

## **The First Generation of JHU PIRC Preventive Intervention Trials**

### **Methods & Measures**

The first generation of the Johns Hopkins Prevention Intervention Research Center's (JHU PIRC) intervention trials consists of the ongoing evaluation of two classroom-based, universal preventive interventions, which were fielded in 19 Baltimore City schools with two consecutive cohorts of first graders in the 1985-86 and 1986-87 school years. The focus was and is on the early risk behaviors of poor achievement and aggressive and shy behavior and their distal correlates of antisocial behavior, substance abuse and anxious and depressive symptoms. Direct assessments of the study participants were carried out in grades 1-8 and then again at ages ~19 - ~20, ~21 - ~22, and ~30 - ~32. The nature of the assessments is described below.

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## Method

### Participants

Beginning in 1985, two successive cohorts ( $N_I=1196$ ;  $N_{II}=1115$ ) of urban first-graders were recruited from 43 classrooms in 19 elementary schools located in 5 socio-demographically distinct areas in eastern Baltimore. The five geographic areas in which the participating schools are located were defined by census tract data and vital statistics from the Baltimore City Planning Office. As described in Werthamer-Larsson (1988), these areas vary by ethnicity, type of housing, family structure, income, unemployment, violent crime, suicide and school drop out rates. Area 1 is predominantly comprised of middle income, married, two-parent families of either Greek-, German-, Polish-, or Italian-American descent. These families live in well-maintained row houses in close proximity to extended family members. Area 2 is a predominantly African-American area, characterized by very low to low income, multi-generational families living in large public housing projects. The majority of these families receive public assistance. Area 3 is a totally African-American area characterized by middle income, multi-generational families living in well maintained row houses. Area 4 is a racially integrated area, characterized by middle income, married, two parent families living in well maintained detached frame houses. Area 5 is a predominantly Italian-, Irish-, and German-American area, characterized by moderate income, married, two parent families. The majority of families live in small, well maintained detached or semi-detached homes.

With regard to the gender, ethnicity, and age of the subject population at entrance into the study, in Cohort 1, 49.1% were male, 65.6% were African-American, 31.6% were Euro-American, 0.3% Asian, 1.0% Native American, 0.3% Hispanic, and for 1.2% of the children, ethnicity was either missing or refused. At first grade, the mean age was 6.55 years ( $SD + 0.48$ ). In Cohort II, 50% were male, 65% were African-American, 34% were Euro-American, 0.36% were Hispanic, 0.36% Asian American, and 0.36% Native American. At the time of the first grade assessments, the average age of the child was 6.48 years ( $SD + 0.39$ ). Chi-square analyses revealed that refusal rates in Cohort I varied as a function of geographic area [ $X^2(16, N = 1,1196) = 43.67, p = .0002$ ]. The highest rates of parent refusals were in Areas 1 and 4, which are made up primarily of middle income, two parent families, living in well maintained row or detached homes. As with Cohort I, Cohort II refusal rates varied as a function of geographic area [ $X^2(16, N = 1,115) = 43.77, p = .0002$ ] with the highest rates of refusals in Areas 1 and 4. Of the 1196 Cohort I students, 1084 (91%) were available for data collection at baseline in the Fall of 1985. Of these 1084, 871 (80%) remained enrolled in project schools through grade 1; 96% of the 871 completed the second year of their assigned intervention or control. Of the 835 receiving the entire 2 year intervention, 71% (593) remained enrolled in BCPS through grade 9. In Cohort II, 910 of 1115 (82%) were available for data collection at baseline. Of these 910, 96% (878) completed two years in their respective assigned intervention or control conditions; 579 of these (70%) remained enrolled in BCPS through the 1993-1994 academic year. Departure from BCPS or transfer from a project to non-project school was unrelated to assigned

condition initially and from grade 1 through the 1993-1994 academic year. Of the 2311 children originally enrolled in Cohorts I and II, 1431 remained enrolled in BCPS at the end of the 1993-1994 year.

An Overview of Design of the Two PRC Preventive Intervention Trials. The intervention design involved the evaluation of two universal classroom-based interventions, which were implemented over first and second grades for each cohort. Three or four schools were selected in each of the five urban areas described above. Within these clusters of schools, one school was randomly assigned to receive the ML intervention, one the GBG intervention, and one school served as a control school (to provide protection against within-school contamination). Within each intervention school, children were randomly assigned to classrooms. Classrooms not receiving any interventions were included as internal controls, thus holding constant school, family, and/or community differences such as the effect of the principal on the school environment. Teachers were also randomly assigned to intervention condition, with the restriction that they intended to remain in the building at the same grade level for at least a two-year period. Both interventions were applied at the classroom level by the teacher after intensive training. Baseline assessments were carried out prior to the initiation of the intervention. Teachers received equal attention and incentives. The training sessions continued throughout the intervention period (Grades 1 and 2 for both cohorts) for approximately 40 hours totally for each intervention. Control teachers were involved in meetings, workshops, and seminars not related to intervention targets.

The GBG was directed at improving classroom aggressive behavior, and the ML at improving school achievement. The GBG (Barrish, Saunders, & Wolf 1969) represents the systematic use of behavioral analysis in classroom management. The GBG was selected because of its demonstrated efficacy and acceptability to the schools and the community. ML is a teaching strategy with demonstrated effectiveness in improving achievement. The theory and research upon which ML is based specifies that under appropriate instructional conditions virtually all students will learn most of what they are taught (Bloom, 1976; Bloom, 1982; Block & Burns, 1976; Dolan, 1986; Guskey, 1985).

