

Maternal Psychological Control and Youth HIV/AIDS Risk Behavior: A Study of African  
American Single Mother Families

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## ABSTRACT

Carlye Kincaid: Maternal Psychological Control and Youth HIV/AIDS Risk Behavior: A Study of African American Single Mother Families  
(Under the direction of Deborah J. Jones, PhD)

The proposed study examined the relation between maternal psychological control, youth psychosocial adjustment and youth HIV/AIDS risk behavior (e.g., sexual intercourse and alcohol use) in a community sample of 194 African American single mother-youth (11-16 year old) dyads. As predicted, higher levels of maternal psychological control were associated with increased psychosocial adjustment problems, as well as an increased likelihood that youth would report engaging in sexual intercourse and alcohol use. Furthermore, youth externalizing problems were found to mediate the relation between psychological control and HIV/AIDS risk behavior; accordingly, greater psychological control was associated with greater externalizing problems which, in turn, was associated with increased odds that youth would engage in alcohol use and sexual intercourse. Findings are discussed with regard to their implications for family-based HIV/AIDS risk behavior prevention programs aimed at African American youth from single mother homes.

This work is dedicated in loving memory of my father, Stephen M. Yates, who always knew.

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## **ABBREVIATIONS**

AIDS	Acquired Immunodeficiency Syndrome
CDC	Center for Disease Control
HIV	Human Immunodeficiency Virus
STD	Sexually Transmitted Disease

## **MATERNAL PSYCHOLOGICAL CONTROL AND HIV/AIDS YOUTH RISK BEHAVIOR: A STUDY OF AFRICAN AMERICAN SINGLE MOTHER FAMILIES**

Sexual intercourse among youth increases the risk for a range of negative consequences such as unplanned pregnancy and various sexually transmitted diseases (STDs), including the human immunodeficiency virus (HIV) (Dittus, Miller, Kotchick, & Forehand, 2004). Approximately 3 million youth acquire STDs every year (Institute of Medicine [IOM], 1997), roughly equal to one in eight youth aged 13-19 and one in four sexually active teens (Dittus et al., 2004). Although rates of HIV risk behaviors are declining in some groups in the U.S., rates of infection among youth ages 13-14 are not decreasing and rates among youth ages 14-25 continue to rise (Center for Disease Control, 2007a). Among those affected by HIV/AIDS, African Americans are most heavily affected by the epidemic. Though African Americans comprise only 13% of the U.S. population, African American adults and adolescents accounted for 51% of all new HIV diagnoses cases in the United States (CDC, 2007a). Racial disparities in HIV diagnoses are particularly severe among young people; among youth aged 13-24, African Americans accounted for 61% of the diagnoses (CDC, 2007b). Consequently, a better understanding of the factors that increase the likelihood that youth will engage in HIV/AIDS risk behaviors is critical for the prevention of this stigmatized and life-threatening disease.

### *Alcohol, Sexual Risk-Taking, and HIV/AIDS*

The majority of youth (defined by the CDC as 13-24 years old) who have HIV/AIDS acquired the disease as a result of risk-taking behavior (CDC, 2007a). Approximately half of

all youth have engaged in sexual intercourse, almost 10% of whom initiated sexual intercourse before 13 years of age (CDC, 2007a). According to the Youth Risk Surveillance Report (CDC, 2008), African American youth are more likely than European American or Hispanic youth to endorse that they have engaged in sexual intercourse. For example, two thirds (66.5%) of African American youth reported having sexual intercourse, while nearly one third (27.6%) reported having more than 4 partners in their lifetime (CDC, 2008). Alternatively, less than half of European American youth reported ever having sexual intercourse (43.7%) and only 11.5% reported having four or more sexual partners.

Youth who engage in one risky behavior are more likely to engage in others as well, increasing their vulnerability to HIV/AIDS (see Tinsley, Lees, & Sumartojo, 2004 for a review). Substance use is often linked with sexual risk-taking behavior, and alcohol use among youth is particularly detrimental. Rates of alcohol use among youth is higher relative to other age groups (Jemmott & Jemmott, 2000), and increases youth vulnerability to sexual risk-taking behavior by impairing judgment and reducing inhibition (Hull & Bond, 1986; Madura, Murray, & Bangi, 2003). African American youth as a group endorse lower levels of alcohol use than their peers from other ethnic/racial groups; however, the consequences of use are worse for African American youth, including increased involvement with the criminal justice system, school dropout and engagement in risky sexual behavior (Belenko, Sprott, & Peterson, 2004; Pavkov, McGovern, & Geffner, 1993). Most relevant to HIV/AIDS risk, alcohol use increases the likelihood that African American youth will initiate sexual activity by 96% for boys and 85% for girls (Perkins, Luster, Villarruel, & Small, 1998). Accordingly, HIV/AIDS prevention efforts aimed at ameliorating the ethnic/racial

disparities in HIV/AIDS risk behaviors depend on studies that examine both alcohol use and sexual intercourse in African American youth.

#### *Developmental Theory/Model for HIV/AIDS Risk Behaviors in Youth*

Ecological systems theory (e.g., Bronfenbrenner, 1979; Cummings, Davies, & Campbell, 2000) states that children and families must be understood in the context of the multiple environments in which they live. One of the most central environments to the development of a child is the family system, with most research attention focusing on parenting style. An authoritative parenting style (Baumrind, 1978), characterized by a balance of warmth/support and monitoring/control, has been linked to optimal child outcomes in both European American (e.g., Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Steinberg, 1990) and African American (e.g., Brody & Flor, 1998; Steinberg, 1990; Jones, Olson, Forehand, Gaffney, Zens, & Bau, 2005) youth. In addition, a growing literature suggests that it may be optimal for parents to shift the relative balance of warmth/support (Bean, Bush, McKenry, & Wilson, 2003; Mounts, 2004; Luster & Small, 1994) and monitoring/control (Brody & Flor, 1998), depending on the context (e.g., urban neighborhoods) or behavior under study. In the case of behaviors (e.g., alcohol use and sexual intercourse) that increase vulnerability to HIV/AIDS, the literature on African American families has highlighted the central role of behavioral control/monitoring (e.g., Dittus et al., 2004; Cleveland, Gibbons, Gerrard, Pomery, & Brody, 2005; Stewart, 2002).

