Measures

In all Add Health survey questions used this study, the value of *legitimate skip* was recoded as 0 since it indicated that the respondent answered 'no' to previous question(s) related to the current question (i.e., Respondent has never been involved in the risk behavior). However, this value was problematic in the items that composed the variable of risky sexual behavior. Explanation about this variable was provided later in this section.

The component variable assault injury. This variable (Injury**;** Cronbach's $\alpha = .75$) was created from five questions that asked about the frequency of the adolescent's past year experience of assault injury perpetration or victimization with or without a weapon (i.e., being shot, cut or a stabbed, medically treated for physical fight-related injury, shot, cut, and/or stabbed another person, and perpetrated physical fight-related injury that required medical treatment). Each question was dichotomized to two values 0 for no assault injury and 1 for any report of any assault injury. A sum score ordinal variable was computed from the five items with values that ranged from 0 for no assault injury to 5 for experiencing every type of assault injury in the past year.

The High Action variables.

Weapon carrying and use. This variable (Weapon; Cronbach's α = .90) was a sum score of four dichotomized (i.e., No = 0 and Yes = 1) weapon carrying- and use-related items (i.e., pulling a knife or gun on someone, using a weapon in a fight, carrying a weapon at school, and using or threatening to use a weapon to get something from someone in the past year). The values of this ordinal variable ranged from 0 for noninvolvement to 4 for adolescent's engagement in the four behaviors.

Delinquency. The violent delinquency items were excluded from the Add Health delinquency scale and included in other variables. The delinquency scale variable was a sum score of the 12 remaining items that asked about the frequency (never = 0, 1 or 2 times = 1, 3 or 4 times = 2, and 5 or more times = 3) of adolescent involvement in nonviolent delinquency in the past year (for the items included in this scale see Harris, 2009). A value of 0 on the delinquency scale (Delinque; Cronbach's α = .93) indicated no engagement in any delinquent behavior. The values 1 and greater reflected the frequency of the adolescent's engagement in one or more delinquent behaviors in the past 12 months.

Aggression. **The aggression** (Agressi; Cronbach's α = .78) was a sum score variable of **two** questions that addressed the frequency (0 for never to 3 for 5 or more times) of the adolescent's involvement in a serious fight and/or a group fights in the past 12 months. A score of 0 in this ordinal variable indicated noninvolvement and scores 1 to 6 indicated various levels of involvement in aggression behaviors.

Risky sexual behavior. This sum score variable (Riskysex; Cronbach's α = .72) included four items (i.e., the frequency of condom use and birth control use in sexual intercourse, the number of sexual but not romantic partners, and whether the respondent or partner ever used a condom during sexual intercourse in the past 12 months). The four items were recoded to dummy variables with three values: 0 for *legitimate skip*, 1 for all rates of risky sex, and 2 for safe sex all the time. Risky sexual behavior was an ordinal variable wherein values greater than 0 and less than 8 indicated that the adolescent has engaged in various levels of risky sexual behavior and a value of 8 indicated safe sexual behaviors in the past year. It is noteworthy that the value *Legitimate skip* in the four items was problematic because Add Health interviewers skipped Section 25 *Non-Romantic Relationship History* for participants < 15-year- olds.

Therefore, the values 1 and greater in the variable of risky sexual behavior included only age 15 years and older. Moreover, the value 0 in the items that composed this variable included not only the adolescents who did not engage in the behavior; rather, it included non-risky sexual behaviors (e.g., using a condom or contraceptives in the first and/or in the most recent sexual intercourse). The interpretation of results related to this variable took into account the issues related to value 0 on this variable.

Addiction behaviors.

Cigarette smoking. A dichotomous variable (Cigarett; No = 0 and Yes = 1) measured if the adolescent smoked cigarettes regularly, that is, at least one cigarette every day for 30 days in the past year.

Various illicit drug uses. Each of the five variables of illegal drug use asked whether (No = 0 and Yes = 1) the respondent tried or used marijuana, any kind of cocaine, inhalants, and heroin, and whether she/he injected, with a needle, any illegal drug in the past year. The variables names in the model were Marijuan, Cocain, Heroin, Inhalant, and needle, respectively.

Problem drinking and alcohol misuse. An ordinal variable (Alcohol; Cronbach's $\alpha = .99$) was computed of the sum score of three items (i.e., the usual number of drinks each time the adolescent drinks, the daily frequency of drinking five or more drinks at one sitting, and the number of days the adolescent has gotten drunk or "very, very high" on alcohol in the past 12 months). These questions were recoded to dichotomous variables (1for alcohol misuse and 0 for any other value that does not reflect such a behavior). For the composite variable, a value of 0 indicated that the respondent never had five or more drinks on any day in the past 12 month; the values 1 to 3 indicated various levels of alcohol misuse.

Driving while drunk. This variable (Drunk_Dr) asked if the respondent drove while drunk in the past year (No = 0 and Yes = 1).

Driving while high on drugs. This measure (Drug_Dr) inquired whether the adolescent drove while high on drugs in the past year (No = 0 and Yes = 1).