As noted above, assessments of the study participants were carried out in grades 1-8 and then again at ages ~19 - ~20, ~21 - ~22, and ~30 - ~32. The nature of the assessments is described below.

#### Assessment Design (See Table 1)

In grade 1, for both cohorts, peer nominations, teacher interviews, and classroom-based assessments of the children's psychological well-being were collected in the fall (November-December) and Spring (March-April). Classroom-based behavioral observations were also made in the Fall and Spring. One just before each teacher interview and one immediately following each interview. Thus a total of four observations were carried out in grade 1. Finally, standardized achievement testing was carried out in the fall and spring. School records were retrieved at the end of the school year.

In Grade 2 for Cohort 1, teacher interviews were conducted in the fall and spring, along with standardized achievement testing. However, peer nominations, classroom-based assessments of psychological well-being, and classroom-based behavioral observations were carried out in the spring of second grade only. School records were retrieved at the end of the school year.

In Grade 2 for Cohort 2, only standardized achievement testing was carried out in the fall and spring. Teacher interviews were conducted in the spring, along with classroom-based assessments of psychological well-being. Peer nominations and classroom-based behavioral observations were not carried out at all for Cohort 2 in the second grade. School records were retrieved at the end of the school year.

In Grade 3 for Cohort 1, only standardized achievement testing was carried out in the fall and spring. Teacher interviews were conducted in the spring, along with classroom-based assessments of psychological well-being. Peer nominations and classroom-based behavioral observations were not carried out at all for Cohort 1 in the third grade. School records were retrieved at the end of the school year.

In Grade 3 for Cohort 2, only standardized achievement testing was carried out in the fall and spring. Teacher interviews were conducted in the spring, along with classroom-based assessments of psychological well-being, and a parent telephone interview. Peer nominations were gathered, but the procedure employed was not a standard one. That is, only prevention program children participated in the nomination process. Consequently, the number of nominators varied dramatically from classroom to classroom.

For the first time in the history of the study, a NIDA funded individual (one on one) interview was held with each child. The major focus of the interview was on knowledge, use, and intention to use tobacco, alcohol, and drugs. The interview also contained modules on carrying weapons and their use, conduct problems, and perceived competence in the academic realm. School records were retrieved at the end of the school year.

In Grade 4 for Cohort 1, only standardized achievement testing was carried out in the fall and spring. Teacher interviews were conducted in the spring, along with classroom-based assessments of psychological well-being, and a parent telephone interview. Peer nominations were gathered, but the procedure employed was not a standard one. That is, only prevention program children participated in the nomination process.

Consequently, the number of nominators varied dramatically from classroom to classroom. For the first time in the history of the study, a NIDA funded individual (Aone on one@) interview was held with each child. The major focus of the interview was on knowledge, use, and intention to use tobacco, alcohol, and drugs. The interview also contained modules on carrying weapons and their use, conduct problems, and

perceived competence in the academic realm. School records were retrieved at the end of the school year.

In Grade 4 for Cohort 2, standardized achievement testing was carried out in the spring, along with teacher interviews, and a classroom-based assessment of psychological well-being. The teacher and classroom-based assessments were carried out on a 50% random probability sample. The NIDA funded individual (Aone on one@) interview was held with each child in the spring. The major focus of the interview was on knowledge, use, and intention to use tobacco, alcohol, and drugs. The interview also contained modules on carrying weapons and their use, conduct problems, and perceived competence in the academic realm. School records were retrieved at the end of the school year.

In Grade 5 for Cohort 1, standardized achievement testing was carried out in the spring, along with teacher interviews, and a classroom-based assessments of psychological well-being. Peer nominations were gathered on a stratified random sample of children in approximately 40 classrooms. The entire class participated as is the standard convention The NIDA funded individual (one on one) interview was held with each child in the spring. The major focus of the interview was on knowledge, use, and intention to use tobacco, alcohol, and drugs. The interview also contained modules on carrying weapons and their use, conduct problems, and perceived competence in the academic realm. School records were retrieved at the end of the school year.

In Grade 5 for Cohort 2, standardized achievement testing was carried out in the spring, along with teacher interviews, and the NIDA funded individual (one on one) interview. The major focus of the interview was on knowledge, use, and intention to use tobacco, alcohol, and drugs. The interview also contained modules on carrying weapons and their use, conduct problems, perceived competence in the academic realm, and psychological well-being. School records were retrieved at the end of the school year.

In Grade 6 for Cohort 1, standardized achievement testing was no longer done by the school system. Teacher interviews, the NIDA funded individual (one on one) interview with each child, and a parent telephone interview were conducted in the spring. The major focus of the NIDA interview was on knowledge, use, and intention to use tobacco, alcohol, and drugs. The interview also contained modules on carrying weapons and their use, conduct problems, perceived competence in the academic realm, and psychological well-being. School records were retrieved at the end of the school year.

In Grade 6 for Cohort 2, teacher interviews were carried out in the spring, along with teacher interviews, the NIDA funded individual (one on one) interview with each child, and a parent telephone interview. The major focus of the NIDA interview was on knowledge, use, and intention to use tobacco, alcohol, and drugs. The interview also contained modules on carrying weapons and their use, conduct problems, perceived competence in the academic realm, and psychological well-being. School records were retrieved at the end of the school year.