#### *HIV/AIDS Risk Behaviors: The Role of Behavioral vs. Psychological Control*

Baumrind's work highlights two types of parental control: behavioral and psychological (Baumrind, 1966). Behavioral control is the regulation of child's behavior through monitoring of the child's activities, as well as the use of consistent and firm

consequences for violating parental expectations and rules (Schaefer, 1965). With regard to HIV/AIDS risk behavior in particular, parental monitoring has been associated with better overall adjustment among youth (Baumrind, 1991), which, in turn, predicts delayed onset of sexual activity (Tubman, Windle & Windle, 1996), less frequent sexual behavior and fewer sexual partners (Romer, Black, Ricardo, & Feigelman, 1994; Miller, Forehand & Kotchick, 1999; Rodgers, 1999) and more consistent condom use (Luster & Small, 1994; Rodgers, 1999). Parental monitoring may also protect youth by limiting their involvement in risk behaviors (e.g., alcohol use) which increase their vulnerability for engaging in sexual intercourse (e.g., Barber, Olsen, & Shagle, 1994; Steinberg, 1987). Several studies examine behavioral control/monitoring in African American families (Tolou-Shams, Paikoff, McKirnan, & Holmbeck, 2007) and many suggest that that maternal monitoring is a significant factor in predicting lower levels of delinquency more generally, as well as whether or not youth engage in sexual intercourse and alcohol use (Bean, Barber, & Crane, 2006; Rai et al, 2003; Yang, Stanton, Li, Cottrell, Galbraith, & Kaljee, 2007; Brody, 2003).

Relative to behavioral control, psychological control has received considerably less attention in the literature (Barber, 2002), and this is especially true among African American youth (e.g., Bean et al., 2006). Psychological control is conceptualized as a psychologically-oriented, intrusive, limiting, and manipulating form of parental control in which parents appear to maintain their own psychological status at the expense of violation of the child's autonomy (Barber, 2002). In spite of the dearth of research on psychological control relative to behavioral control, distinguishing between psychological and behavioral control facilitates an important shift in understanding the nature of parenting behaviors and child adjustment. While optimal parenting styles encourage the child's expression of opinions, mutual

communication between parents and children, and autonomous expression of children's individuality (Baumrind, 1978), Baumrind (1966) and others (e.g., Schaefer, 1965; Steinberg, 1990) warned of the detrimental effects of guilt-inducing techniques and the manipulation of the love relationship with the child (e.g., psychological control). Consistent with the theoretical distinction between behavioral and psychological control, empirical research has demonstrated that psychological control can be measured reliably and that it is consistently negatively associated with youth psychological adjustment (Barber, 2002). A broad array of adjustment problems have been linked to youth-reported psychologically-controlling parenting, including internalizing problems, such as depressed mood, anxiety, low self-confidence and low self-reliance (e.g., Barber, 1996; Conger, Conger, & Scaramella, 1997; Pettit, Laird, Dodge, Bates, & Criss, 2001) and externalizing problems, such as delinquency and aggressive behaviors (e.g., Barber 1996, Barber & Harmon, 2002, Gray and Steinberg, 1999).

#### *Psychological Control and HIV/AIDS Risk Behaviors*

Although less the focus of research than internalizing and externalizing problems more generally (e.g., see Rodgers, 1999; Barber, 1996), a psychologically controlling parenting style may increase youth vulnerability for HIV/AIDS risk behaviors as well. That is, by exercising control over the psychological world of the child, parents inhibit the development of psychological autonomy and the attainment of a clear, purposeful identity and appraisal of the self as a competent, self-governing agent (Cummings et al., 2000). Recent theory around the effects of psychologically controlling parenting suggest that chronic love withdrawal, guilt induction, and discounting the child's perspective may lead to coping processes characterized by dependence, inhibition, and submissiveness (Cummings et

al., 2000). In context of a romantic relationship, youth who experience this type of maladaptive parent-child bond may carry over these interpersonal deficits into situations where a lack of assertiveness may lead to risky sexual behavior. Building upon this theory, Rodgers (1999) found that parental psychological control did increase the odds that a sexually active daughter would take more sexual risks (e.g., number of sexual partners, type of contraception used, & the frequency of contraception use) in her sample of mostly European American youth. Due to the dramatic costs of engaging in sexual intercourse and alcohol use for African American youth, the need for further exploration on the connection between psychologically controlling parenting and these HIV/AIDS risk behaviors, as well as the mediating role of psychosocial adjustment, is critical for the advancement of family-based HIV/AIDS prevention intervention programs (Dittus et al., 2004; Brody et al., 2006).

#### *Current Study*

In order to integrate and advance theory and the literature to date, this study examined the link between psychological control and HIV/AIDS risk behavior among African American youth, after controlling for the more established role of behavioral control (e.g., monitoring). Accordingly, it was hypothesized that greater psychological control would be associated with greater psychosocial adjustment problems among African American youth. Consistent with Rodgers (1999), it was also predicted that youth who experience greater psychological control in the parent-child relationship would be more likely to endorse HIV/AIDS risk behavior (e.g., sexual intercourse & alcohol use). Third, it was hypothesized that the association between psychological control and HIV/AIDS risk behavior would be partially mediated by youth psychosocial adjustment problems.

## Methods

### *Overview*

Data for the current study was drawn from the first assessment of the African American Families and Children Together (AAFACT) Project. AAFACT is an ongoing, longitudinal study designed to examine the role of extended family members in the health and well-being of African American youth from single mother homes. African American single mother-headed families with an 11 to 16-year-old youth were recruited from counties across central North Carolina. Recruitment was conducted through community agencies (e.g., health departments, YMCAs, churches), public events (e.g., health fairs), local advertisements (e.g., university-wide informational emails, bus displays, brochures), and word-of-mouth (e.g., participants telling other families about the project).

### *Participants*

The current study incorporated data from 194 African American mother-child dyads who participated in the first assessment of AAFACT which was completed in November 2006; data collection for the second assessment of AAFACT began one year later in November 2007 and is currently underway. Demographics for the 194 families at Assessment 1 indicate that the median age for participating youth was 13 years ( $SD = 1.59$ , range = 11-16 years; 55% girls). On average, mothers were 38 years old ( $S.D. = 6.67$ , range = 26 – 64 years); approximately half (52%) completed some college/vocational school after high school/GED; the majority (83.5%) were employed; and household incomes were an average of 29,733.96 ( $SD = \$17,457$ ). Demographic information for these families is presented in Table 1.

