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Sex differences in indoor tanning habits and location

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To the Editor:

In 2013, 1.9 million US men reported tanning indoors.¹ Existing research largely targets teen and young adult female tanners, and less is known about male tanning behavior. Using Survey Sampling International, we recruited a nationally representative sample of 773 adults who intend to use or used an indoor tanning bed. Participants reporting a lifetime history of tanning indoors (n = 636, 33.5% male) were included.

The survey measured tanning frequency, tanning dependence, tanning location (salon, nonsalon business, or home), and influences on selection of tanning location (with 1 indicating strong disagreement and 5 indicating strongly agreement). Two or more affirmative responses on the 7-item Behavioral Addiction Indoor Tanning Screener confirmed tanning dependence.² Participants were also surveyed about smoking, weekly soda consumption, and binge drinking (5 or more alcoholic beverages within a couple of hours) in the past month.

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Disclosure: Dr Pagoto has consulted for Johnson & Johnson. Ms Feng, Ms Frisard, Dr Nahar, Ms Oleski, Dr Hillhouse, and Dr Lemon have no conflicts of interest to disclose. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Dr Pagoto had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. Drs Hillhouse, Pagoto were responsible for the study concept and design, for obtaining funding, and for study supervision. All the authors take responsibility for acquisition, analysis, or interpretation of the data. Ms Feng and Drs Nahar and Pagoto were responsible for drafting of the manuscript, and Ms Feng and Drs Hillhouse and Pagoto take responsibility for critical revision of the manuscript for important intellectual content: Ms Frisard was responsible for statistical analysis and Ms Frisard and Ms Oleski were responsible for administrative, technical, or material support.

The University of Massachusetts Medical School institutional review board granted ethics approval. Bivariate comparisons were done using χ^2 tests, independent samples *t* tests, and Wilcoxon rank sum tests, as appropriate using SAS/Stat software (version 9.3, SAS Institute Inc, Cary, NC).

No significant differences were found between men (mean, 6.0; standard deviation [SD], 16.9) and women (mean, 6.0; SD, 22.7) in indoor tanning visits during the past year ($P = .58$) (Table I). However, men were significantly more likely to meet the Behavioral Addiction Indoor Tanning Screener tanning dependence threshold (49.3% vs 29.6% [$P = .001$]). Men were more likely to tan in private residences (30.5% vs 19.4% [$P = .002$]). For factors influencing tanning location selection, men gave significantly higher ratings to the ability to get other services at the same time (3.7 vs 3.3 [$P = .004$]), ability to tan with fewer rules (3.6 vs 3.2 [$P < .001$]), and ability to use a tan as a workout reward (3.6 vs 3.3 [$P = .002$]). Women gave significantly higher ratings to cleanliness (4.3 vs 4.1 [$P = .06$]) and cost (4.2 vs 3.9 [$P = .001$]).

Male tanners were more likely to smoke (59.2% vs 38.8% [$P = .001$]), reported more binge drinking in the past month (mean, 4.7 [SD, 6.9] vs 2.2 [SD, 4.2]); $P < .0001$) and had higher weekly soda consumption (mean, 13.7 [SD 27.0] vs 8.1 [SD, 12.6]; $P < .0001$). Male tanners were significantly more ethnically diverse than female tanners ($P = .002$ [Table II]).

The results revealed that although men and women tan at a similar frequency, men were more likely to screen positively for tanning dependence. Men had higher rates of comorbid risk behaviors consistent with prior research identifying associations between tanning dependence and alcohol addiction.³ Men had higher rates of tanning in private residences, where unsupervised tanning duration could facilitate dependence.

Tanning salon regulations may have less impact on reducing male tanning. Male tanners' preference for settings that offer additional services may provide opportunities for targeted interventions.

Male tanners included a greater proportion of minorities than female tanners, which is consistent with prior research.⁴ Other studies have shown that sexual minority men have higher tanning rates than heterosexual men.⁵ Studies that have explored largely white samples or did not assess sexual orientation may have painted an incomplete picture of male indoor tanning.

Future research is needed to better understand the characteristics and motivations of male indoor tanners.

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Table 1.

Tanning behavior by sex

Characteristic	Men (n = 213)	Women (n = 423)	P value
Frequency of indoor tanning in past year, mean (SD)	6.0 (16.9)	6.0 (22.7)	.58
Tanning location			.007
Salon only	91 (42.7%)	217 (51.3%)	
Nonsalon business	57 (26.8%)	124 (29.3%)	
Home tanner	65 (30.5%)	82 (19.4%)	
Tanning dependence/behavioral addiction	49.3%	29.6%	<.0001
Factors influencing tanning location choice, mean (SD)			
Ability to tan and get other services at the same time	3.7 (1.06)	3.3 (1.14)	.004
Ability to tan with fewer rules and regulations	3.6 (1.01)	3.2 (1.14)	<.0001
Ability to reward oneself with a tan after a workout	3.6 (1.11)	3.3 (1.14)	.002
Cleanliness	4.1 (.97)	4.3 (.91)	.06
Cost	3.9 (.93)	4.2 (.90)	.001
Convenience	4.1 (.89)	4.2 (.86)	.06
Professionalism	3.9 (.93)	4.0 (.90)	.28

SD, Standard deviation.

Table II.

Participant characteristics by sex

Characteristic	All (n = 636)	Men (n = 213)	Women (n = 423)	P value
Mean age (SD), y	36.2 (12.9)	36.9 (12.7)	35.9 (12.9)	.34
Ethnicity				.002
% White	76.4%	68.5%	80.4%	
% Hispanic	10.7%	12.7%	9.7%	
% Other	12.9%	18.8%	9.9%	
Education				.01
% with high school diploma or GED certificate	13.3%	9.9%	15.1%	
% with some college	23.5%	19.8%	25.4%	
% with an associate or bachelor degree	46.5%	48.1%	45.7%	
% with a graduate degree	16.7%	22.2%	13.9%	
Health behaviors				
Smoker	45.6%	59.2%	38.8%	.001
No. of cans of soda consumed per week, mean (SD)	10.0 (18.9)	13.7 (27.0)	8.1 (12.6)	<.0001
No. of days in the past 30 with 5 alcoholic beverages consumed, mean (SD)	3.0 (5.4)	4.7 (6.9)	2.2 (4.2)	<.0001
Skin type				.36
% with skin that always/usually burns	33.7%	33.8%	33.6%	
% with skin that sometimes burns mildly, tans uniformly	35.7%	38.5%	34.3%	
% with skin that rarely or never burns	30.7%	27.7%	32.2%	

GED, General Educational Development; SD, standard deviation.