample of urban, low-income, African American children and their primary caregivers. The incidence of clinical depression in this sample falls within the range of other community samples that are typically composed of White, middle-class individuals. Levels of comorbidity with anxiety are also similar to other community samples. Contrary to expectations based on the stress associated with living in conditions of poverty, this suggests that the current sample is not reporting higher rates of depression than other community samples.

In particular, the rates for children in this sample were on the low end of the normative range. This may reflect the age of the youth in this sample. That is, the average age of the children in this sample was 10 at Time 1 and 12 at Time 2, which may be too young to reflect significant increases in depression associated with adolescence (Radloff, 1991). Furthermore, no age differences in child depression emerged in the sample, which likely reflects the restricted age range (9-11 at Time 1 and 11-13 at Time 2) of the participants. Similarly, no gender differences emerged in child depression, which again may reflect the young average age of the participants. Previous research has indicated that gender differences emerge in depression by age 16 but typically are not yet detectable at age 11 or 12 (Angold & Rutter, 1992).

One should note that this sample is comprised of parents who are very low income; one would expect that low-

income parents would routinely experience high levels of chronic stress and therefore be more vulnerable to depression. Without an objective measure of stress, however, one can only speculate about how stressful parents perceive the environment to be. Although there may be large differences in stress across contexts when stress is measured objectively, subjective measures of perceived stress may not differ across contexts, because individuals evaluate their stress levels within the range of their experiences. That is, when considering their stress levels, parents may compare themselves with other low-income inner-city parents, who by many standards would appear to experience high stress but who may seem normative to parents living in this type of environment. The stress associated with poverty may not be as salient to inner-city parents as might be expected by researchers, and therefore would not lead to higher levels of vulnerability to depression.

In addition, current age and age at first childbirth were both related to parent depression at Time 1 but not at Time 2. Specifically, younger parents reported higher rates of depression at Time 1 than did older parents. This is in keeping with research that indicates a curvilinear association between adult depression and age, such that depression declines from young adulthood to middle adulthood and then increases again in old age (Mirowsky & Ross, 1992). The association between depression and age at first childbirth is especially interesting, as little research exists examining the association between age at first childbirth and subsequent depression in early adulthood. However, recent research suggests children of adolescent mothers tend to have less favorable mental health outcomes (Hardy et al., 1998), and among those who themselves became adolescent mothers, significant depressive symptoms were reported, predating the pregnancy (Horwitz et al., 1991). In addition, rates of adolescent pregnancy are as much as 3 times higher

among depressed adolescents than their nondepressed peers (Garrison et al., 1989; Osofsky, Hann, & Peebles, 1993; Petersen et al., 1993). The causal direction remains unclear, as adolescent pregnancy may lead to depression, or depressed adolescents may be more likely to become pregnant. Recent research suggests that early childbearers were more likely to have a history of conduct disorder than were non-early-childbearers, suggesting that history may account, in part, for adverse outcomes among early childbearing women (Jaffee, 2002). Further research on the causal directionality will help in understanding the mechanisms leading to the association between age at first childbirth and depression 9 or more years later.

The second goal of this study was to examine associations between family risk factors (e.g., parent-child conflict, parenting behaviors, observational codes) at Time 1 and child depressive symptomatology at Time 2. Results indicated that as we hypothesized, increases in child reports of conflict and decreases in child reports of parental monitoring were concurrently associated with increases in child depression from Time 1 to Time 2. In addition, parental reports of positive parenting at Time 1 were associated with child depression at Time 2, such that more positive parenting at Time 1 was associated with less child depression at Time 2. Because associations among self-report measures may be due to common method variance, and most of the significant associations were reported by children, we also examined associations between observational codes of parent-child interactions and child depressive symptomatology. Results indicated that increases in observations of a peer relationship between parent and child from Time 1 to Time 2 were associated with increases in child depression from Time 1 to Time 2.

We expected associations between parental behaviors (e.g., positive parenting, parental monitoring) and child depression on the basis of previous research. Specifically, adolescents who report less support, warmth, and intimacy, and more hostility from parents also report higher levels of depression (Burt et al., 1988; Carlton-Ford et al., 1996; Kandel & Davies, 1982). These constructs are represented in the parental monitoring and positive parenting measures. We can speculate about why child depression would be linked to parenting behaviors. One explanation is that children who are recipients of negative parenting styles make internal attributions for their parents' behavior, leading to depression. An alternative explanation, which has received considerable attention in the literature, is the stress-buffering effects of positive relationships with parents (Carlton-Ford et al., 1996; Ge et al., 1994). That is, youth who experience stressful events in the context of a warm family environment are less likely to develop depression than those who experience stressful events in the context of a hostile family environment. The issue of parent-child conflict is interesting in light of the stress-buffering hypothesis, as family conflict is likely a form of stress in and of itself (Carlton-Ford et al., 1996). That is, children who experience family conflict not only experience increased stress from living in a hostile family environment, but the protective factors associated with positive parenting may

not be present, placing the child at higher risk for depression and other mental health and behavioral outcomes (Carlton-Ford et al., 1996).