In Grade 7 for Cohort 1, teacher interviews and the NIDA funded individual (one on one) interview with each child was carried out in the spring. The major focus of the NIDA interview was on knowledge, use, and intention to use tobacco, alcohol, and drugs. The interview also contained modules on carrying weapons and their use, conduct problems, perceived competence in the academic realm, and psychological well-being. School records were retrieved at the end of the school year.

In Grade 7 for Cohort 2, teacher interviews and the NIDA funded individual (one on one) interview with each child was carried out in the spring. The major focus of the NIDA interview was on knowledge, use, and intention to use tobacco, alcohol, and drugs. The interview also contained modules on carrying weapons and their use, conduct problems, perceived competence in the academic realm, and psychological well-being. The CIDI Major Depression module was added to the NIDA interview. School records were retrieved at the end of the school year.

In Grade 8 for Cohort 1, teacher interviews and the NIDA funded individual (one on one) interview with each child was carried out in the spring. The major focus of the NIDA interview was on knowledge, use, and intention to use tobacco, alcohol, and drugs. The interview also contained modules on carrying weapons and their use, conduct problems, perceived competence in the academic realm, and psychological well-being. The CIDI Major Depression module was added to the NIDA interview. School records were retrieved at the end of the school year.

In Grade 8 for Cohort 2, teacher interviews and the NIDA funded individual (one on one) interview with each child was carried out in the spring. The major focus of the NIDA interview was on knowledge, use, and intention to use tobacco, alcohol, and drugs. The interview also contained modules on carrying weapons and their use, conduct problems, perceived competence in the academic realm, and psychological well-being. The CIDI Major Depression module was included in the NIDA interview. School records were retrieved at the end of the school year.

As each cohort passed through the ages of ~19- ~ 20, a team of project interviewers conducted a standardized interview with each youth by telephone. Given previous evidence that survey non-respondents have higher rates of psychiatric disorders than respondents, a supplemental non-response survey was carried out in parallel with the main survey. A random stratified sample of initial non-respondents were offered a significantly higher financial incentive to complete the interview. A description of the measures employed at ages ~19- ~ 20 and at ages 6-14 is provided below.

Additional interviews funded by NIDA were carried out ages ~21 - ~22 and ~30 - ~ 32. Documentation of those interviews will be available in the near future.

## Outcome Measures

### Youth Self-Report: Ages 6-14 (Table 1)

#### Cohort 1, Fall and Spring of First Grade Only

##### Revised Children's Manifest Anxiety Scale (R-CMAS, Reynolds & Richmond, 1985).

The R-CMAS is a 37-item, self-report instrument designed to assess the level and nature of anxiety in children and adolescents from 6 to 19 years old. The child responds to each statement by marking a "Yes" or "No" answer. A response of "Yes" indicates that the item is descriptive of the child's feelings or actions, whereas a response of "No" indicates that the item is generally not descriptive. The "Yes" responses are counted to determine a Total Anxiety score. The R-CMAS has demonstrated good internal consistency and there is evidence supporting construct validity (Reynolds and Richmond, 1985). For the Total Anxiety score, the median internal consistency coefficient was .82 (range .79 - .85). Stability coefficients for the Total Anxiety score ranged from .98 for a 3-week interval to .68 for a 9-month interval (Reynolds & Richmond, 1985). In the present study, the alpha for the total anxiety score was .83 and the four month, test-retest coefficient was .64, which are quite comparable to the results of Reynolds & Richmond's (1985) R-CMAS reliability studies.

As there is considerable variation in the reading skills of elementary school-aged children, the format for children to record their answers on the R-CMAS was slightly modified. Simple symbols, that is, pictures of common shapes (circle and square) and objects (e.g., ball, apple, etc.), were used to indicate answer choices and to show the place of each item on the answer sheet. More specifically, to help the children find the correct place on the answer sheet to indicate their answer, they were asked to put their finger on the picture of the object corresponding to the appropriate item on the answer sheet. Then the children were asked to indicate "Yes" or "No" by placing an "X" over the circle or square next to their finger, respectively. For example, children were asked to place their finger on the "ball" on their answer sheet for the first item. The item was then read aloud twice by the interviewer to the child. Subsequently, the child was asked to indicate whether their answer was "Yes" or "No". If their answer was "Yes", they were instructed to draw an "X" in the circle. If it was "No", they were instructed to draw an "X" in the square. Previous administration procedures have relied on either the child reading the items and circling "yes" or "no" in response to a particular item, or having an examiner read the items while the child follows along and circles his/her choices. No other changes were made in the administration format or the content of the R-CMAS.

Children's Depression Inventory (CDI, Kovacs, 1983). The CDI was utilized to obtain child self-reports of depressive symptoms. It consists of 27-items designed to assess affective, cognitive and behavioral symptoms associated with depression. For each item, one of three sentences is endorsed (scale range = 0-2) that best describes the child over the past two weeks. The CDI is among the most widely used child self-report measures of depression. Saylor, Finch, Spirito, & Bennett (1984) report an alpha coefficient of .84 and test-retest correlations of .87 over a 1-week interval and .59 over a

5-week interval in a population of emotionally disturbed children. In the present study, the alpha for the total scale was .81 and the four month test-retest reliability coefficient was .60, which is consistent with Saylor et al.'s data on the CDI.