### *Missing Data*



Overall, analysis revealed that there was missing data for a small percentage of the participants ( $n = 19$ ). For the measures of psychological control, monitoring, and youth psychosocial adjustment, youth who reported on less than half of the items in the measure or who did not complete the measure were dropped from the current analysis ( $n = 4$ ). For the risk behavior outcome variables, some youth either chose the “refuse to answer” option or skipped the item entirely. For the item which asked youth about their alcohol use, nine youth were missing data (three were missing data altogether, and six chose the “refuse to answer” response choice). For data on sexual intercourse, 13 youth were missing data (four were missing data altogether, and nine chose the “refuse to answer” response choice). For the first hypothesis examining psychosocial adjustment as the outcome variable, 190 youth had complete data for the regression analyses. For the second and third hypotheses examining youth risk behavior as the outcome variable, 175 youth had complete data for the multinomial logistic regression analyses. Analyses were conducted to examine whether participants who did not complete data on the outcome variables (e.g., psychosocial adjustment, HIV/AIDS youth risk behavior) differed significantly on demographic and major study variables from those who did complete all data. For those who did not complete data for psychological control, monitoring or psychosocial adjustment problems ( $n = 4$ ), no significant differences emerged. Among youth who did not complete data for HIV/AIDS risk behavior ( $n = 19$ ), the only significant difference that emerged was maternal age. On average, youth who did not complete risk behavior data (e.g., indicated “refuse to answer” or skipped) had younger mothers ( $M = 34$  years,  $SD = 4.89$ ) than youth who did complete data on their risk behavior ( $M = 38$  years,  $SD = 6.69$ ). In addition, there was a trend for youth

who did not complete risk behavior data ( $M = 13$ ,  $SD = 1.85$ ) to be younger than those who did have complete risk behavior data ( $M = 14$ ,  $SD = 1.56$ ).

### *Procedure*

Given the sensitive nature of many of the project questions, the research team believed it was important to establish personal relationships with the participating families. Therefore, Assessment 1 interviews were conducted either at a conveniently-located community site or in the family's place of residence, depending on the individual needs of each family. In addition, child care was provided on an as-needed basis. During each interview, informed consent was obtained from the mother for her and the youth's participation, and the youth gave assent for participation. In order to maximize the confidentiality of the interviews and to reduce the potential for biased responses, data from each family member was separately collected on laptop computers using Audio Computer-Assisted Self-Interviewing (ACASI) software, and participants' answers are linked to an assigned number rather than to any form of identity. Respondents listened through earphones to pre-recorded questions and personally recorded their answers via the computer mouse and keyboard. This approach helped to reduce the potential for interviewer influence, minimized the error that can result from varying literacy levels in the sample, and maximized confidentiality of the home or community interviews. The mother and youth self-report questionnaires assessed a variety of psychosocial variables, including the constructs of study in the current project. The interviews took approximately 60 to 90 minutes for mother-child dyads to complete. Mother-child dyads were compensated \$25 for their participation (\$15 for mothers and \$10 for youth).

### *Measures*

*Demographic Information.* Mothers completed a demographic measure where they provided information about themselves (e.g., maternal age, education), their children (e.g., child age), and their families (e.g., physical address, family income). Basic demographic information was also obtained from youth. Youth were asked to report on their gender, age, and current grade level in school. For students not currently enrolled, they were asked to report on the highest grade completed.

*Behavioral Control.* One domain of behavioral control, maternal monitoring, was assessed in order to examine the role of psychological control over and above the more established effects of behavioral control on sexual risk taking and alcohol use. Monitoring was assessed using mother-report on the measure developed by Stattin and Kerr (2000). Nine items assess parental knowledge of her child's whereabouts, activities, and relationships (Dishion & McMahon, 1998). The items are rated on a 5-point scale: 0 (Not at All), 1 (Rarely), 2 (Some of the time), 3 (Most of the time), and 4 (Always). Sample items ask mothers how much they know about "Who this child has as friends during his or her free time," "When this child has an exam or assignment due at school," and "What this child does during his or her free time." This measure has demonstrated acceptable reliability data in prior research as well as good test-retest correlations (Kerr & Stattin, 2000; Stattin & Kerr, 2000). Higher scores indicate more maternal monitoring. An alpha coefficient of 0.76 was calculated for the current sample.

*Psychological Control.* Psychological Control, the independent variable, was assessed using youth-report on the 8-item Psychological Control Scale (Barber, 1996), adapted from Schaefer's original CRPBI (1965). This scale assesses the extent of the parent's psychological control over the youth, taking into account the parents' practice of constraining

the youth's verbal expression (e.g., "My mother finishes my sentences whenever I talk"), invalidating the youth's feelings (e.g., "My mother would like to be able to tell me how to feel or think about things all the time"), and directing personal attack toward the youth (e.g., "My mother brings up my past mistakes when she criticizes me"). Youth are asked to decide how much the statements are like their mother. Using a 3-point scale: (0 = *Not at all like him or her*, 1 = *somewhat like him or her*, 2 = *A lot like him or her*). Barber (1996) reported Cronbach's alphas ranging from 0.72 to 0.86 (1996). An alpha coefficient of 0.76 was analyzed for the current sample.

*Youth Psychosocial Adjustment.* Youth psychosocial adjustment, the mediator of interest, was assessed using the Youth Self-Report (Achenbach, 1991). The Anxious/Depressed, Withdrawn, and Somatic Complaints subscales from the Youth Self Report (YSR; Achenbach, 1991) will be used to measure youth internalizing problems. Item 91 of this subscale ("I think about killing myself") was omitted at the request of the IRB. For each item, youth use a 3-point Likert-type scale to rate how well the item describes them during the past 6 months (0 = "not true," 1 = "somewhat true," or 2 = "very true"). A high degree of validity for the anxious/depressed scale in predicting youth internalizing problems has been demonstrated (Rey & Morris-Yates, 1992; Ivarsson, Gillberg, Arvidsson & Broberg, 2002). Additionally, internal consistency has been demonstrated repeatedly with alphas > 0.70 (Broberg et. al., 2001). The internalizing subscale of the YSR had an alpha coefficient of 0.87 for the current sample.

