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Indoor Tanning Initiation Among Tanners in the United States

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Indoor tanning is associated with increased risk of skin cancers, including melanoma.¹ The US Food and Drug Administration has proposed a regulation that would prohibit minors (<18 years) from tanning.¹

Little is known about characteristics of indoor tanning initiation. An analysis among whites younger than 40 years found that the median age of initiation of tanning was 17.0 years among females and 21.5 years among males.² One longitudinal study³ of female teens found that maternal and peer attitudes toward tanning influenced tanning initiation. Maternal behaviors and maternal permissiveness toward and monitoring of their child's indoor tanning affect adolescents' longer-term tanning patterns.⁴

Methods

To characterize indoor tanning initiation, we used self-reported data from Porter Novelli's 2015 Styles database, a web-based panel weighted to be representative of the US population.

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Author Contributions : Ms Watson and Ms Shoemaker had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: Watson.

Acquisition, analysis, or interpretation of data: All authors.

Drafting of the manuscript: Watson.

Critical revision of the manuscript for important intellectual content: All authors.

Statistical analysis: Shoemaker.

Administrative, technical, or material support: Watson, Baker.

Supervision: Watson.

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The 2015 SummerStyles survey was sent to 6172 adults who belong to the GfK's KnowledgePanel and who had completed a previous survey. The final sample included 4127 adults (response rate, 67%), 984 of whom reported ever indoor tanning. The Centers for Disease Control and Prevention (CDC) licensed the data from Porter Novelli. Personal identifiers were not included in the data file, and institutional review board approval was not needed because the CDC was not engaged in human subjects research.

Respondents who had ever tanned indoors were asked about age at initiation and companions present (alone, mom, dad, sister, brother, another family member, friend or friends, someone else not listed, don't remember). Other variables of interest included sex and age at survey. We did not report results by race/ethnicity because of small sample sizes of black and Hispanic tanners; 90.0% of respondents were non-Hispanic white.

We examined first experience of indoor tanning by age, sex, and whether the tanner first went with friends, family, or alone. We used SAS-callable SUDAAN software (RTI International) to analyze data, using weighted proportions and 95% CIs.

Results

Overall, 977 indoor tanners responded to questions about their first tanning experience: 252 males and 725 females. Males and females had similar rates of initiating tanning alone (54.7% and 55.2%, respectively), but initiating tanning with a companion (friend or family member) was somewhat more common among females than males (Table, Figure).

Many tanners (52.5%) began tanning before age 21 years, with about 1 in 3 initiating indoor tanning before age 18 years. Those who began tanning younger than age 16 often started with a family member (44.5%). Among those first tanning with a family member, 49.2% reported first tanning with their mother (27.5% of males and 54.4% of females). Those ages 16 to 17 years or older often began tanning alone (Figure). However, for tanners beginning at age 16 to 20 years old, tanning with a companion (usually a friend) was also common.

Discussion

Tanning at younger ages is associated with more frequent tanning and increased risk of skin cancer.⁵ Current and future state and federal regulations that aim to prohibit indoor tanning by minors younger than 18 years have the potential to delay initiation of indoor tanning until older ages or reduce overall rates of indoor tanning.⁶ Maternal tanning behavior and maternal permissiveness toward indoor tanning are strong predictors of daughters' indoor tanning.³ Our findings highlight the need for future studies engaging parents of adolescent girls, especially mothers, in skin cancer prevention efforts.

