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Tanners' Awareness and Perceptions of Legislation for Tanning Bed Use

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Dear Dr. Rünger

Indoor tanning is a group 1 carcinogen.[1] Many states have enacted legislation to restrict the use of tanning beds by minors, limit exposure to the manufacturer's recommendation, require customers to sign written warnings, and require use of protective eyewear.[2] The present study explores whether tanners in the US are aware of tanning legislation in their state, how strict they perceive their state's legislation to be, and how they would change their behavior if indoor tanning was completely banned. We also explored differences on these variables between light and heavy tanners, hypothesizing that heavy tanners will perceive legislation to be stricter and be more likely to find ways to continue to tan if it were banned.

The current study uses data from a nationally representative sample, balanced based on census demographics, of 773 adults aged 18 years or older who had ever tanned indoors or indicated intentions to indoor tan in the near future. Data were collected by Survey Sampling International, a survey research company. We used data from the 519 participants who had used indoor tanning during the past 12 months. Of the 519 indoor tanners, 246 were light tanners (tanning<10 times during the past year) and 273 were heavy tanners (tanning times>=10 times during the past year). These groups were compared on demographics, awareness of their state's tanning legislation (after being informed about the tanning legislation in their state), legislation being seen as beneficial (1=strongly disagree to 5=strongly agree), perceptions of legislation strictness (1=not strict enough to 7=too strict), and how their tanning behavior would change if indoor tanning was banned (see Table 2 for

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response options). Ethics approval was provided by the Institutional Review Board at the University of Massachusetts Medical School. Chi-square tests and independent samples t-tests were used to assess differences between light tanners and heavy tanners. Furthermore, Logistic regression and ANCOVA were performed to assess differences, after controlling for effects of covariate. Race was a covariate in analyses. Statistical analyses were performed with the SPSS software, version 23.

Table 1 presents sample characteristics (n=519). Mean age (SD) was 34.5 (11.5) and 64.5% (n=335) were females. About one-fourth (24.3%) of indoor tanners were non-white. Light and heavy tanners were not different on age, gender, income, and education.

About two-thirds (336 [64.7%]) indicated they were aware of their states' tanning bed legislation. Both light tanners (mean [SD], 4.1 [0.95]) and heavy tanners (mean [SD], 4.0 [1.00]; P=.369) generally agreed that their state's tanning bed legislation was beneficial. However, heavy tanners (mean [SD], 4.3 [1.24]) rated tanning legislation as stricter than light tanners did (mean [SD], 4.1 [1.29]; P=.006).

Regarding behavior change if indoor tanning was banned, light tanners were more likely than heavy tanners to say they would quit tanning (41.9% vs 28.6%, OR=.52 [95% CI=.35–.75, P=.001), whereas heavy tanners were twice as likely as light tanners to purchase a tanning bed (28.2% vs 14.2%, OR=2.49 [95% CI=1.57–3.93], P<.001).

Just under two-thirds of tanners reported they were aware of tanning bed legislation in their states. That over one-third of tanners were not aware of legislation suggests possible lack of compliance with legislation by tanning businesses and/or poor public health communication efforts by state legislative bodies. Results also showed that heavy tanners tended to view legislation as stricter than light tanners and more than one-quarter of heavy tanners said they would purchase a tanning bed if indoor tanning was banned. These findings point to a subset of tanners that may be resistant to strict legislative action. The factors involved in the development and maintenance of such persistent and recalcitrant tanning behavior should be further explored.

Acknowledgments

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Table 1

Participants' Demographics, Awareness and Perceptions of Tanning Legislation

		Value[a]			
	Heavy Tanner (n=273)[b]	**Light Tanner (n=246)[c]**	**Total (N=519)**	***P* value**	***F***
Age, mean (SD), y	35.2 (11.8)	33.8 (11)	34.5 (11.5)	.155	
Sex				.313	
Male	91 (33.3)	93 (37.8)	184 (35.5)		
Female	182 (66.7)	153 (62.2)	335 (64.5)		
Race/ethnicity[d]				<.001	
White	232 (44.7)	161 (31)	393 (75.7)		
Black	5 (1)	14 (2.7)	19 (3.7)		
Asian	6 (1.2)	22 (4.2)	28 (5.4)		
Hispanic	25 (4.8)	33 (6.4)	58 (11.2)		
Other	5 (1)	16 (3.1)	21 (4)		
Total annual household income, $				.106	
<40,000	72 (26.4)	54 (22)	126 (24.3)		
40,000–79,999	108 (39.6)	120 (48.8)	228 (43.9)		
>=80,000	93 (34.1)	72 (29.3)	165 (31.8)		
Education level				.064	
High school/some college	102 (37.4)	88 (35.8)	190 (36.6)		
Associate's degree/Bachelor's degree	136 (49.8)	108 (43.9)	244 (47)		
Master's degree/professional degree/doctorate degree	35 (12.8)	50 (20.3)	85 (16.4)		
Awareness of tanning bed legislation				.358	
Yes	182 (66.7)	154 (62.6)	336 (64.7)		
No	91 (33.3)	92 (37.4)	183 (35.3)		
Tanning bed legislation is beneficial, mean (SD)	4.0 (1.00)	4.1 (0.95)	4.1 (0.98)	.369	.81
Strictness of tanning bed legislation, mean (SD)	4.3 (1.24)	4.1 (1.29)	4.2 (1.27)	.006	7.71

[a]Data are presented as number (percentage) of participants unless otherwise indicated.

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[b] tanning times > = 10 times during the past year

[c] tanning < 10 times during the past year

[d] Categories are mutually exclusive

Table 2

Participants' Behavior Change If Indoor Tanning was Banned

	Value[a]			
	Heavy Tanner (n=273)[b]	**Light Tanner (n=246)[c]**	**OR (95% CI)**	***P* Value**
If tanning in salons was banned				
Would give up indoor tanning altogether	78 (28.6)	103 (41.9)	.52 (.35–.75)	.001
Would switch to using locations other than tanning salons to tan	92 (33.7)	67 (27.2)	1.39 (.94–2.04)	.098
Would use a tanning bed in a private home	63 (23.1)	52 (21.1)	1.30 (.84–2.01)	.233
Would consider purchasing my own tanning bed	77 (28.2)	35 (14.2)	2.49 (1.57–3.93)	<.001
Would indoor tan in another state	16 (5.9)	19 (7.7)	.85 (.42–1.74)	.659
Would not change my behavior since I do not currently tan	16 (5.9)	25 (10.2)	.52 (.27–1.01)	.055

OR = odds ratio
95% CI = 95% confidence interval

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[b] tanning times > = 10 times during the past year

[c] tanning < 10 times during the past year