Youth-reported aggression and conduct problems were examined using the aggression and conduct problems subscales of the Youth Self-Report (YSR) form of the Child Behavior Checklist (CBCL; Achenbach, 1991). The 30 items of the two scales will be

combined and used as a youth-reported indicator of aggression/conduct problems. The items are rated on a 3-point scale: 0 (not true), 1 (sometimes or somewhat true), and 2 (very or often true). Higher scores indicate more aggression/conduct problems, respectively. These subscales, selected because they assess the types of aggression/conduct problems typically displayed by children in the age range included in this study, have acceptable reliability and validity data (Achenbach, 1991). Prior research has demonstrated that the YSR is a reliable instrument for African American samples in the current age range (e.g., Forehand, Jones, Brody, & Armistead, 2002; Jones, Forehand, Brody, & Armistead, 2002; Zalot, Jones, Forehand, & Brody, 2007). The alpha for externalizing in the current sample was 0.86.

*HIV/AIDS Risk Behaviors.* Two domains of HIV/AIDS risk behaviors, sexual intercourse and alcohol use, the dependent variables of interest, were examined using items from the Youth Risk Behavior Surveillance System Questionnaire, a health survey first implemented by the CDC in 1989 to monitor priority health-risk behaviors among youth and young adults (Kann, 2001; Kolbe, Kann, & Collins, 1993). For the purposes of this study, youth responses to item 7 (which asks youth to report whether or not they had ever had a drink alcohol, 0 = no; 1 = yes) and item 12 (which asks youth to report whether or not they have ever had sexual intercourse, 0 = no; 1 = yes) were analyzed. Youth were informed that all of their responses were confidential and would not be shared with their mother participating in the study.

## Results

### *Preliminary Analyses*

The distribution of scores for each measure was checked for normality. All study measures were normally distributed and conformed to acceptable standards of skew and

kurtosis, with the exception of maternal report of monitoring (skew = -1.63) and the risky behavior outcomes (78% of adolescents denied alcohol use; 73% denied sexual intercourse). Analysis of the parental monitoring variable demonstrated that the skew was the result of three outlier data points. To check for the impact of these outliers on the data, analyses were run with and without the three outlier variables and the outcome did not differ significantly.

As interest in the study was in the combination of alcohol use and sexual intercourse, the original response scale was recoded to allow comparisons of the combination of risk behaviors. The initial response scale for alcohol use (0 = never drank to 6 = drank alcohol when seventeen years or older) and sexual intercourse (0 = never had sex to 6 = had sex when 17 years or older) was recoded into a dichotomous variable for each of the outcomes to indicate whether 1) the adolescent never had never engaged in either of the risk behaviors or 2) did engage in each of the risky behavior (this coding system was replicated for the sexual intercourse and alcohol use variables). After recoding items into dichotomous variables, three groups were created to indicate varying levels of risk involvement among youth in the sample. The first group consisted of youth who did not report sexual intercourse or alcohol use (group 0), the second group consisted of youth who reported either sexual intercourse *or* alcohol use (group 1) and the third group consisted of youth who reported *both* sexual intercourse and alcohol use (group 2). Separate groups for “sexual intercourse only” or “alcohol use only” were not created given methodological limitations (e.g., the groups would have been too small to conduct appropriate analyses).

Descriptive statistics and bivariate associations for demographic and primary study variables are presented in Tables 1 and 2. As shown in Table 1, one-way ANOVAs revealed that youth age ( $F = 23.75, p < .001$ ) was the only demographic variable significantly

associated with HIV/AIDS risk behavior, such that older youth were more likely to have engaged in risk behavior; accordingly, youth age was statistically controlled in the regression analyses predicting HIV/AIDS risk behavior. Bivariate correlations between primary study variables with HIV/AIDS risk behaviors were also conducted. As expected, maternal monitoring was significantly associated with HIV/AIDS risk behavior ( $F = 9.26, p < .001$ ). Maternal psychological control was also associated with HIV/AIDS risk behavior ( $F = 3.28, p < .05$ ). While youth internalizing problems were not associated with youth risk taking behavior, externalizing problems were significantly associated ( $F = 24.68, p < .001$ ).

As shown in Table 2, youth age was positively correlated with youth externalizing problems ( $r = .19, p < .05$ ) and maternal age was negatively correlated with youth internalizing problems ( $r = -.22, p < .01$ ); therefore, youth and maternal age were statistically controlled in regression analyses examining externalizing and internalizing problems, respectively, as the outcome variables of interest (described below). Consistent with prior work, mother-report of monitoring was significantly correlated with youth externalizing problems ( $r = -.16, p < .05$ ). Youth who reported less externalizing problems (e.g., aggression, rule-breaking) tended to have mothers who reported more behavioral control (monitoring of activities and whereabouts of their child). Consistent with the study hypotheses, youth-report of maternal psychological control also correlated significantly with youth internalizing ( $r = .42, p < .01$ ) and externalizing problems ( $r = .34, p < .01$ ). Overall, higher levels of maternal psychological control were associated with greater psychosocial adjustment problems among youth.

#### *Primary Analyses*

Hierarchical regression analyses were conducted to examine the first hypothesis, which predicted a significant relation between maternal psychological control and youth psychosocial adjustment problems (see Table 3). Consistent with the proposed theoretical model, variables were entered in the following order: 1. sociodemographic variables (e.g., age) associated with the outcome variable were entered in the first block; 2. Maternal monitoring was entered in the second block to investigate the main effect of maternal monitoring (e.g., behavioral control); 3. To examine the main effect of maternal psychological control, the primary predictor of interest, psychological control was entered in the third and final block. Separate regression models were conducted for the two major constellations of psychosocial adjustment problems (e.g., internalizing problems and externalizing problems).

*Psychological Control and Youth Internalizing Problems.* Consistent with preliminary correlations, mother's age was a significant correlate of youth internalizing problems,  $\beta = -.20, p < .01$ . Mothers who were older had children who reported less internalizing problems. In the second block, there was not a significant association between maternal monitoring (e.g., behavioral control) and internalizing problems,  $\beta = -.03, ns$ . Thus, monitoring was not a significant correlate of youth internalizing problems after maternal age was entered in the model. In the third block, maternal psychological control was a significant correlate of youth internalizing problems,  $\beta = .41, p < .001$ ; in fact, psychological control predicted 17% of the variance in internalizing problems among youth. Children of mothers who they reported engaged in higher amounts of psychological control also reported higher levels of internalizing problems.



