

The Impact of Intimate Partner Violence, Depressive Symptoms, Alcohol Dependence, and Perceived Stress on 30-year Cardiovascular Disease Risk among Young Adult Women: A Multiple Mediation Analysis

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<b>Dependent Variable</b>	<b>Collection Tool</b>	<b>Variable Type</b>	<b>Measurement</b>	<b>Recode Notes</b>
30-Year Cardiovascular risk	30-Year Framingham Risk Score	Continuous	Range 0%-100%	Created from following variables in Add Health: age, gender, systolic blood pressure, use of antihypertensive medications, diabetes diagnosis, body mass index (weight in kilograms divided by height in centimeters squared) and smoking status. Cox proportional hazard model used to create overall CVD risk score.  Pencina et al., 2009
<b>Primary Predictor</b>	<b>Collection Tool</b>	<b>Variable Type</b>	<b>Measurement</b>	<b>Recode Notes</b>
Intimate Partner Violence Exposure	Adapted from Revised-Conflict Tactics Scale	Binary	IPV  No IPV	Likert-scale responses ranging from “this never happened” to “more than 20 times in the past year”. A response of “this has not happened this year, but has happened in the past” was also an option. The participants were asked to answer these questions about their most current partner over the last year. A binary IPV exposure variable was created by coding any affirmative response to a victimization question. The four victimization questions were:  How often (has/did) {initials} (threatened/threaten) you with violence, (pushed/push) or (shoved/shove) you, or (thrown/throw) something at you that could hurt?  How often (has/did) {initials} (slapped/slap), hit or (kicked/kick) you?  How often (have/did) you (had/have) an injury, such as a sprain, bruise, or cut because of a fight with {initials}  How often (has/did) {initials} (insisted/insist) on or (made/make) you have sexual relations with (him/her) when you didn't want to?  Straus et al., 1996

Mediators	Collection Tool	Variable Type	Measurement	Recode Notes
Perceived Stress Level	4-item Cohen Perceived Stress Scale	Continuous	0-16	<p>4 questions with 8-point Likert-scale. Responses were scored and summed, with the positive phrases questions reversed scored. A higher score indicated higher perceived stress. Perceived stress was measured as a continuous variable.</p> <p>In the past 30 days</p> <p>How often have you felt that you were unable to control the important things in your life?</p> <p>How often have you felt confident in your ability to handle your personal problems? (reversed scored)</p> <p>How often have you felt that things were going your way? (reversed scored)</p> <p>How often have you felt that difficulties were piling up so high that you could not overcome them?</p> <p>Response: never, almost never, sometimes, fairly often, very often</p> <p>Cohen, Kamarck &amp; Mermelstein, 1983</p>
Depressive symptoms	Abbreviated version of Center for Epidemiologic Studies Depression Scale (CES-D).	Continuous	0-15	<p>5 questions with 4-point Likert scale. Results were scored and summed with a higher score indicating greater depressive symptoms.</p> <p>In the past 7 days:</p> <p>You were bothered by things that usually don't bother you</p> <p>You could not shake off the blues, even with help from family and friends</p> <p>You had trouble keeping your mind on what you were doing</p> <p>You felt depressed</p> <p>You felt sad</p> <p>Response: never/rarely, a lot of the time, most of the time</p>

				Radloff, 1977
Alcohol Dependence	DSM IV Criteria for Alcohol Dependence	Continuous	0-8. Diagnosis of a 12-month alcohol dependence required "Yes" to 3 or more questions.	<p>8 questions with responses of "yes" or "no"</p> <p>Over the past 12 months</p> <p>Have you ever found that you had to drink more than you used to in order to get the effect you wanted?</p> <p>Has there even been a period when you spent a lot of time drinking, planning how you would get alcohol, or recovering from a hangover?</p> <p>Have you often had more to drink or kept drinking for a longer period of time than you intended?</p> <p>Has there ever been a period of time when you wanted to quit or cut down on your drinking?</p> <p>When you decided to cut down or quit drinking, were you able to do so for at least one month?</p> <p>During the few hours of not drinking, do you experience withdrawal symptoms such as the shakes, feeling anxious, trouble getting to sleep or staying asleep, nausea, vomiting, or rapid heartbeats?</p> <p>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)?</p> <p>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?</p>

				Hingson, Heeren & Winter, 2006
<b>Covariates</b>	<b>Collection Tool</b>	<b>Variable Type</b>	<b>Measurement</b>	<b>Recode notes</b>
Health insurance status	Add Health developed	Binary	No health insurance Insured	All responses other than “You have no health insurance” was coded into “insured”. The options were:  You get insurance through work  You get insurance through a union  You get insurance through a school  You are covered by your husbands or wife’s insurance  You are covered by your parents insurance  You are covered because you are active duty military  You buy private insurance  You are on Medicaid  You are covered through the Indian Health Service  You do not know what your insurance is
Childhood abuse	Add Health developed	Binary	Childhood Abuse  No Childhood abuse	Binary variables were created using cutoff points for each type of childhood abuse as analyzed in previous research to represent moderate to severe abuse; childhood neglect cutoff was greater than 10 times, childhood physical abuse cutoff was greater than 6 times, and childhood sexual abuse was 1 or more times. Child abuse was defined as having positive response to any of the binary childhood variables.  Neglect: Before your 18 <sup>th</sup> birthday, how often did a parent or other adult caregiver say things that really hurt your feelings or made you feel like you were wanted or loved?  Physical abuse: Before your 18 <sup>th</sup> birthday, how often did a parent or adult caregiver hit you with a fist, kick

