

# Young women in sororities more likely to have used tanning beds and report improved appearance and self-confidence with tan skin

**Keywords:** skin cancer, public health, tanning beds, sun protection, advocacy

Dear Editors,

## Introduction

Following awareness campaigns and legislation, tanning bed usage has declined worldwide in recent years.<sup>1,2</sup> However, among college students, especially white females, the prevalence of indoor tanning remains high.<sup>3,4</sup> Even within this demographic, certain subgroups within the college female cohort may be more likely to use indoor tanning than others. This study examines attitudes toward, and utilization of, skin tanning methods of Panhellenic sorority members compared to college females in general at Public Universities in South Dakota (SD).

## Methods

A survey was developed with dermatologists and public health professionals, with subsequent survey review for content and face validity. From August to December 2022, approximately 200 email addresses and social media accounts affiliated with undergraduate student organizations/clubs at the University of SD and SD State University were used to recruit participants for this IRB-exempt survey (see Supplemental Material, <http://links.lww.com/IJWD/A39>). Participation was anonymous, voluntary, and uncompensated. Inclusion criteria were undergraduate student status at the University of SD or SD State University, age 18 or older, and grew up in the United States.

## Results

There were 321 students who completed the survey; 248 (77.3%) were female, 88% were Caucasian, and 37.1% were Panhellenic sorority members. Overall respondents varied by year in school, Fitzpatrick skin type, and hometown population classification (Fig. 1). More than half (54.9%) of respondents among both female sorority members (SF) and female nonsorority members (NSF) reported attempting to tan via sunbathing, self-tanner, spray-tanning, and tanning beds. The rate of use for all methods was greater among SFs than NSF (Fig. 2). SFs are less likely to report never having used a tanning bed compared to NSF (43.5% vs 57.4%,  $\chi^2 [1, N = 247] = 4.50, P = .0340$ ). SFs

are more likely to agree they look better when their skin is tan (92.7% vs 82.3%,  $\chi^2 [2, N = 192] = 6.00, P = .0497$ ) and report boosted self-confidence (90.1% vs 81.1%,  $\chi^2 [2, N = 192] = 8.29, P = .016$ ), compared to NSF. SFs are no more likely than NSF to report improved mood (66.7% vs 54.4%,  $\chi^2 [2, N = 150] = 2.047, P = .359$ ), feeling relaxed (72.5% vs 59.3%,  $\chi^2 [2, N = 155] = 3.44, P = .179$ ), or increased energy (42.2% vs 31.3%,  $\chi^2 [2, N = 147] = 2.39, P = .302$ ) when using tanning beds. SFs are more likely to report tanning bed use prior to special events (vacations, weddings, formals, etc) than NSF (85.9% vs 79.5%,  $\chi^2 [2, N = 159] = 8.17, P = .017$ ). SFs are no more likely than NSF to report that their friends tan (44.1% vs 32.9%,  $\chi^2 [2, N = 150] = 2.28, P = .319$ ) or that their friends influence them to tan (55.2% vs 79.5%,  $\chi^2 [2, N = 143] = 2.35, P = .308$ ). SFs are no more likely than NSF to report that the results desired from tanning bed usage are worth the risk to their skin and overall health (20% vs 17.1%,  $\chi^2 [1, N = 197] = 0.269, P = .604$ ).

## Discussion

This study indicates that differences in tanning bed usage may be influenced by social group participation. Women may be more likely to engage in risky tanning practices due to unrealistic beauty standards and pressures of physical appearance from

### What is known about this subject in regard to women and their families?

- Despite knowledge of the risks of tanning bed use, many young women still commonly engage in this potentially harmful practice.
- Young women in sororities may be at an increased risk of partaking in tanning bed use, as membership in this social circle potentially increases exposure to events that emphasize physical appearance.

### What is new from this article as messages for women and their families?

- Providers caring for young women should be aware of social factors that may put their patients at an increased risk of engaging in harmful skin practices such as tanning bed usage.
- Providers must continue to educate patients on risks related to tanning bed use as pressures from society and social media to conform to beauty standards continue to influence possible habit-forming behaviors.
- UV radiation from artificial sources like tanning beds are known carcinogens and thus should continue to drive advocacy efforts to enact legislation that regulates or even prohibits their use.