*Psychological Control and Youth Externalizing Problems.* Consistent with preliminary correlations, youth age was a significant correlate associated with externalizing problems,  $\beta = .17, p < .05$ , in the first block. Older youth reported significantly higher levels of externalizing problems (e.g., aggression and rule-breaking). In the second block, there was a significant association between maternal monitoring (e.g., behavioral control) and externalizing problems,  $\beta = -0.21, p < .01$ . Higher levels of maternal monitoring of youth activities were associated with lower levels of youth externalizing problems, after controlling for youth age. In the third block, maternal psychological control was also a significant correlate of youth externalizing problems,  $\beta = .28, p < .001$ . Youth whose mother reportedly engaged in higher levels of psychological control reported more externalizing problems. Above and beyond the role of youth age and maternal monitoring, maternal psychological control accounted for 8% of the variance in youth externalizing problems.

*Psychological Control and Risk Behavior.* The primary outcome of interest in this study, youth HIV/AIDS risk behavior (operationalized as 0 = neither sexual intercourse nor alcohol use; 1 = either sexual intercourse or alcohol use, but not both; 2 = both sexual intercourse and alcohol use), was examined using multinomial logistic regression (logistic regression results are shown in Table 4). For all analyses, the reference category was the “no HIV/AIDS risk behavior” group (youth in this category did not report sexual intercourse or alcohol use). Accordingly, each of the other two groups (the “one HIV/AIDS risk behavior” group and the “both HIV/AIDS risk behaviors” group) was compared to the reference category in the analyses.

Consistent with the bivariate analyses, youth age emerged as a significant correlate of youth involvement in HIV/AIDS risk behavior. Youth who were older had two and a half

times higher odds of engaging in both risk behaviors as youth who did not [odds ratio (OR) = 2.53, confidence interval (CI) = 1.68 - 3.80,  $p < .001$ ]. Similarly, youth who were older had two times higher odds of reporting increased risk for engaging in one risk behavior [(OR) = 1.76, (CI) = 1.28 - 2.40,  $p < .001$ ]. Youth whose mothers reportedly engaged in more monitoring had lower odds for engage in a single risk behavior, e.g., sexual intercourse or alcohol use [(OR) = 0.29, (CI) = 0.12 - 0.71,  $p < .01$ ]. There was also a trend for youth whose mothers reportedly monitored more to have lower odds for reporting that they engaged in both risk behaviors [ (OR) = 0.42, (CI) = 0.15 - 1.19,  $p = .10$ ]. Of primary interest for this study, however, maternal psychological control was a significant correlate of youth risk behavior above and beyond the roles of youth age and maternal monitoring. With each unit increase in psychological control, youth had almost four times higher odds of reporting involvement in both HIV/AIDS risk behaviors relative to youth who reported that they did not engage in HIV/AIDS risk behaviors [(OR) = 3.61, (CI) = 1.15-11.32,  $p < .05$ ]. Maternal psychological control was not a significant correlate of whether youth engaged in only one HIV/AIDS risk behavior (sexual intercourse *or* alcohol use) [(OR) = 0.80, (CI) = 0.25-2.60, *n.s.*].

*Psychosocial Adjustment as a Mediator.* To examine the third hypothesis, psychosocial adjustment was examined as a mediator of the relation between maternal psychological control and youth HIV/AIDS risk behaviors. Findings are consistent with a mediational model when the following conditions are met (Baron & Kenny, 1986): first, maternal psychological control (hypothesized predictor variable) and psychosocial adjustment (internalizing or externalizing problems; hypothesized mediator variables) must be significantly correlated. The correlation between maternal psychological control and

externalizing problems presented in Table 2 provides support for the first condition required for mediation ( $r = 0.34, p < .01$ ). Higher levels of maternal psychological control were correlated with higher levels of youth externalizing problems. Maternal psychological control was also associated with internalizing problems ( $r = .42, p < .01$ ); however, internalizing problems were not significantly linked to youth HIV/AIDS risk behavior and thus did not meet the additional criteria for testing a mediation.

Second, maternal psychological control must be significantly associated with youth HIV/AIDS risk behavior involvement (hypothesized criterion variable; e.g., youth with higher levels of psychological control report higher levels of risk). As depicted in Table 4, maternal psychological control was significantly associated with youth HIV/AIDS risk behavior ( $B = 1.28, p < .05$ ), satisfying the second requirement for mediation.

Third, externalizing problems must be significantly linked to youth HIV/AIDS risk behavior. As shown in Table 1 (bivariate correlations), externalizing problems were a significant correlate of youth HIV/AIDS risk behavior ( $p < .001$ ), thus, satisfying the third requirement of mediation.

When the aforementioned three criteria are met, evidence for mediation can be demonstrated if the previously statistically significant relationship between maternal psychological control and youth HIV/AIDS risk behavior is no longer significant (or attenuated) after youth externalizing is added to the model. When externalizing was entered into the model, the magnitude of the standardized partial regression coefficient was reduced and maternal psychological control was no longer a significant predictor for HIV/AIDS risk behaviors (with externalizing in the model,  $B = 1.28, p < .05$ , without externalizing  $B = 5.38, n.s.$ ). Lastly, the Sobel test was conducted to determine whether the difference in the

coefficients for psychological control in the model with and without externalizing was statistically significant; the results of the Sobel test indicated that externalizing is a significant mediator of the relationship between maternal psychological control and youth HIV/AIDS risk behaviors,  $p < .01$ .

## Discussion

### *Study Findings*

The current study examined maternal psychological control as a correlate of youth psychosocial adjustment and HIV/AIDS risk behavior among African American youth from single mother homes. Findings revealed that psychological control is uniquely associated with psychosocial adjustment problems (both internalizing and externalizing), as well as higher levels of involvement in behaviors that place youth at risk for acquiring HIV/AIDS. In addition, externalizing problems, but not internalizing problems, mediated the association between psychological control and HIV/AIDS risk behaviors.