Some modifications in the CDI in terms of the content of the scale and administration format were made for the first grade administration. Consistent with the framework elaborated by Kellam and Ensminger (1980), within which social adaptational status and psychological well-being are seen as related but conceptually distinct constructs, a decision was made to delete three items that focused specifically on social adaptational status rather than psychological well-being (school work inhibition, lack of enjoyment at school, poor school performance), leaving 24 items. In addition, the CDI administration format was changed so that the instrument could be given on a classroom-wide basis. The changes made were virtually identical to those described for the R-CMAS.

#### Cohort 1 Grades 6-8 & Cohort 2 Grades 5-8

**Baltimore How I Feel.** The BHIF is a 30-item, youth self-report scale of depressive and anxious symptoms. Children report the frequency of depressive and anxious symptoms over the last two weeks on a three-point scale. Items were keyed for the most part to DSM-III-R criteria for major depression, and overanxious and separation anxiety disorders. A pool of items was drawn from existing child self-report measures, including the Children's Depression Inventory (Kovacs, 1983), the Depression Self-Rating Scale (Asarnow & Carlson, 1985), the Hopelessness Scale for Children (Kazdin et al., 1986) and the Revised-Children's Manifest Anxiety Scale (Reynolds & Richmond, 1985). The alphas for the depression and anxiety items have been between .79 and .85 over the course of our work with the first two JHU PIRC cohorts. Two-week test-retest reliability coefficients ranged from .60 in first grade to .70 in middle school in the 1985-86 JHU PIRC cohorts.

**Baltimore Conduct Problems and Delinquency Scale.** Beginning in year three of the study we employed an adaptation of a self-report measure of delinquent and antisocial behavior developed by Elliott and Huizinga for National Survey of Delinquency and Drug Use (Elliott, Huizinga & Ageton, 1985). Cronbach alphas have ranged from .67 to .74 in the middle school years. One year test-retest reliability coefficients have consistently been above .60.

#### Cohort 1 Grades 4-8 & Cohort 2 Grades 3-8

**Baltimore Substance Use Scale.** Beginning in year three of the study (Chilcoat et al., 1995; Chilcoat & Anthony, 1996; Kellam & Anthony, 1998) we employed an adaptation of Elliott and Huizinga's measure of substance use, which they developed for use in the National Survey of Delinquency and Drug Use (Elliott, Huizinga & Ageton, 1985). Youth's report on knowledge and use of tobacco, alcohol, marijuana, crack cocaine, heroin, inhalants and stimulants.



### Cohort 1 Grades 1-4 & Cohort 2 Grades 1-3

The California Achievement Test (CAT, Forms E & F). The CAT represents one of the most frequently used standardized achievement batteries (Wardrop, 1989). Subtests in CAT-E and F cover both verbal (reading, spelling, and language) and quantitative topics (computation, concepts, and applications). Internal consistency coefficients for virtually all of the subscales exceed .90. Alternate form reliability coefficients are generally in the .80 range.

### Cohort 1 Grade 5 & Cohort 2 Grades 4-5

The Comprehensive Test of Basic Skills (CTBS; Fourth Edition, 1990). The CTBS represents one of the most frequently used standardized achievement batteries in the U.S. Subtests in the CTBS cover both verbal (word analysis, visual recognition, vocabulary, comprehension, spelling, and language mechanics and expression) and quantitative topics (computation, concepts, and applications). The CTBS was standardized on a nationally representative sample of 323,000 children from kindergarten through grade 12.

### Youth Self-Report Ages ~19 - ~20 (Table 2)

Youth Self-Report and Profile (YSR) (Achenbach & Edelbrock, 1987). We used the social competence items (I-IV) from the YSR as a measure of the youth's perceptions of their performance in the social relations domain: number of friends and frequency of contact with friends, participation in sports and social activities and organizations, and performance of jobs and chores. The psychometric properties of the social competence scale are described in Achenbach and Edelbrock (1987).

Young Adult's Dating, Marital, Intimate Relationship History. We obtained a history of the youth's intimate/romantic relationships, including dating, marriages, divorces, and separations. We asked the young adult to quantify the number of the relationships s/he has been involved in and the length of time involved in these relationships. We also asked them to qualify the type of relationships they have been involved in (casually dating, regularly dating, only seeing one person, commitment to marriage, married). The young adult was also asked the age s/he was when s/he first reported having an intimate relationship, the race/ethnicity of the partner, and the difference in age between the respondent and the partner. These same questions were asked for the current intimate partner (or last partner), along with partner's religious activities, job status, community involvement, substance use, weapon use, violence against others, arrests, criminal behavior, the affective quality of the relationship, and the degree and nature of conflict (including physical fights) and how was it handled.

Revised Conflict Tactics Scales (CTS2). (Straus et al., 1996). The revised CTS2 was used to measure the use of negotiation and psychological and physical attacks on a partner in a marital, cohabiting, or dating relationship during the last year. As described by Straus et al. (1996), the CTS2 has additional items to enhance content validity and

reliability; revised wording to increase clarity and specificity; better differentiation between minor and severe levels of each scale; new scales to measure sexual coercion and physical injury; and a new format to simplify administration and reduce response sets. Straus et al. (1996) report reliability ranges from .79 to .95. Straus et al. (1996) also present preliminary evidence of construct validity.

Young Adult's Employment History. We obtained from the young adult her/his employment history, including number and types of jobs held, reasons for leaving, and rate of pay, their current employment status, 2.current job, salary, hours currently working, their self- perception of their current job performance, whether they have health insurance from their job, their job aspirations, and whether they are or had been in the military service and the nature of their discharge (if was in military and is no longer).