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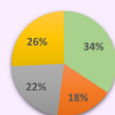
DOI: 10.1097/JW9.000000000000116

# Demographic Snapshot of Female Participants

Age 18-22  
91.5%

Year in School

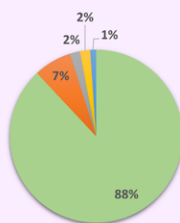
Freshmen Sophomore Junior Senior



Sorority Member  
37.1%

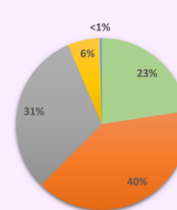
Race/Ethnicity\*

White  
Native American/Alaskan  
Native Asian  
Hispanic/Latino  
Black/African American



Fitzpatrick Skin Type\*\*

Fitzpatrick I Fitzpatrick II Fitzpatrick III Fitzpatrick IV Fitzpatrick V



**Fig. 1.** Self-reported demographic snapshot of female participants. \*No participants self-reported race/ethnicity as Native Hawaiian/Pacific Islander. \*\*No participants self-reported a Fitzpatrick skin type of VI.

social media. Due to events and formal activities common in the sorority lifestyle, this subgroup may be especially drawn to tanning for cosmetic purposes. Based on the demographics and size of the sample population, this study is likely generalizable to surrounding states with similar demographics, though may not be representative of more demographically diverse regions, or with greater sorority participation rates. An additional limitation is the inability to determine the true response rate given the nature of survey distribution, thus warranting repeat, high-response studies to discern true validity. Future studies should explore trends that exist in larger, more diverse university settings to further identify contributing social or behavioral factors.

## Conflicts of interest

None.

## Funding

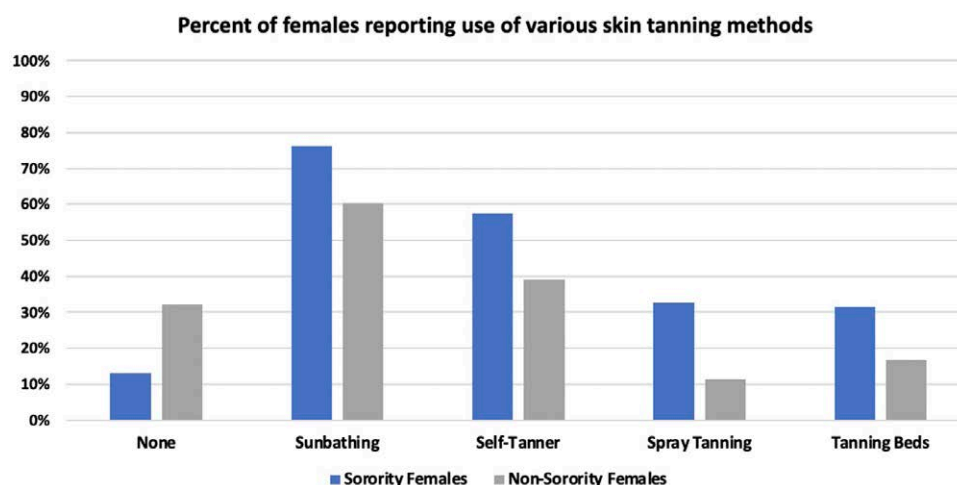
None.

## Study approval

N/A

## Author contributions

JN: Research design, writing of manuscript, performance of research, and data analysis. AW: Writing of manuscript and data analysis. LO: Research design, writing of manuscript, performance of research, and data analysis. AR: Research design, writing of manuscript, performance of research, and data analysis. SJV: Research design, writing of manuscript, performance of research, and data



**Fig. 2.** Percent of women reporting use of various skin tanning methods.

analysis. MV: Research design, writing of manuscript, and data analysis. DK: Research design, writing of manuscript, and data analysis. MF: Research design, writing of manuscript, and data analysis.

## Supplementary data

Supplementary material associated with this article can be found at <http://links.lww.com/IJWD/A39>.

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