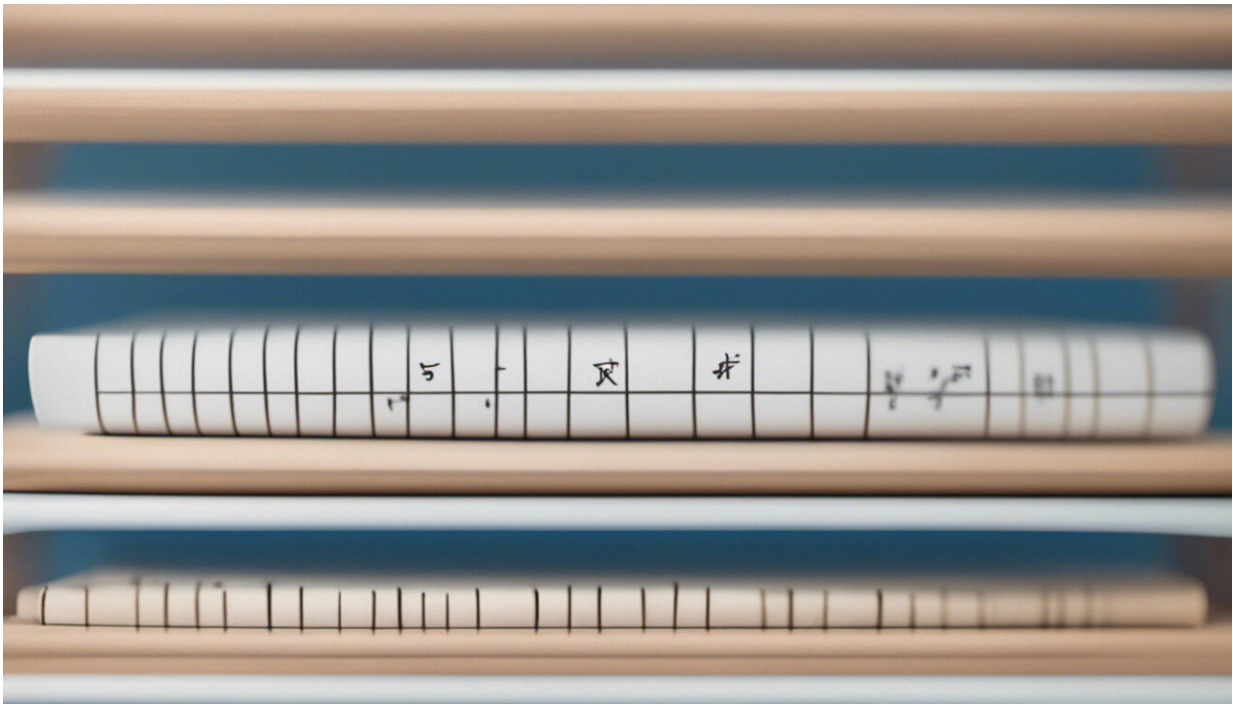


# College students may not be as heart-healthy as they think

February 22 2018, by Wendy Deyoung

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Credit: AI-generated image ([disclaimer](#))

For many young adults, the college years are filled with excitement, as students gain independence and establish new adult identities and behaviors. However, not all behaviors are healthy. Typical changes in college student behavior include a [decrease in exercise and activity levels](#) and an increase in sitting or sedentary time. Other changes include

changes in eating and sleeping patterns, increased stress, weight fluctuations as well tobacco, alcohol and drug use.

Without intervention, these typical [college](#) life behaviors have the potential to become cardiovascular disease (CVD) [risk factors](#) during college and further develop into CVD during adult years.

For my doctoral dissertation, I recently completed a study investigating heart disease risk factors in [college students](#) at Colorado State University (CSU). I found a total of 434 CVD risk factors among 180 students, and many of the students did not perceive themselves to be at risk.

## **Alarming findings**

I recruited 180 students between 18-25 years of age to participate. I evaluated these specific risk factors: nicotine use; family history of heart disease; elevated systolic blood pressure (the top number on your blood pressure reading); elevated diastolic blood pressure (the bottom number); elevated cholesterol levels; low high-density lipoproteins (HDLs); elevated low-density lipoproteins (LDLs); elevated triglycerides; elevated fasting glucose; inactivity; and excess weight.

Among the 180 study participants, I identified that 84 percent, or 151 students, had at least one CVD risk factor. And, 62 percent, or 112 students, had two risk factors; 38 percent, or 68 students, had three or more CVD risk factors.

This is significant because heart disease is the [number one cause of death](#) in the U.S., [despite recent declines](#).

My findings were consistent with larger national studies that show college-aged [young adults are at higher risk for CVD](#) than they may realize.

Further, my study results indicated that college men may be at greater risk for future heart disease than college women. This is a bit surprising, as Colorado has been identified by the Centers for Disease Control and Prevention (CDC) as one of the healthiest states in the nation. In one national study, [Colorado was ranked seventh](#) in overall health. The same ranking reported that Colorado residents had the second highest level of physical activity.

However, it's important to remember that my data was from college students, and their lifestyles tend to not be well-balanced.