Young Adult's Educational History. We asked the young adult to report on the the highest level of schooling obtained, the number of repeated grades from K-12, how well they performed overall in school (K-12), whether they were currently in school/training, and (if so) how well they are performing, and the nature of the educational program they are currently attending (college, vocational school, etc.).

Composite International Diagnostic Interview-University of Michigan Version (CIDI-UM). The CIDI-UM (Kessler, McGonagle, Zhao, Nelson, Hughes, Eshleman, Wittchen, & Kendler, 1994) antisocial personality, ADHD, alcohol and drug, and anxious and depressive disorder modules were employed. The CIDI-UM is a fully structured psychiatric interview, based on the Diagnostic Interview Survey (Robins, Helzer, Croughan, & Ratcliff, 1981), that specifies the exact wording and sequence of questions and provides a complete set of categories for classifying respondents' replies. The highly structured format is intended to minimize clinical judgement in eliciting diagnostic information and recording responses. It is designed to be administered by lay interviewers, trained to follow precisely the interview schedule. The CIDI-UM generates lifetime and 12 month DSM-IV and ICD-10 diagnoses as well as the number of diagnostic criteria met and symptom counts for discrete diagnostic entities. The original CIDI was revised by Kessler and his colleagues for use in the congressionally mandated National Comorbidity Study. He and his colleagues added commitment and motivation probes for recall of lifetime episodes.

Diagnostic Interview Schedule for Children 1 & 2.3. Suicidal symptoms were assessed using the items from the 2.3 (Shaffer, Fisher, Piacentini, Schwab-Stone, & Wicks, 1992), as well as three items drawn from the DISC-1 (Costello, Edlebrock, Dulcan, Kalas, & Klaric, 1984). A similar scale was used by Wagner and Cohen (1994), and yielded coefficient alphas of .94 and .83 for suicidal adolescents and their siblings, respectively (Wagner & Cohen, 1994).

The Pierce Intent Scale (Pierce, 1977). The Pierce Intent Scale (Pierce, 1977) is a modification of the suicide intent scale of Beck et al. (1974). The scale consists of 12 ratings, along 3-point scales, that are made by the interviewer, following a discussion

with the adolescent regarding the suicide attempt. The items are grouped into three categories: (a) circumstances of the attempt; (b) the patient's self reported suicidal intent and whether he/she is glad to have recovered; (c) whether the injury was serious enough to have caused death without medical intervention. The scale is quite similar to the Beck et al. measure, and Pierce reported that the intercorrelations between the category scores ranged from  $r = .24$  to  $r = .44$ , indicating moderate to substantial independence. In a five-year follow up of 500 adult suicide attempters, Pierce (1981) found that suicidal intent as rated on the penultimate suicide attempt significantly discriminated those who went on to complete suicide versus those who did not.

Sexual Risk Behavior Calendar (past 30 days).. Based on extensive experience in eliciting high risk sexual behavior among men and women 16 years of age and older in Baltimore, Vlahov (1991) developed, tested and fielded assessments of sexual behavior in over 5,000 persons. As part of the assessment, subjects were provided a calendar corresponding to the 30-day period prior to the interview; this calendar is used to prompt recall of specific information regarding sexual activity and condom use. Participants were asked partner-specific information on which days they engaged in specific types of sexual activities (vaginal, oral and anal intercourse), the number of such episodes of each type of sexual activity on each day, and whether a condom was used for each encounter. The type of partner ( a regular partner [like a '>boyfriend' or '>girlfriend'], a casual partner [someone you've had sex with before, but not regularly] or a new partner [someone you had never met before and had sex with for the very first time] was also elicited for each sexual episode. Finally, we determined whether the respondent or partner had been drinking or using drugs prior to the sexual episode. Overall, we were able to create six major variables of varying risk for HIV infection based on this information. These include the number of all sexual acts, number of days on which these acts occurred, number of episodes of vaginal intercourse, number of days vaginal intercourse occurred, number of times that condoms were used during intercourse, and the number of day condoms were used during intercourse. We also calculated the proportion of episodes of intercourse in which condoms were used, and we utilized a trichotomized variable for "always", "sometimes", and "never" condom users. Further, counts of anal intercourse, protected and unprotected were also calculated as an especially risky behavior for HIV infection. A sexual risk scale was also constructed, which is ordinal in measurement, generally leading to cutting-points for low moderate and high risk.

Sexual History. We inquired about each participant's sexual history, including age of sexual debut and its circumstances, number of sexual partners, exchange of sex for money or drugs, pre-adolescent sexual behavior (to obtain a proxy indicator of prior sexual abuse), forced (or presumed forced) intercourse, and history of condom use.

Self-Reports of STD History. We generally followed the syndromic approach to classification of STD history (Zenilman et al., 1995). First, we inquired about the history of reports (by health professional or doctor) of the following STDs: syphilis, gonorrhea, nongonococcal urethritis, chlamydia, trichomonas, herpes, genital warts and other (unspecified) STDs. This was then repeated for recent STDs (past 6 months or 12

months). Next, we ascertained symptom histories (lifetime and recent) for the following: (1) lumps, bumps, warts, or unusual swelling around the anus (and vagina); (2) any swelling or lumps on penis/swelling of vagina or between legs; (3) any painful cuts or open sores around vagina/bumps on penis or testes that come and go and painful sores on penis; (4) any clear discharge; (5) any colored discharge; (6) pain or burning on urination; (7) penis/vagina itching; (8) penis/vagina tenderness; for women only (9) pain in the bottom of stomach (not related to menses) or tenderness on the bottom of belly. From these data, the four most common syndromes caused by STDs were ascertained: (1) in a man or woman, generally due to syphilis or chancroid; (2) in a man; (3) ; and (4) in a woman. Many STD clinics and services treat on the basis of self-reported symptoms, and manage accordingly because definitive cultures or serologic tests may require several days to obtain results. We also inquired about HIV testing (whether it was voluntarily sought, when and where; whether test results were received and their serostatus, if known) experience.