Although not the primary focus of the study, it is noteworthy that preliminary analyses of associations between sociodemographic variables and primary study variables revealed significant associations between age of the mothers and youth and youth outcomes. Older youth in this sample reported more aggression and rule-breaking behavior and also reported a higher level of risk behavior. As youth mature both physically and cognitively, some risk taking behavior is developmentally normative for individuals in this age range (Ingra & Irwin, 1996; Jessor & Jessor, 1977; Baumrind, 1987). Furthermore, maternal age was associated with higher levels of youth internalizing problems. Mothers who were older tended to have children who reported higher levels of depression and anxiety. One possibility is that the relationship between parental age and youth outcomes is curvilinear,

such that a comparatively younger or older parent is disadvantageous to youth. Among older mothers, parenting may be compromised due to physical limitations accompanying advanced age or the responsibility of caring for their own aging parents (Powell, Steelman, & Carini, 2006).

Consistent with prior research (Baumrind, 1991; Tolou-Shams et al., 2007), maternal monitoring was significantly associated with youth externalizing problems in regression analyses; however, it was not associated with internalizing problems. Maternal monitoring is an active process of parenting that largely involves the supervision of overt youth behavior (e.g., knowledge of the child's whereabouts, activities and peer affiliations). Accordingly, it follows that maternal monitoring is likely to be correlated with youth externalizing problems that are frequently characterized by disruptive problem behaviors (e.g., aggression and rule-breaking). Conversely, it is less likely that maternal monitoring of a child's outward behavior would correlate to the same degree with youth internalizing problems. First, feelings of worthlessness (depression) or constant worry (anxiety) are likely to be less noticeable to the parental observer than outwardly disruptive behaviors such as rule-breaking and aggression (Eisenberg, Fabes, Shepard, Guthrie, Murphy, & Reiser, 1999). In addition, a parent who notices their child's depressive or anxiety-related problems will likely respond by increasing parental behaviors other than behavioral control; for example, a parent who notices depressive or anxious symptoms might boost the amount of warmth and support that they provide for their child rather than increase the amount of maternal monitoring (O'Neal & Magai, 2005).

Consistent with the first hypothesis, maternal psychological control was a significant correlate of psychosocial adjustment problems among African American youth.

Psychological control has been primarily studied among European American youth and others have even suggested that the construct may be less relevant for minority youth (e.g., Barber 1996; Barber, 2002). However, findings of the current study suggests that psychological control may be an important and understudied construct for African American youth from single mother homes. Youth whose mothers were reportedly more psychologically controlling also reported more externalizing problems, even after accounting for the effect of behavioral control (e.g., maternal monitoring). Considering the strong association between behavioral control and externalizing in the literature (Baumrind, 1991; Tolou-Shams et al., 2007), the strength of the relationship between psychological control and externalizing problems indicates that there may be something particularly powerful about the youth's experience of parental psychological control that exacerbates externalizing problems. For youth who engage in higher levels of aggression and rule-breaking, parental attempts to control youth behavior with psychologically-oriented strategies might be particularly destabilizing if the youth perceives the parenting as a threat to their developmental need for autonomy and independence. In fact, the parenting style might be so contemptible to youth that the results are entirely counterproductive of the parents' desire for a decrease in problem behaviors, serving to amplify externalizing problems instead.

In addition, youth who reported higher levels of maternal psychological control also reported higher levels of internalizing problems. Psychological control is characterized as an intrusive, critical style of parenting which violates the child's autonomy by means of manipulation and guilt-induction (Barber, 2002). This style of parenting comprises negative interactions between parents and youth that may deprecate the child's sense of value and self-worth and, in turn, may cause youth to develop negative self schemas where they perceive

themselves as unlovable or unworthy of affection. The experience of love withdrawal, emotional manipulation and criticism may lead youth to feel excessively guilty, worrisome or withdrawn. As a result, these children may feel so invalidated by maternal psychological control that they are unable to develop an adequate sense of autonomy or a true sense of identity apart from the negative appraisal and manipulation from their parent. Many studies have shown this relationship to be true for European American youth (for a review, see Barber, 2002). Importantly, the current study demonstrates that the intrusive and critical nature of psychological control is not unique to European American psychosocial adjustment, is detrimental for African American youth as well.

Maternal psychological control was also uniquely associated with HIV/AIDS risk behavior above and beyond the contribution of behavioral control (e.g., maternal monitoring). This finding supports the hypothesis that psychological control is an important, yet understudied, parenting construct to consider when examining youth risk behavior outcomes among African American youth from single mother homes (Barber, 2002). The current study's findings are consistent with the work of Rodgers (1999), which found that parental psychological control increased the odds that a sexually active daughter would engage in more sexual risk behavior (in a sample of mostly European American youth). The current study expands on the previous findings in a couple of important ways. First, the current study replicated the findings of Rodgers and colleagues (1999) with a sample of African American youth from single mother homes. Second, whereas Rodgers and colleagues limited their investigation to girls, the current study found that the pattern of increased involvement in youth risk behavior among youth whose parents reportedly have a

more psychological controlling parenting style is true for both girls and boys from African American single mother homes.

There are several possible explanations for the association between psychological control and HIV/AIDS risk behavior. First, the specific risk behaviors of interest in the current study (e.g., alcohol use, sexual intercourse) could also be seen as an attempt by youth exposed to higher levels of psychological control to attempt to fulfill their emotional needs for closeness and acceptance that are not being met in their parent-child relationship. In addition, youth may drink with the expectation that alcohol will alleviate their negative emotions which occur as a consequence of the high levels of criticism and guilt-induction to which they are exposed (e.g., Cooper, Frome, Russell, & Mudar, 1995). Sexual intercourse, alternatively, may represent an effort to attain some level of connectedness and intimacy for youth who experience a deficit of interpersonal connectedness in other contexts, including within the parent-child relationship.

In the current study, youth who reported higher levels of psychologically controlling parenting were the most likely to engage in a combination of both risk behaviors (e.g., alcohol use and sexual intercourse). The probability that an individual who engages in one risk behavior is likely to engage in another is known as global overlap (Leigh & Stall, 1993). According to the alcohol myopia theory (Steele & Josephs, 1990), the reason behind this overlap may be that alcohol disinhibits behavior as a result of its pharmacologic effects on information processing. By affecting the ability to process cues efficiently, the highly salient cues that instigate sexual risk behavior (e.g., arousal) continue to be processed whereas more complex cues that would ordinarily inhibit sexual risk taking behavior (e.g., the possibility of acquiring HIV/AIDS) are no longer adequately processed. With this in mind, it is critical to



understand the family processes (e.g., higher levels of maternal psychological control, lower levels of maternal monitoring) that increase the likelihood that youth will engage in alcohol use and sexual intercourse.