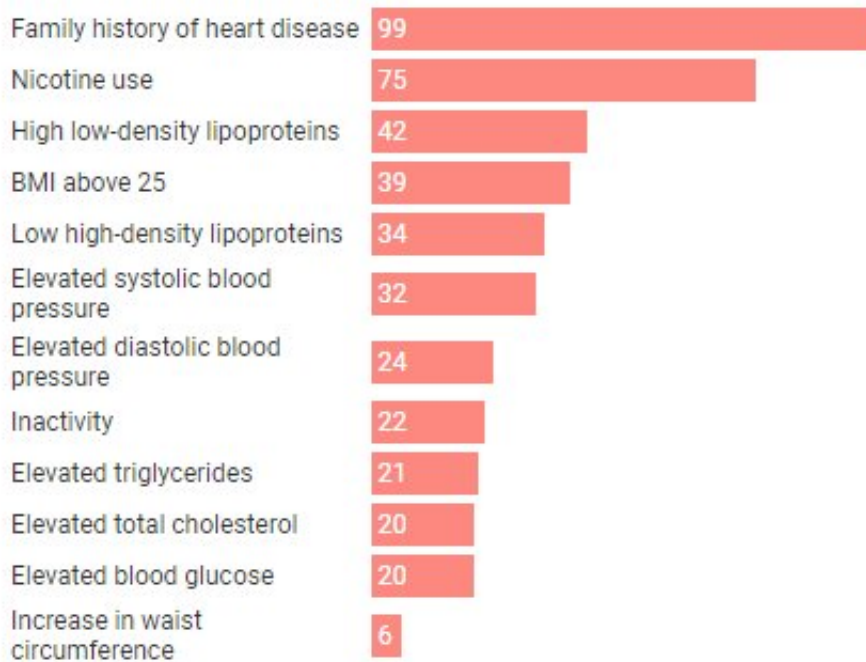
## **Men more likely to use tobacco**

I found the difference in CVD risk factors between genders in my study to be alarming, even though it is consistent with [previous findings](#).

Male students had statistically significant lower levels of the "good" cholesterol (HDL). They also had elevated blood glucose levels and elevated systolic and diastolic blood pressures when compared to female students. Males were also much more likely to use cigarettes, e-cigarettes, cigars, smokeless tobacco and to consume more beer than female students.

## College risk for heart disease

In a study of 180 college students, 151 had at least one risk factor for heart disease; some of the most common.



The only form of a tobacco product that did not show a statistically significant difference between genders was [hookah](#), a water pipe used to smoke specially flavored tobacco or cannabis. Nationally, hookah bars have increased in popularity in recent years, with some small studies showing that as many as [22 to 40 percent](#) of college students used hookah in the past year.

The flavored tobacco and pipe delivery system leads some to believe that smoking tobacco from hookahs is safe. The [CDC](#) and health experts are not convinced. Compared to cigarette smoking, hookah smoking involves deeper inhalations, which are held for a period of time before

exhalation.

## **Ethnicity, class and state differences**

I also compared risk factors between ethnic groups. White students were more likely to use hookah and smokeless tobacco than non-white students.

And, I saw differences in risk between class rankings. I observed that students' systolic blood pressures – the top number on a blood pressure reading – was found to increase as students progress through college. Upperclassmen had much higher blood pressures than freshman. Contributing variables are explained by decreases in activity or exercise, more sitting time, weight fluctuations, chronic academic, financial and social stress, nicotine use and alcohol use.

Finally, I compared the risk factors I identified in CSU data to data from the [National College Health Assessment](#). CSU students were less likely to have elevated blood pressure or to be obese, and more likely to rate their general health as "excellent" or "very good" compared to college students throughout the nation.

However, hookah use stood out again, as the CSU sample students showed a greater use of hookah than college students throughout the nation.

## **Perception versus reality**

One of the questions I asked the students was whether they perceived themselves to be at risk for heart disease. Almost all CSU students did not perceive themselves as having an elevated cholesterol level, blood glucose level or blood pressure. However, when measured, the number

of students with elevations in these variables was statistically significant. I found that the reality of having one or multiple heart disease risk factors was much higher than the perception of having an elevated risk factor or factors.

My study suggests that college students and their health care providers should be paying more attention to [heart disease risk](#) factors. As the number of CVD risk factors increases, so does the potential for clinical consequences of CVD, such as a [heart disease](#) or stroke. Therefore, preventive steps, such as screenings, are very important. The American Heart Association has estimated, for example, that [life expectancy would rise by seven years](#).

Studies have shown that [young adults, particularly young men](#), often overlook the risks of high [blood pressure](#).

Heart disease is often referred to as the "silent killer," as many risk factors have no signs and symptoms. Therefore, college students are often asymptomatic, leaving elevated CVD risk factors undetected for years. Meanwhile, chemical damage from a high total cholesterol level or mechanical damage from hypertension can be causing structural changes to the epithelium cells of the arterial system.

It is apparent from these findings that undergraduate college students may be at greater risk for developing CVD risk factors and subsequent CVD than previously thought and should be screened beginning at age 20 as recommended by health and medical experts.

The findings of this study further support the need for a cardiovascular disease risk reduction program specifically designed for college students. Program components should include preventive screening, health promotion programs and health education targeted at the reducing or eliminating CVD risk factors, which our department will launch this fall

in an effort to improve and support college students and their health and well-being.

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