.Pregnancy History. The young adult was asked to report on the number of pregnancies, miscarriages, abortions, still births, live births they personally experienced (if a female) or their partner had experienced (as result of sexual activity with them, if male), whether the pregnancies were planned, the young adult's age at each event, and the number of the children the young adult is caring for.

Service Assessment for Children and Adolescents (SACA):Youth Report. The SACA is a structured interview, designed to accompany the DISC 4.0 and obtain information on child mental health service utilization. It represents an effort to improve and expand upon the Service Utilization and Risk Factor interview, which was developed and field-tested as part of the NIMH collaborative MECA study (Goodman et al., 1996). We used subscales from the SACA to obtain: (1) past and present use of mental health and educational services, including the setting (e.g., outpatient, inpatient, school-based, primary care, juvenile justice system) and reasons for the services; (2) the nature, frequency, and duration of the services; (3) satisfaction with services received; (4) the nature/type of mental health insurance (if any) and its cost (if any); (5) the costs of the services received, including indirect costs (e.g., loss of time from work) and out of pocket expenses for incidental costs (e.g., travel to the clinic); (6) the amount of time associated with travel to and from the sessions and the time for the session itself; (7) satisfaction with the services provided; (8) the young adult's perceptions of the their need for mental health services, (9) perceptions of the availability, affordability, accessibility, effectiveness, and cultural relevance of mental health services, (10) attitudes towards seeking mental health services, and (11) reasons for not seeking or accessing services in the presence of perceived need, including the race of the mental health professionals.

School, Police and Court Records: Ages 6-21. School records including attendance, grades, standardized test scores, disciplinary removals and suspensions (and the associated offenses), special education services received, free lunch status, and demographic information were obtained by electronic data file transfer, both with error and reliability checks. The report card data included grades for academic subjects, as

well as ratings of work study habits and independence. Police and court records were also obtained to determine the frequency and nature of police contacts and criminal convictions.

### Peer Report

#### Cohort 1 Grades 1, 2, 4, & 5 & Cohort 2 Grades 1 & 3

Peer Nomination Inventory. The Peer Nomination Inventory is a first stage measure of SAS which assesses all children in each classroom using classmates/peers as raters. It is a classroom administered modified version of the Pupil Evaluation Inventory (PEI, Pekarik, Prinz, Leibert, Weintraub, & Neale, 1976). Ten items were selected from the original PEI the basis of their relevance to three SAS constructs: authority acceptance/aggression (e.g., "Which children get into trouble a lot?", social participation/shy behavior (e.g., "Which children play alone a lot?", and likeability/rejection ("Which children don't you like?" and an additional four items were developed to tap psychological well-being [anxiety ("Which children worry a lot?" and depression ("Which children are sad a lot?"). Where deemed necessary, items were shortened and reworded in order to be more readily comprehended by first graders. In terms of administration, a question is read aloud to the class and the children are then instructed to circle the pictures of all children in their classroom described by the question. Thus, children are able to make unlimited nominations of classmates for each question. Raw scores on each of the above dimensions are converted to standard scores based on the distribution of nominations within a child's classroom.

### Teacher Report

#### Cohorts 1 & 2 Grades 1-8

Teacher Observation of Classroom Adaptation-Revised (TOCA-R; Werthamer-Larsson et al., 1991). The TOCA-R is a brief measure of each child's adequacy of performance on the core tasks in the classroom as defined by the teacher. It is a structured interview administered by a trained member of the assessment staff. The interviewer records the teacher's ratings of the adequacy of each child's performance on a six-point scale (never true to always true) on six basic tasks: accepting authority (aggressive behavior); social participation (shy or withdrawn behavior); self-regulation (impulsivity), motor control (hyperactivity), concentration (inattention) and peer likeability (rejection). In addition, the teacher reports on youths academic performance (AOverall, would you say (child's) grades in your class are excellent, good, fair, barely passing, or failing?@), overall behavior, and the educational, substance abuse, and mental health services s/he perceives each child needs or is receiving. Test-retest correlations over a four month interval with different interviewers were .60 or higher for each of the TOCA-R subscales and the coefficient alphas were .80 and higher for each of them as well.

## Parent Report

### Cohort 1 Grades 4 & 6 & Cohort 2 Grade 3 & 6

Parent Observation of Child Adaptation (POCA). The POCA was designed as a counterpart to the Teacher Observation of Classroom Adaptation-Revised (Werthamer-Larsson et al., 1991) for use as a measure of the child's success in meeting the developmental task demands of the family social field. Like the TOCA-R, the interviewer records the parent's ratings of the adequacy of each child's performance on six basic tasks: accepting authority (aggressive behavior); social participation (shy or withdrawn behavior); self-regulation (impulsivity), motor control (hyperactivity), concentration (inattention) and peer likeability/rejection. In addition, the parent reports on the educational, substance abuse, and mental health services she perceives each child needs, is receiving, or has received. In constructing the POCA, we attempted to use the exact wording of the TOCA-R items and the service utilization component. Psychometric analyses point to strong internal consistency for each of the subscales. We have found modest convergence with TOCA-R teacher ratings, and moderate concurrent validity with achievement scores.