We expected that parent reports of conflict and parenting behaviors would be associated with child depression; however, this was found only for the positive parenting measure. This pattern is similar to many studies of family functioning in which reports of conflict by one member of a family (e.g., parent report) are uncorrelated with outcomes for another family member (e.g., child outcome). On one level, this disparity is not surprising. Although one could argue that observed levels of conflict (e.g., number of arguments in a given time period), for example, are fairly objective, individual perceptions of conflict are subjective. Yet perceptions of conflict are likely more important in determining perceived adverse mental health outcomes than objective levels of conflict. Although one would expect subjective reports to reflect objective levels of conflict, subjective reports are of course subject to self-report bias. To that end, children's perceptions should be stronger predictors of children's outcomes, whereas parents' perceptions should be stronger predictors of parents' outcomes.

The third goal of this study was to examine associations between family risk factors (e.g., parent-child conflict, parenting behaviors, observational codes) at Time 1 and parent depressive symptomatology at Time 2. Results indicated that increases in parent reports of hot discussions were concurrently associated with increases in parent depression from Time 1 to Time 2. In addition, parental reports of positive parenting at Time 1 were associated with parent depression at Time 2, such that more positive parenting at Time 1 was associated with less parent depression at Time 2. Finally, increases in observations of a peer relationship between parent and child from Time 1 to Time 2 were associated with increases in parent depression from Time 1 to Time 2.

Of particular interest, the observational code reflecting the degree to which there is a peer relationship between parent and child was associated with increases in both child and parent depression over time. This construct was added to the coding system on the basis of feedback from community collaborators who watched the videotapes. They observed that children were often acting like adults (e.g., acting older than they should, given their age and developmental level), and that one key issue for community parents was how much they were willing to take on the parental role, as opposed to being friends or peers with their children. The research team hypothesized that the peer relationship would be positively associated with depression in children due to a lack of clear boundaries and clear understanding of roles. If children were to take on parental roles on a regular basis, this could become burdensome and lead to depressive affect. For parents, the lack of feeling in control over their children may lead to depressive affect. The results confirm that a blurring of these roles is associated with increased levels of depression over time for both parents and children, suggesting an area for parenting style intervention.

Methodological limitations of the research should be

mentioned. First, although most of the findings involved associations among self-reported variables, the observational finding that an observed peer relationship between parent and child is associated with both child and parent depression suggests that the findings of the study cannot be explained completely by common method variance. It should be noted that parent and child perceptions of constructs likely differ considerably, reflecting cognitive differences in development between adults and adolescents, partially explaining associations among variables within subjects and from Time 1 to Time 2. Significant parent-child differences emerged for all of the conflict and parenting variables, with parents reporting more conflict and more use of positive parenting-monitoring than did children. Most notably, parents reported an average of 22-23 hot discussions in a 2-week time frame, whereas children reported an average of 12 hot discussions. Parents' perceptions of the number of hot discussions are likely more realistic than those of an 11-year-old child, who may not be able to estimate frequency over a time period of 2 weeks as accurately as an adult. Research suggests that preadolescents are not as adept at estimating time duration or sequencing of events as are adults (Block, 1989), likely making it harder for them to estimate how many times a specific type of event takes place during a given time period. These differences in perception may follow a pattern of particular children being more likely to over- or underestimate consistently across measures and times of data collection (Irwin & Millstein, 1987; Sagrestano et al., 1999). However, parents may also over-report positive parenting and monitoring behavior in an effort to present themselves in a more favorable light.

Second, although the children were followed longitudinally from age 10 to age 12, they may still be a bit too young to assess the increase in depression and gender differences often associated with adolescence. Although gender differences did not emerge, this may in part reflect the level of pubertal development of the sample. At Time 1, the sample consisted of preadolescents who were in early puberty (see Sagrestano et al., 1999). At Time 2, the sample was progressing from early to mid-puberty; however, puberty was still not associated with depression at this wave of data collection. It should be noted that Angold and Rutter (1992) suggested that the biological changes associated with puberty may not be a primary force leading to changes in depression, nor do differential maturation rates explain gender differences in depression. This may explain why puberty was not associated with depression in the current sample.

Finally, it should be noted that no standardized questionnaire measure of depressive symptomatology was included in the data collection. Therefore, we created a continuous measure using the gateway questions from the diagnostic interview. Although this measure has not been validated in large samples, in the current sample it had adequate internal consistency, suggesting that the items cohered well. Nonetheless, these results should be viewed with caution.

### Implications for Application and Public Policy

The findings of the current research have several important implications for the development of programs designed to enhance the mental health outcomes of urban, low-income, African American adolescents. It should be noted, however, that rates of depression and anxiety among this sample of adolescents were similar to other community samples. Thus, there is little reason to believe that urban, African American adolescents are at greater need of intervention in this area. Early childbearers represent one group that may benefit from focused intervention. Specifically, although the causal pathways are unclear, early childbearers and their children are more likely to experience depression; increased access to mental health services (e.g., through referrals or intervention programs) may serve to reduce adverse mental health outcomes among this group of women and their children. In addition, this research suggests that to enhance the mental health outcomes of urban, African American adolescents and their families, programs would benefit from the inclusion of a family component, especially among families in which the children experience depressive symptomatology. Because family conflict and lower levels of positive parenting when the children were age 11 were associated with parent and child depression when the children were age 13, topics worthy of attention include methods of resolving family conflict as well as skill-building in the areas of family interaction styles, role management, positive parenting behaviors, and parental monitoring and supervision of children. Interventions aimed at aiding parents in taking on the parenting role, including boundary-setting in particular, may be especially important among urban, African American parents, because the extent to which there was a peer relationship between parents and children was associated with child and parent depression in this sample.

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