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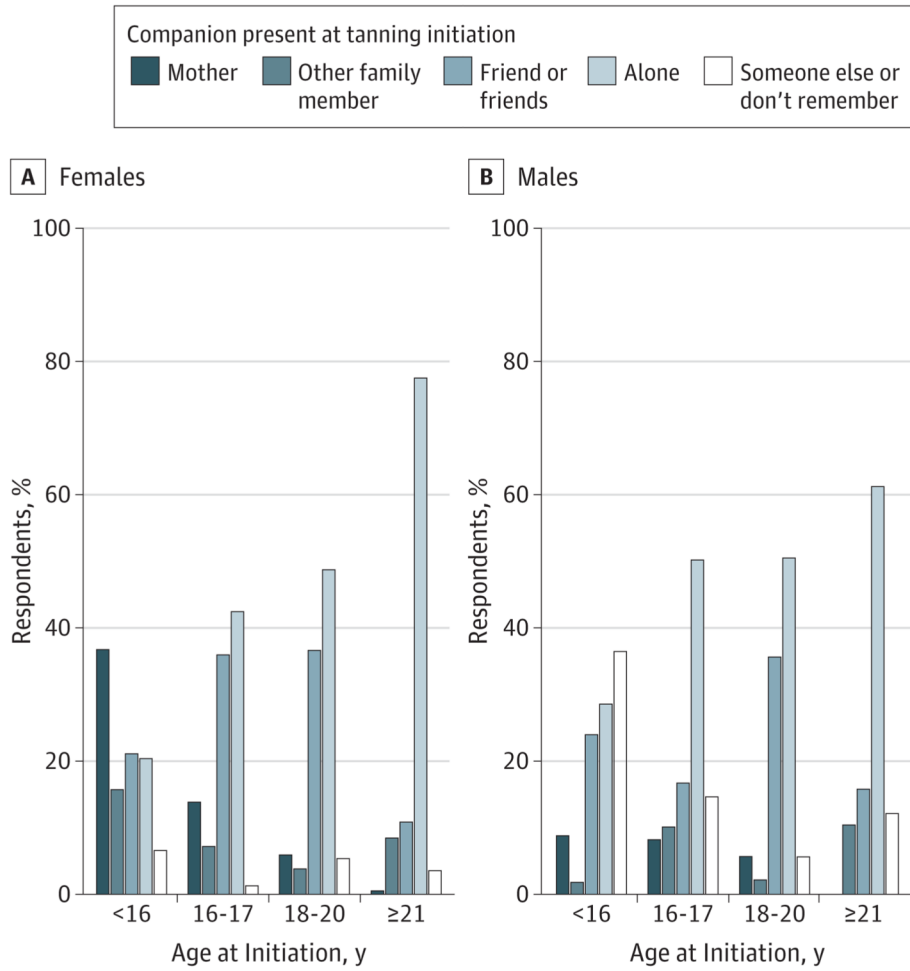


Figure. Indoor Tanning Initiation in 977 Survey Responders by Sex and Age, Alone or With a Companion, SummerStyles 2015

Graph showing that companions present at tanning initiation vary by age and sex.

Adolescent girls younger than 16 years more often began tanning with their mother than with friends, family, or alone; older teens most commonly initiated indoor tanning with friends or alone, while adult women usually initiated indoor tanning alone. Males frequently initiated indoor tanning alone, although those who started tanning younger than age 16 years often did not remember with whom they tanned the first time.

Table
Indoor Tanning Initiation Alone or With Companions, SummerStyles 2015^a

Characteristic	Companion Present at Tanning Initiation					Don't Remember (n = 37)
	Total (n = 977)	Alone (n = 571)	Any Family Member (n = 143)	Friend or Friends (n = 200)	Someone Else Not Listed (n = 26)	
Total	100	55.0 (51.4-58.6)	16.1 (13.5-19.0)	22.0 (19.0-25.3)	2.7 (1.8-4.1)	4.2 (2.8-6.1)
Sex						
Male	27.5 (24.3-30.9)	54.7 (47.5-61.6)	11.2 (7.8-15.9)	20.2 (14.8-27.0)	6.5 (4.0-10.3)	7.4 (4.3-12.5)
Female	72.5 (69.1-75.7)	55.2 (50.9-59.3)	17.9 (14.8-21.5)	22.7 (19.2-26.5)	1.3 (0.6-2.8)	3.0 (1.7-5.1)
Age at initiation, y						
<16	13.9 (11.4-16.9)	21.8 (14.5-31.5)	44.5 (34.1-55.4)	21.6 (13.4-33.0)	3.8 (1.4-9.7)	8.3 (4.0-16.8)
16-17	18.8 (16.0-22.0)	44.2 (35.6-53.2)	20.1 (14.2-27.8)	31.5 (23.7-40.6)	0.6 (0.1-4.4)	3.5 (1.1-10.0)
18-20	19.8 (17.1-22.9)	49.1 (41.1-57.2)	9.2 (5.3-15.5)	36.4 (29.0-44.4)	2.9 (1.1-7.2)	2.5 (1.2-5.4)
21	47.5 (43.9-51.1)	72.0 (67.3-76.3)	9.2 (6.8-12.3)	12.6 (9.4-16.6)	3.2 (1.9-5.4)	3.1 (1.7-5.4)
Age at survey, y						
18-29	17.6 (14.7-21.0)	28.3 (20.2-38.2)	29.2 (21.4-38.5)	34.1 (25.0-44.5)	2.1 (0.8-5.6)	6.3 (2.6-14.6)
30-44	33.2 (29.7-36.8)	47.4 (40.8-54.2)	17.2 (12.9-22.7)	30.6 (24.8-37.1)	1.7 (0.6-4.7)	3.0 (1.3-7.2)
45-59	29.2 (26.2-32.3)	66.4 (60.6-71.7)	10.6 (7.4-15.0)	15.9 (12.1-20.5)	4.4 (2.5-7.7)	2.7 (1.3-5.5)
60-86	20.0 (17.5-22.8)	74.5 (67.4-80.6)	10.5 (6.3-17.0)	6.1 (3.6-10.0)	2.6 (1.0-6.1)	6.3 (3.5-11.1)

^aN = 977. Percentages are weighted to the study population. Data are given as% (95% CI).