Baltimore How I Feel-Parent Report (BHIF-P). The BHIF-P is the parent version of the child self-report measure of anxious and depressive symptoms described above. The items are the same as those included in the youth version, however, the person is changed from you to s/he. Psychometric analyses point to strong internal consistency (alphas of .81 and .79 for depression and anxiety, respectively), high test-retest reliability (.70 for both anxiety and depression over a 1 month test-retest interval), and moderate to strong concurrent validity.

## Direct Observation

### Cohort 1 Grades 1 & 2 & Cohort 2 Grade 1

Direct Observation of Classroom Behavior (DOCB). In grades 1 and 2 in Cohort 1 and grade 1 in Cohort 2, we employed a behavior coding system based on observation by independent classroom observers, who rated children's social interactions, aggression, and concentration/on task behavior. Each item was defined by accepted behavioral definitions (Kent et al., 1974; O'Leary et al., 1971). An interval-time sampling method of observation yielded ten minutes of observation on each child per day of observation. The method was employed just before, during, and after TOCA-R in the fall, and just before, during, and after TOCA-R in the late spring. Forty minutes of observation were done per child per year. Current analyses confirm aggression, social interaction, and concentration as factors. More analyses are currently underway to determine whether the time sampled is sufficient to reliably measure the constructs. In the new trials we plan direct observations of classroom behavior in the same pattern in first grade and in the spring of second grade, and with appropriate modifications as the further analyses

indicate. However, we do not plan direct observations on all children in the trials, but rather on second-stage, smaller, stratified samples of particular theoretical interest.

### Mediators/Moderators of Outcomes

#### Youth Self-Report: Ages 6-14 (Table 1)

(Table 1)

#### Cohort 1 Grades 4-8 & Cohort 2 Grades 3-8

##### Self-Perception Profiles for Adolescents (SPPA, Harter, 1988).

Beginning in Year 3 of the study, we employed the Scholastic Competence of SPSS. The SPPA's validity is supported by findings linking scores to perceived control, mastery motivation, academic achievement, and depression (Harter, 1988).

##### Structured Interview of Parent Management Skills and Practices--Youth

Version(SIPMSP, Capaldi & Patterson, 1989). This interview was developed by Patterson and his colleagues as a counterpart to their parent interview. The youth version assesses the parenting constructs integral to the Patterson et al. (1992) model of the development of antisocial behavior and social survival skills, which were the caregiver disciplinary practices targeted in the family-school partnership program in first grade. The relevant parenting constructs assessed are: parental monitoring, discipline, reinforcement, rejection, problem solving, and involvement in learning and behavior. The youth responds to a series of forced choice questions. Chilcoat et al. (1995) found that youth reports of parent monitoring on this scale predicted early initiation of drug use.

Exposure to Deviant Peers (Capaldi & Patterson, 1989). Patterson et al. (1992) and colleagues have theorized that drift into a deviant peer group increases the risk for antisocial behavior. They argue that antisocial behavior and substance use is not only modeled but reinforced by the deviant peers. Accordingly, using a scale developed by Capaldi & Patterson, youths were asked in forced choice format to indicate how often their peers have engaged in antisocial behavior and/or substance use. Coefficient alphas ranged from .78 to .81 in the 1985-86 JHU PIRC cohorts during the middle school years.

##### Neighborhood Environment Scale (NES, Elliott, Huizinga, & Ageton, 1985).

Beginning in Year 3 of the study, the NES was administered to program participants. It consists of 18 true-false items and was used to assess exposure to deviant behavior in the neighborhood, including violent crime, drug use and sale, racism, and prejudice. Crum and Anthony (1993) report Prevention Center youths living in neighborhoods in the highest tertile of crime and drug use, as measured on the NES, were 3.8 times more likely to have been offered cocaine than youths in the lowest tertile. Coefficient alpha for the total scale is .80.

## Youth Self-Report Ages ~19 - ~20

### (Table 3)

Self-Perception Profiles for Adolescents (SPPA, Harter, 1988). Perceived competence is viewed in our developmental epidemiological model of depression as a mediator of the relationship between SAS and PWB. We employed the Scholastic Competence and Work subscales. The SPPA's validity is supported by findings linking scores to perceived control, mastery motivation, academic achievement, and depression (Harter, 1988).

How Important Are Each of These Things to You? (Harter, 1988). The purpose of this instrument is to determine the saliency of a particular domain to the youth's self-worth. Harter developed this instrument to complement the Self-Perception Profile for Adolescents. For each item the youth is presented with a description of two groups of youths, one of which is described as perceiving a particular domain to be important to their self-worth (e.g., Scholastic Competence), whereas the other group does not. After the youth selects the group most like her/him, s/he is asked to refine their choice further by deciding whether it is "sort of true for me" or "really true for me."

The Life Events Questionnaire Adolescent Versions (LEQ-C & LEQ-A; adapted from Coddington, 1972). The LEQ-A is a checklist of potentially stressful life events that children and adolescents may experience. We have modified the LEQ-A to include a broader range of events relevant to adolescence and family-related stressors, adding items from the Adolescent Perceived Events Scale (APES) (Compas et al., 1985) and the Adolescent-Family Inventory of Life Events and Changes (A-FILE) (McCubbin et al., 1983). We have also modified the LEQ-A to allow for a test of the "cost of caring" hypothesis, regarding gender differences in the prevalence of depression (Kessler et al., 1984). That is, the youth is asked to report on three sets of events in accord with Gore et al. (1993): (1) the events they experienced directly, (2) events experienced by family members, & (3) events experienced by friends. Consistent with our developmental epidemiologic model of depression, the data on life events will also allow us to test the hypothesis that such events may interfere with the youth's ability to meet social task demands, which, in turn, may increase the likelihood of decrements in psychological well-being.

