



# The Skinny on Smoking

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## Introduction

Many studies have reported that young women smoke to control their weight. Research also finds that sexual and gender minority (SGM) women smoke at higher rates and are heavier than heterosexual women.

The purpose of this study is to explore the relationship between weight, weight-related variables, smoking, and sexual orientation in college women.

## Methods

- Data were from the American College Health Association National College Health Assessment, Fall 2010, including 39 campuses nationwide that utilized a random sampling technique.
- In order to be included in the analysis, women had to have provided responses to sexual orientation, height, and weight questions.
- All women identifying as "lesbian," "bisexual," and "unsure" were combined into the category "SGM."
- Physical activity guidelines were considered to be met if participants exercised at least 30 minutes for at least 5 days of moderate physical activity or 20 minutes of vigorous physical activity for at least 3 days a week.
- Smokers were those who reported smoking cigarettes, cigars, little cigars, or clove cigarettes in the last 30 days.
- Descriptive and bivariate statistics were used to compare heterosexual and SGM women.
- T-tests of mean BMI and chi-square tests of characteristics were calculated.
- Odds ratio and 95% confidence intervals from logistic regression models were used to estimate factors associated with the likelihood of smoking.

## Acknowledgements

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	Heterosexual N=17,362	SGM N=1,078	P-value
<b>Race</b> ("How do you usually describe yourself [Mark all that apply]?")			
White, non-Hispanic	64%	60%	0.0072
Black, non-Hispanic	7%	9%	NS
Asian or Pacific Islander	12%	10%	NS
American Indian, Alaskan Native, or Hawaiian Native	1%	1%	NS
Biracial or Multiracial	6%	11%	<0.0001
Other	1%	1%	NS
<b>Physical Activity Guidelines Met</b> (See Methods section)	44%	38%	<0.0001
<b>Smoking Status</b> ("Within the last 30 days, on how many days did you use cigarettes, cigars, little cigars, or clove cigarettes?")			
Current daily	3%	9%	<0.0001
Current occasional (smoking on 1-29 days)	26%	41%	<0.0001
Non-smokers	70%	50%	<0.0001
<b>Alcohol Consumption</b> ("Within the last 30 days, on how many days did you use alcohol [beer, wine, liquor]?")			
Current daily	0.47%	1.11%	0.0036
Current occasional (drinking on 1-29 days)	73%	78%	0.0003
Non-drinkers	26%	20%	<0.0001
<b>Body Mass Index in kg/m<sup>2</sup></b> (Derived from self reported height and weight)			
< 18.5	7%	5%	NS
18.5 - 24.9	65%	54%	<0.0001
25.0 - 29.9	18%	21%	0.0019
≥ 30.0	10%	20%	<0.0001
<b>Health</b> ("How would you describe your general health?")			
Excellent	12%	6%	<0.0001
Very Good	45%	36%	<0.0001
Good	33%	41%	<0.0001
Fair	7%	12%	<0.0001
Poor	1%	2%	0.0045
<b>Mean age in years</b> ("How old are you?")	21.3	21.6	NS

Table 2. Smoking Status by Sexual Orientation

	Heterosexual		SGM		P-Value
	N	%	N	%	
Daily & Occasional Smokers	5,147	30	540	50	P<0.0001
Non-Smokers	12,185	70	534	50	P<0.0001

Table 3. Smoking Status by Body Mass Index

	BMI < 25.0		BMI ≥ 25.0		P-Value
	N	%	N	%	
Daily & Occasional Smokers	1,795	14	862	16	P<0.0001
Non-Smokers	11,309	86	4,440	84	P<0.0001

Table 4. Multivariate Regression Analysis of Independent Variables on Smoking Status (daily+occasional)

Variable	Odds Ratio	95% CI	P-Value
SGM	2.55	1.91 - 3.39	P<0.0001
Occasional Alcohol Use	17.35	8.94 - 33.67	P<0.0001
Daily Alcohol Use	50.09	17.79 - 141.05	P<0.0001
Age	0.89	0.83 - 0.90	P<0.0001

## Results

- A total of 18,440 women were included in the final analysis, of which 5.8% (N=1,078) identified as SGM.
- Compared to heterosexual women, SGM women were less likely to have a healthy BMI of <25.0 kg/m<sup>2</sup>, to meet the national physical activity guidelines, and had a higher mean BMI (25.5 kg/m<sup>2</sup> vs. 23.8 kg/m<sup>2</sup>) (p<0.0001).
- SGM women were twice as likely to be obese with a BMI ≥ 30 kg/m<sup>2</sup> (20% vs 10%) and were more likely to have smoked in the past month (50% vs 30%) (p<0.0001).
- Heterosexual and SGM women smokers were significantly more likely to have a BMI greater than 25 kg/m<sup>2</sup> compared to non-smokers (p<0.0001).
- There were no significant differences in BMI classification among smokers by sexual orientation.
- In the logistic regression model, covariates of smoking (daily+occasional) included: SGM status, occasional alcohol use, daily alcohol use, and age.

## Conclusions

SGM college women are heavier than heterosexual women and smoke at twice the rate. Based on these findings and additional analyses, differences in weight may be better explained by SGM status, physical activity, health, race, and age than by smoking status. Being overweight or obese did not predict smoking.

This study is limited by the fact that weight-related data were all self-reported and that the study design precluded any causal inferences from being made.

Contrary to the popular myth that smoking is an effective weight loss tool, these findings indicate that college women who smoke are heavier than those who do not smoke. Interventions to improve college women's health should address both weight and smoking, especially among SGM women.