The current findings supported the final hypothesis that youth psychosocial adjustment would mediate the relationship between maternal psychological control and HIV/AIDS risk behavior. Specifically, externalizing problems (though not internalizing problems) mediated the relationship between psychological control and risk behavior among African American youth in our sample. Among youth who externalize distress, drinking alcohol or engaging in sexual intercourse may be a continuation of the type of coping behaviors which fall along the externalizing spectrum that is characterized by an outward manifestation of emotional disturbance. The mediating role of externalizing problems may also represent a desire to “rebel” against psychologically controlling parenting by engaging in risk behaviors such as underage drinking and sexual intercourse that denote a violation of societal and/or parental rules for acceptable conduct (e.g., the rule-breaking aspects of externalizing problems).

In contrast to externalizing problems, internalizing problems did not mediate the association between psychological control and HIV/AIDS risk behavior among youth in the current study. For youth in this age range (11-18 years), many opportunities to engage in risk behavior (e.g., alcohol and sex) occur in the context of interpersonal and social interactions (Mayer, Forster, Murray, & Wagenaar, 1998). In contrast to youth with more externalizing problems, youth with higher levels of internalizing problems may actually withdraw from the types of social contexts and interpersonal interactions which elicit drinking and sexual activity. Youth who internalize distress often report problems that discourage social

interaction or intimacy with others, including the desire to be alone, unwillingness to get involved with others, fearfulness and worthlessness (e.g., Achenbach, 2001). Thus, youth with internalizing problems may lack the energy, interest and/or emotional capacity to engage in the types of social contexts and interpersonal interactions that increase the likelihood they will engage in risk behaviors that place youth at risk for HIV/AIDS. Additionally, youth reporting higher levels of maternal psychological control and internalizing problems may perceive an extreme lack of personal autonomy that prevents involvement in independent activities (Barber, 2002). As such, youth already experiencing substantial parental disapproval and criticism may completely avoid behaviors that might displease their parent and/or evoke additional psychological control (e.g., further criticism, guilt-induction, or love withdrawal).

Although youth internalizing did not mediate the relationship between maternal psychological control and risk behavior, it is possible that this pathway may look different for boys and girls. Due to power limitations, the role of youth gender could not be adequately examined in the current study; however, some evidence suggests that gender may be important to consider in future work (e.g., Petit et al., 2001; Rogers, 2003). Among girls who report higher levels of psychological control, for example, alcohol use or sexual intercourse may represent “self-medication” behaviors intended to alleviate distress. Using alcohol and/or sex as a means of coping, also conceptualized as a drive reduction model (Conger, 1956), is characterized as a strategic coping strategy to escape, avoid or otherwise regulate negative emotions. For girls who internalize distress, sexual intercourse may serve as means of alleviating negative affect by fulfilling a need for acceptance and intimacy.

### *Limitations*

Of course, the findings of the current study must be considered in light of the limitations. First, the cross-sectional nature precludes the opportunity to determine the direction of causality. Future work should consider the possibility that higher rates of risky behavior, for example, prompt parents to rely on psychologically controlling parenting strategies. Second, the relatively low rates of alcohol use and sexual intercourse for adolescents necessitated using a dichotomous measure of risk behavior, precluding the opportunity to examine finer distinctions in adolescent HIV/AIDS risk behavior (e.g., frequency, of alcohol use, number of sexual partners etc.). Future work on psychological control should consider a broader range of youth HIV/AIDS risk behavior. Third, consistent with prior work (Percy, McAlister, Higgins, McCrystal & Thorton, 2005; Bauman & Ennett, 1994), a small portion of youth in the sample did not report their risk behavior, likely due to social desirability (Richman, Kiesler, Weisband, & Drasgow, 1999) or underreporting. Underreporting may be higher among respondents for whom disclosure may have a higher social cost (e.g., youth from minority groups; Fendrich & Vaughn, 1994). Fourth, although not possible with the current data, future work on the combination of psychological control and HIV/AIDS risk behavior should examine the proximal association between drinking and sexual intercourse, as well as other sexual risk behaviors. Finally, the study relied solely on self-report measures to assess the major study variables: maternal psychological control, youth psychosocial adjustment and youth HIV/AIDS risk behavior. In turn, the link between psychological control and the outcome variables may be inflated due to common-method variance (e.g., all youth report).

Several strengths of this study also merit attention. Despite the fact that a growing percentage (56%) of African American youth are being raised in single parent households

(U.S. Census Bureau, 2005), African American children and families are underrepresented in the literature on parenting and youth outcomes. The current study is distinctive in its examination of a more socioeconomically representative group of African American single mother families than is traditionally examined in the literature (Jones, Zalot, Foster, Sterrett & Chester, 2007). The current study also sheds light on an understudied parenting construct (psychological control) and how this parenting construct operates within African American single mother-child dyads. To date, there are no other studies which examine the impact of maternal psychological control on HIV/AIDS risk behavior among African-American youth from single parent homes. Second, in contrast to the literatures on alcohol use and risky sexual behavior which have evolved relatively separately, the current study examines the combination of risk behaviors (e.g., alcohol use and sexual intercourse) that place youth at higher risk for acquiring HIV/AIDS. Third, the study offers further support for the well-established relationship between psychological control and psychosocial adjustment problems, a relationship which has previously been examined in primarily European American samples (see Barber, 2002 for a review). The growing literature on the association between psychological control and youth psychosocial adjustment among both European American and now African American families suggests that the construct is worthy of further attention in both clinical and research settings.

### *Clinical Implications*

The clinical implications of this study hold significance for the parenting literature and the field of HIV/AIDS prevention and intervention among African American youth. For parenting programs that focus on externalizing spectrum disorders (e.g., MacMahon & Forehand, 2003), the findings suggest that it may be beneficial to include psychological

control among the parenting dimensions that clinicians assess and incorporate in parent training programs. For internalizing spectrum disorders, the practice of Cognitive Behavioral Therapy could also benefit from a more comprehensive understanding of familial factors (namely, maternal psychological control) that may contribute to negative cognitive schemas and maladaptive thinking among youth.