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National Health and Nutrition Examination Survey III: Data Collection Forms (The NHNES, 1990). The NHNES interviews have been developed for use in the ongoing National Center for Health Statistics studies of adult and child health status, practices, and service utilization. Screening items from the child and adult short forms of the interview were used. These items included an overall appraisal of current health status and the extent to which any disabling health conditions are present. The young adult was also asked about medication use for mental and physical health problems, and whether they currently had health insurance, the name of the provider.

Adult Report of Violence Exposure (AREV, Cooley-Quille, 1998). The AREV is a 32-item self-report instrument that was used to assess the young adult's frequency of exposure to violence through four modes: 1) media; 2) reports of violence occurring to others; 3) violence directly witnessed; and (4) victimization (violence directly/personally experienced). The AREV is a modification of the Children's Report of Violence Exposure (CREV, Cooley-Quille et al., 1995). There are 5 response categories which provide data on frequency of lifetime occurrence. The AREV has proven to be highly reliable in urban African-American youth and to be related to psychological well-being.

Characteristics of the Young Adult's Peers/Friends The young adult was asked to report on the characteristics/behaviors of their peers/friends, including religious activities, job status and occupation, education, community involvement, substance use, weapon use, violence against others, arrests, and criminal behavior.

Nature of the Relationship with Peers/Friends. The young adult was asked to indicate the number of current friends, the age difference, the affective quality of the relationship, and the degree and nature of conflict (including physical fights) and how it is handled.

History of the Relationship with Caregivers When Growing Up. The young adult was asked to describe their perceptions of their relationship with their parents/caregivers when growing up, including the affective quality of the relationship, whether the parents/caregivers provided emotional support and understanding, and the degree and nature of conflict (including physical fights) and how was it handled.

Characteristics of the Young Adult's Caregivers When the Young Adult Was Growing Up. The young adult was asked to recall what their parents/caregivers were like when the young adult was growing up. More specifically, they were asked to describe their caregiver's(s)/parents'(>s) in terms of the following characteristics/behaviors: religious

activities, job status and occupation, education, community involvement, substance use, weapon use, violence against others, arrests, and criminal behavior.

Mental Health of the Young Adult's Caregivers. The young adult was asked to recall whether their parents/caregivers experienced a mental illness or a serious emotional problem, whether the parent(s)/caregiver(s) had attempted/committed suicide, and had the parent(s)/caregiver(s) received mental health services.

Resources Young Adult Had When Growing Up. The young adult was asked to recall who was the major provider of financial support to the family, the kind of work they did, their level of education, and whether or not the family received public assistance, and if so for how long.

History of Living Situations. The young adult was asked to recall the number of times they moved while growing up, the people (and their blood relationship to them) they lived with, and are currently living with, and whether they were ever homeless.

Religious/Social/Community Activity The young adult was asked whether they are member of a religious organization, the name of the organization, and the frequency they participate in religious activities. The young adult was also asked about participation in other community/social groups, including, sororities, fraternities, clubs/lodges, political organizations, unions, and gangs.

#### Parent Report (Table 1)

(Table 1)

#### Cohort 1 Grades 4 & 6 & Cohort 2 Grade 3 & 6

Household Structure and Demographics. A number of family sociodemographic characteristics were obtained for each of the members of the household: level of education, occupational status, marital status, ethnicity, employment status, age, and relationship to target child. We also obtained total family income, the child's country of origin, the biological father's and mother's involvement in the child's caregiving, and the number of moves the family has made since the child was born.

Who Shares in Parenting and What Kinds of Parenting Do They Engage In? Parents were ask to enumerate the number of divorces and parental separations the child experienced, as well as the number of deaths of caregivers. The child's age at which these events occurred was also obtained.

Structured Interview of Parent Management Skills and Practices--Parent VersionSIPMSP, Capaldi & Patterson, 1989. The SIPMSP was designed to assess the major constructs included in Patterson et al.'s (1992) model of the development of antisocial behavior and substance use in children. That is, the family processes targeted for change in the family behavioral component of the family-school partnership

intervention (FSP). As in the youth version, the items assess (1) parental monitoring, (2) discipline, (3) reinforcement, (4) rejection, and (5) problem solving. Parents are asked to respond to questions regarding their disciplinary practices in open ended and forced choice response formats. In collaboration with the Oregon Social Learning Center Prevention Center, we modified the SIPMSP to include items assessing parent-teacher communication and involvement and support for the child's academic achievement, which were targets of the FSP family learning component.

National Health and Nutrition Examination Survey III: Data Collection Forms (The NHNES, 1990). The NHNES interviews have been developed for use in the ongoing National Center for Health Statistics studies of adult and child health status, practices, and service utilization. Screening items from the child and adult short forms of the interview were used. These items included an overall appraisal of current health status and the extent to which any disabling health conditions are present. These items allow us to model how family and youth physical health impact youth psychological well-being and the parenting practices implicated in the development of aggressive and shy behaviors, concentration problems, and poor achievement.

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