

Supplemental Information

SUPPLEMENTAL TABLE 4 Description of Measures

	Description
Covariates	
Age	Age in y was calculated from the date of birth and the date of the Wave I interview.
Race and/or ethnicity	Race and/or ethnicity was based on self-report, based on the categories created by the Add Health survey design: non-Hispanic white, non-Hispanic Black or African American, Hispanic, non-Hispanic Asian American or Pacific Islander, American Indian, or other.
Household income	Household income was based on parents' response in Wave I (when subjects were 11–18 y old) to the question: "About how much total income, before taxes, did your family receive in 1994? Include your own income, the income of everyone else in your household, and income from welfare benefits, dividends, and all other sources." This variable was intended to be a proxy for socioeconomic status. Gaussian normal regression imputation method was used to impute income for the 1638 parents who either refused to answer the income question or stated they did not know, similar to the method used in previous studies.
BMI	Self-reported weight (pounds) and height (inches) were converted to kilograms and meters to calculate BMI by using the standard formula weight (kilograms) divided by height (meters) squared (BMI = weight/height ²).
Baseline substance use variables	
Alcohol use assessed at Wave I	Have you had a drink of beer, wine, or liquor, not just a sip or taste of someone else's drink, >2 or 3 times in your life? Response choices included yes or no.
Cigarette use assessed at Wave I	Have you ever tried cigarette smoking, even just 1 or 2 puffs? Response choices included yes or no.
Marijuana use assessed at Wave I	During your life, how many times have you used marijuana? Responses were dichotomized into none (0) or ≥1 times.
Primary predictor variable	
Legal PES use assessed at Wave III	Participants were asked if they had used in the past year "legal performance-enhancing substances for athletes (such as creatine monohydrate or andro)." Response choices included yes or no.
Outcome variables	
Binge drinking in past 12 mo assessed at Wave III and Wave IV	"During the past 12 months, on how many days did you drink 5 or more [if male] (4 or more [if female]) drinks in a row?" Responses were dichotomized into none (0) or ≥1 times, approximately corresponding with the Substance Abuse and Mental Health Services Administration definition of binge drinking as has been coded previously. ⁶⁵
Problematic alcohol use and drinking-related risk behaviors assessed at Wave IV	"How often have you been under the influence of alcohol when you could have gotten yourself or others hurt, or put yourself or others at risk, including unprotected sex?" Responses were dichotomized into none (0) or ≥1 times. "How often have you had legal problems because of your drinking, like being arrested for disturbing the peace or driving under the influence of alcohol, or anything else?" Responses were dichotomized into none (0) or ≥1 times. "Have you ever given up or cut down on important activities that would interfere with drinking like getting together with friends or relatives, going to work or school, participating in sports, or anything else?" Response options were yes or no. "Have you ever continued to drink after you realized drinking was causing you any emotional problems (such as feeling irritable, depressed, or uninterested in things or having strange ideas) or causing you any health problems (such as ulcers, numbness in your hands/feet or memory problems)?" Response options were yes or no.
Cigarette smoking in past 30 d assessed at Wave III and Wave IV	"During the past 30 days, on how many days did you smoke cigarettes?" Responses were dichotomized into none (0) or ≥1 d. ⁶²
Marijuana use in past 30 d assessed at Wave III and Wave IV	"During the past 30 days, on how many days did you use marijuana?" Responses were dichotomized into none (0) or ≥1 times, as has been coded previously. ⁶⁴

REFERENCES

62. Gooding HC, Walls CE, Richmond TK
Food insecurity and increased BMI in
young adult women. *Obesity (Silver
Spring)*. 2012;20(9):1896–1901
63. Hayibor LA, Zhang J, Duncan A
Association of binge drinking in
adolescence and early adulthood with
high blood pressure: findings from the
National Longitudinal Study of
Adolescent to Adult Health
(1994–2008). *J Epidemiol Community
Health*. 2019;73(7):652–659
64. Shakya HB, Domingue B, Nagata JM,
Cislaghi B, Weber A, Darmstadt GL
Adolescent gender norms and adult
health outcomes in the USA:
a prospective cohort study. *Lancet
Child Adolesc Health*. 2019;3(8):
529–538