Importantly, the findings have the potential to inform the development of family-based HIV/AIDS prevention intervention programs for African American youth who are at greatest risk for acquiring HIV/AIDS (CDC, 2007a). Although family-based HIV/AIDS prevention interventions have demonstrated efficacy in reducing youth sexual risk behavior (Donenberg, Paikoff, & Pequegnat, 2006), there are very few programs or interventions currently in place which actually include the parents as an integral part of the HIV/AIDS prevention intervention process. The Center for Disease Control and Prevention (1999) provides a dissemination list of efficacious HIV/AIDS prevention interventions among adults and youth; however, the majority of the programs do not include family-level interventions or considerations of parenting style. For youth who depend on the guidance and support of parent figures or guardians, the family may provide an integral context for implementing and sustaining change for HIV/AIDS risk behavior (DiClemente et al., 2008). By implementing parent training and teaching parents the essential skills for balancing warmth, control and discipline, changes in the quality of parent-child interactions may enable parents to more effectively guide youth in responsible decision-making in regard to HIV/AIDS risk behaviors.

Table 1: *Bivariate Associations between Demographic Variables, Psychosocial Adjustment and HIV/AIDS Youth Risk Behavior*

Variable	%	$\chi^2$	Youth HIV/AIDS Risk Behavior, <i>N</i> (%)			<i>M (SD)F</i>	
			0 (None)	1 (Alcohol or Sex)	2 (Both)		
Adolescent Age (years)						13.39 (1.59)	23.75***
Adolescent Gender		1.19					
Female	54.9		65 (36.9)	20 (11.4)	13 (7.4)		
Male	45.1		49 (27.8)	14 (8.0)	15 (8.5)		
Mother Age (years)						38.05 (6.67)	.73
Mother Marital Status		4.04					
Never Married	50.8		58 (33.0)	15 (8.5)	13 (7.4)		
Formerly Married	49.2		56 (31.8)	19 (10.8)	15 (8.5)		
Mother Education Level		16.75					
HS Diploma or less	14.4		12 (6.8)	6 (3.4)	5 (2.8)		
Some College	51.0		59 (33.5)	13 (36.1)	19 (10.8)		
College Degree	20.1		25 (14)	11 (6.2)	1 (1.0)		
Grad Degree or Higher	14.4		18 (10.2)	4 (2.3)	3 (1.7)		
Mother Employment Status		0.17					
Employed	82.4		94 (53.4)	27 (15.3)	23 (.13)		
Unemployed	17.6		20 (11.4)	7 (4.0)	5 (2.8)		
Annual Household Income						29,733.96 (17,456.49)	.04
Psychological Control						3.81 (3.1)	3.28*
Maternal Monitoring						27.03 (4.04)	9.26***
Internalizing Symptoms						9.58 (7.75)	2.36
Externalizing Symptoms						10.91 (7.53)	24.68***

\* $p < .05$ ., \*\* $p < .01$ ., \*\*\*  $p < .001$

Table 2. Descriptive statistics and correlations among demographic variables, psychosocial adjustment, and maternal parenting behaviors.

<i>Variable</i>	<i>Range</i>	<i>Mean</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
1. Psychological Control (youth report)	0-13	3.81	3.1	.								
2. Monitoring (mother-report)	5-36	27.03	4.04	-0.009	.							
3. Youth Internalizing	0-35	9.58	7.75	.420(**)	0.023	.						
4. Youth Externalizing	0-36	10.91	7.53	.335(**)	-.155(*)	.463(**)	.					
5. Youth Age	-	13.39	1.59	0.054	.220(**)	-0.064	.194(*)	.				
6. Youth Gender	-	n/a	n/a	0.052	0.034	-0.024	-0.068	0.045	.			
7. Mother Age	-	38.05	6.67	-0.027	.193(**)	.221(**)	-0.063	.314(**)	0.011	.		
8. Mother Education Level	-	n/a	n/a	.155(*)	.187(**)	0.029	-0.074	-0.019	0.067	0.008	.	
9. Mother Employment Status	-	n/a	n/a	0.128	0.044	0.064	-0.05	-0.007	0.046	0.084	.327(**)	.

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

Table 3. Regression Analyses Examining Internalizing and Externalizing Problems, (N = 190)

Regression Analyses

Outcome Variable: Youth Internalizing Symptoms

<i>Predictor</i>	<i>F</i> *	<i>R</i> <sup>2</sup> $\Delta$	<i>B</i> *	<i>t</i>
Block 1. Mother Age	7.75**	0.04	-0.20**	-2.78
Block 2. Maternal Monitoring	3.96*	0.00	-0.03	-0.46
Block 3. Psychological Control	16.61***	0.17	0.41***	6.34

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$

Outcome Variable: Youth Externalizing Symptoms

<i>Predictor</i>	<i>F</i> *	<i>R</i> <sup>2</sup> $\Delta$	<i>B</i> *	<i>t</i>
Block 1. Youth Age	8.38*	0.03	0.17*	2.38
Block 2. Maternal Monitoring	7.05**	0.04	-0.21**	-2.87
Block 3. Psychological Control	11.00***	0.08	0.28***	4.20

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$



Table 4. Multinomial Logistic Regression: Predicting Risk Behavior Involvement (N = 175)

Parameter Estimates

Group <sup>a</sup>		B	SE	Odds Ratio	Confidence Interval	
				Exp(B)	Lower Bound	Upper Bound
One HIV/AIDS Risk Behavior (sex or alcohol)	Intercept	-4.62	2.83	.	.	.
	Youth Age	0.56	0.16	1.76***	1.28	2.40
	Maternal Monitoring	-1.24	0.46	0.29**	0.12	0.71
	Psychological Control	-0.22	0.60	0.80	0.25	2.60
Both Risk Behaviors (both sex and alcohol)	Intercept	-12.08	3.63	.	.	.
	Youth Age	0.93	0.21	2.53***	1.68	3.80
	Maternal Monitoring	-0.86	0.53	0.42 <sup>b</sup>	0.15	1.19
	Psychological Control	1.28	0.58	3.61*	1.15	11.32

<sup>a</sup> The reference category is: No Risk Behavior Involvement.

<sup>b</sup> marginally significant,  $p = .10$ .

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$

Table 5. Frequency Table for Categorization of Youth in Risk Behavior Groups (N = 175)

Groups for Multinomial Logistic Regression	% of Youth Reporting
0 = No Risk Behavior Involvement (neither sex or alcohol)	65.0
1 = Only One Risk Behavior (sex or alcohol)	18.8
2 = Both Risk Behaviors (sex and alcohol)	16.3

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