				<p>you, or throw you down the floor, into a wall, or down stair?</p> <p>Sexual abuse: How often did a parent or adult care giver touch you in a sexual way, force you to touch him or her in a sexual way, or force you to have sexual relations?</p> <p>Response: 1 time, 2 times. 3-5 times. 6-10 times, more than 10 times</p> <p>Gooding et al., 2014</p>
Race/ethnicity	Add Health developed	Nominal	White, Black/African American, American Indian/Native American, Asian/Pacific Islander or other. Hispanic origin	White, Black/African American, American Indian/Native American, Asian/Pacific Islander or other. Hispanic origin
Sexual orientation/sexual identity	Add Health developed	Binary	Heterosexual, sexual minority	Response options were: 100% heterosexual, mostly heterosexual, bisexual, mostly homosexual, 100% homosexual, and not sexually attracted to males or females. We created a binary variable that grouped any response besides <i>100% heterosexual</i> in to a sexual minority women category.
Education level	Investigator developed	Binary	No college degree and College degree	<p>What is the highest level of education you have achieved to date?</p> <p>No college degree was recoded from: 8<sup>th</sup> grade or less, some high school, high school, some vocational training after high school, completed vocational training, some college</p> <p>College degree was recoded from: Completed college, some graduate school, completed a master's degree, some graduate training beyond a masters, completed a doctoral degree</p>
Income	Mid-point household income	Ordinal Categorical	Range from <20,000 to >\$75,000	Midpoint household income responses were grouped into the following categories: <\$20,000

				<p>\$20,000-\$40,000</p> <p>\$40,000-\$75,000</p> <p>&gt;\$75,000</p>
Financial stress	Add Health developed	Binary	<p>Financial Stress</p> <p>No Financial Stress</p>	<p>Financial stress was an affirmative response to any of the following questions:</p> <p>In the past 12 months, was there a time when you were without phone service because you didn't have enough money?</p> <p>In the past 12 months, was there a time when you didn't pay the full amount of the rent or mortgage because you didn't have enough money?</p> <p>In the past 12 months, was there a time when you were evicted from your house or apartment for not paying the rent or mortgage?</p> <p>In the past 12 months, was there a time when you didn't pay the full amount of a gas, electricity, or oil bill because you didn't have enough money?</p> <p>In the past 12 months, was there a time when you had the service turned off by the gas or electric company, or the oil company wouldn't deliver, because payments were not made?</p> <p>In the past 12 months, was there a time when you were worried whether food would run out before you would get money to buy more?</p> <p>Clark et al., 2014</p>
Health status	Add Health developed	Ordinal Categorical	Responses ranging from excellent to poor	<p>How would you rate your health at this current time?</p> <p>Excellent</p> <p>Very Good</p> <p>Good</p> <p>Fair</p> <p>Poor</p>
Pregnancy status	Add Health developed	Binary	<p>Pregnant</p> <p>Not Pregnant</p>	<p>Are you currently pregnant</p> <p>Yes/No</p>

- Clark, C. J., Alonso, A., Spenceras, R. A., Pencina, M., Williams, K., & Everson-Rose, S. A. (2014). Predicted long-term cardiovascular risk among young adults in the national longitudinal study of adolescent health. *American Journal of Public Health, 104*(12), e108-115. doi:10.2105/AJPH.2014.302148
- Cohen, S., Kamarck, T., Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24* (4), 385-396. doi:10.2307/2136404
- Gooding, H. C., Milliren, C., McLaughlin, K. A., Richmond, T. K., Katz-Wise, S. L., Rich-Edwards, J., & Austin, S. B. (2014). Child maltreatment and blood pressure in young adulthood. *Child Abuse & Neglect, 38*(11), 1747-1754. doi:10.1016/j.chiabu.2014.08.019 [doi]
- Hingson, R. W., Heeren, T., & Winter, M. R. (2006). Age at drinking onset and alcohol dependence: Age at onset, duration, and severity. *Archives of Pediatrics & Adolescent Medicine, 160*(7), 739-746. doi:10.1001/archpedi.160.7.739
- Radloff, L. S. (1977). The CES-D scale a self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385-401
- Pencina, M. J., D'Agostino, R. B., Larson, M. G., Massaro, J. M., & Vasan, R. S. (2009). Predicting the 30-year risk of cardiovascular disease The Framingham Heart Study. *Circulation, 119*(24), 3078-3084. doi: 10.1161/CIRCULATIONAHA.108.816694
- Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised conflict tactics scales (CTS2) development and preliminary psychometric data. *Journal of Family Issues, 17*(3), 283-316. doi: 10.1177/019251396017003001