Risky behavior while intoxicated. Eight questions, seven of which were dichotomous, that addressed the frequency of adolescents' weapon carrying, involvement in a physical fight, and having sexual intercourse while drunk or under the influence of illicit drugs composed this variable. The frequency of getting into a physical fight in the past 12 months because the adolescent had been drinking was dichotomized (0 for never, and 1 for other rates). The risky behavior while intoxicated (Riskbeha) was an ordinal sum score of the eight items (0 for never and values 1 to 8 reflected the number of risk behaviors while intoxicated in the past 12 months). The value of this variable's Cronbach's alpha was marginal $\alpha = .66$.

Protection behaviors.

Physical activity. An ordinal variable (Ph_Activ) that asked about the frequency (i.e., none = 0, 1 or 2 times = 1, 3 or 4 times = 2, and 5 or more times = 3) of playing an active sport (e.g., baseball, softball, and basketball) in the past week.

Proper diet. A sum score ordinal variable from 21 dichotomous questions (yes = 1 or no = 0) that addressed the previous day's intake of various types of fruits, beans, vegetables, tofu, and nuts. In this variable (Healthyd; Cronbach's $\alpha = .70$), a value of 0 indicated that the adolescent did not eat any healthy items; values greater than 0 reflected the amount of healthy items that the adolescents consumed on the previous day.

Using safety equipment. This ordinal variable (Equipmen) measured the frequency of wearing a helmet when riding a bicycle in the past year. The values of the responses ranged from never = 0 to always = 4.

Dental hygiene. This variable (Dental) included the only dental hygiene-related item that was available in the dataset. This item inquired whether the adolescent had a dental examination by a dentist or hygienist in the past year (No = 0 and Yes = 1).

Wearing a seatbelt. An ordinal variable (Seat Bel) that addressed the frequency of an adolescent's wearing of a seatbelt when riding in or driving a car (never = 0, rarely = 1, sometimes = 2, most of the time = 3, always = 4).

Religiosity. This ordinal sum score variable was created following the Add Health scoring sequence on four ordinal (ranged from 1 for at least once a week to 4 for never) items (1) the frequency of adolescent's attendance of religious services in the past year; (2) the frequency of prayer in the past year; (3) frequency of participation in faith-based activities in the past year; and (4) adolescent's perception of the importance of religion (ranged from 1 very important to 4 not important). In the religiosity variable (Religios; Cronbach's α = .95), values 1 to 4 reflected high religiosity and values 5 to 8 indicated lower religiosity.

School performance. Four ordinal items of the adolescent's grade-point average scores in English, mathematics, history, and science composed this ordinal sum score variable. The Add Health scoring of the four items included 0 for didn't take this subject, took the subject, but it wasn't graded this way, and *legitimate skip*, A = 1, B = 2, C = 3, and D or lower = 4). In the variable of school performance (Schoolpe; Cronbach's α = . 99), values of 1 to 4 indicated good school performance while the value of 4 and greater indicated low school performance.

School connectedness. A sum score variable was computed from five Likert scale questions (with values 1 for strongly agree to 5 strongly disagree) that asked about the adolescent's level of agreement or disagreement with feeling close to people at school, feeling a part of the school, feeling happy at school, feeling that teachers treat students fairly, and feeling safe at school. For the school connectedness variable (Schonne; Cronbach's $\alpha = .93$), following the scoring in the Add Health questionnaires, higher average scores indicate lower school connectedness.

Neither Jessor (1987) nor Røysamb et al. (1997) accounted for demographic variables. Age, race, sex, and SES were controlled to eliminate any potential confounding effects of the demographics on the statistical tests results and to increase the model identification.

Age. This variable included values that ranged from 11 to 18 years-old.

Sex. The sex was a dichotomous variable (male = 1 and female = 2).

Race. A single race variable was created from the nine race questions (Are you of Hispanic or Latino origin? What is your race? White, Black or African American, American Indian or Native American, Asian or Pacific Islander, and Other?) following Add Health researchers suggestions (see Harris et al., 2009). Each respondent was given a single race category even if she/he marked other races. For instance, if the respondent answered yes to Hispanic, this respondent was eliminated from the other race categories.

SES. This variable was an average score of five questions that were recoded to include three values; two questions asked about the residential parents' education level (0 = less than high school, 1 = high school graduate but less than college, and 2 = college graduate and beyond) and two questions concerned the occupation of residential parents (0 = no working parent, 1 = Blue- and Pink-collar workers, and 2 = White-collar workers) and a sum score variable for the

receipt of public assistance by mother and father (0 = both residential parents receive public assistance, 1 = either the residential mother or the residential father receives public assistance, and 2 = neither the mother nor the father receives public assistance). The SES ordinal variable had a marginal Cronbach's alpha = .62. In this variable, an average score lower than .60 indicated low SES; scores greater than .06 and lower than 1.2 reflected a medium and scores greater than 1.2 indicated high SES.

Thank you.

We look forward to presenting our study at Add Health conference.

Sincerely,

Diana Wilkerson & Peter B. Anderson