

Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Respondent Characteristics by Sunless Tanning, Female Respondents

Variable	Unweighted Sample Size ^a (N=14,662)	Weighted Prevalence of Sunless Tanning ^b % (SE)	Adjusted Prevalence Odds Ratio, aPOR (95% CI) ^c	p-value
Age				
18-35 years	4,284	14.0 (0.8)	1.0 (Reference)	
36-50 years	3,578	11.0 (0.7)	0.73 (0.60-0.87)	0.001
51-65 years	3,728	11.2 (0.7)	0.65 (0.54-0.78)	<0.001
>65 years	3,072	7.1 (0.7)	0.38 (0.30-0.48)	<0.001
Race/Ethnicity				
Non-Hispanic White	9,287	15.5 (0.6)	1.0 (Reference)	
Hispanic	2,447	5.1 (0.6)	0.35 (0.26-0.45)	<0.001
Non-Hispanic Black	1,968	0.9 (0.2)	0.07 (0.04-0.12)	<0.001
Non-Hispanic Asian	776	1.6 (0.5)	0.08 (0.05-0.16)	<0.001
All Others	184	5.8 (2.0)	0.42 (0.20-0.90)	0.03
Region				
Northeast	2,491	10.6 (1.0)	1.0 (Reference)	
Midwest	3,110	12.8 (1.0)	1.20 (0.89-1.62)	0.24
South	4,936	10.4 (0.7)	1.14 (0.87-1.51)	0.37
West	4,125	12.3 (0.8)	1.37 (1.04-1.82)	0.03
Sexual Orientation				
Heterosexual	14,236	11.5 (0.4)	1.0 (Reference)	
Sexual Minority	426	9.0 (2.5)	0.64 (0.34-1.21)	0.17
Education Level				
Less than High School	1,782	4.8 (0.8)	1.0 (Reference)	
High School or GED	3,397	8.0 (0.7)	1.25 (0.84-1.87)	0.27
Some college	4,931	13.0 (0.8)	1.92 (1.32-2.80)	0.001
College degree or greater	4,552	14.4 (0.7)	1.88 (1.26-2.79)	0.002
Body Mass Index				
Underweight	996	13.5 (1.6)	0.95 (0.70-1.28)	0.72
Normal Weight	4,669	13.8 (0.8)	1.0 (Reference)	
Overweight	4,084	11.7 (0.7)	0.95 (0.79-1.14)	0.58
Obese	4,913	8.2 (0.5)	0.64 (0.53-0.77)	<0.001
Sun Sensitivity				
No Sunburn	5,969	5.8 (0.5)	1.0 (Reference)	
Mild Sunburn	3,768	16.1 (0.9)	1.90 (1.52-2.39)	<0.001
Moderate Sunburn	3,544	14.9 (0.8)	1.67 (1.34-2.08)	<0.001
Severe Sunburn	1,381	12.2 (1.4)	1.33 (0.99-1.80)	0.06
Family History of Skin Cancer				
No	13,408	10.8 (0.4)	1.0 (Reference)	
Yes	1,254	18.2 (1.5)	1.32 (1.05-1.67)	0.02
Personal History of Skin Cancer				
No	14,628	11.2 (0.4)	1.0 (Reference)	
Yes	394	17.2 (3.0)	1.41 (0.91-2.19)	0.13

^a Unweighted sample sizes for reference

^b Sunless tanning was defined as self-reported use of (1) spray-on or mist tans at a tanning salon, or (2) self-applied sunless or fake tanning products in the last 12 months.

⁶ Adjusted prevalence odds ratios calculated using multivariate logistic regression analyses controlling for age (categorical), sex, race/ethnicity, region, sexual orientation, education level, body mass index, sun sensitivity, family history of skin cancer in a first degree relative, and personal history of skin cancer.

eTable 2. Respondent Characteristics by Sunless Tanning, Male Respondents

Variable	Unweighted Sample Size ^a (N=12,691)	Weighted Prevalence of Sunless Tanning ^b % (SE)	Adjusted Prevalence Odds Ratio, aPOR (95% CI) ^c	p-value
Age				
18-35 years	3,722	1.4 (0.3)	1.0 (Reference)	
36-50 years	3,153	1.7 (0.3)	1.37 (0.84-2.22)	0.21
51-65 years	3,291	0.9 (0.2)	0.61 (0.32-1.18)	0.14
>65 years	2,525	0.7 (0.2)	0.44 (0.18-1.03)	0.06
Race/Ethnicity				
Non-Hispanic White	8,330	1.5 (0.2)	1.0 (Reference)	
Hispanic	2,041	1.0 (0.3)	0.65 (0.30-1.40)	0.27
Non-Hispanic Black	1,399	0.2 (0.2)	0.17 (0.03-1.31)	0.09
Non-Hispanic Asian	757	0.4 (0.2)	0.25 (0.06-1.03)	0.06
All Others	164	0.0 (0.0)	----	----
Region				
Northeast	2,018	1.2 (0.3)	1.0 (Reference)	
Midwest	2,818	1.0 (0.2)	0.79 (0.37-1.69)	0.54
South	4,076	1.3 (0.3)	1.18 (0.58-2.38)	0.65
West	3,779	1.3 (0.3)	1.01 (0.45-2.24)	0.99
Sexual Orientation				
Heterosexual	12,350	1.1 (0.1)	1.0 (Reference)	
Sexual Minority	341	8.0 (2.0)	7.29 (4.15-12.78)	<0.001
Education Level				
Less than High School	1,677	0.9 (0.4)	1.0 (Reference)	
High School or GED	3,226	1.3 (0.3)	1.24 (0.45-3.37)	0.68
Some college	3,864	1.2 (0.3)	1.10 (0.39-3.08)	0.86
College degree or greater	3,924	1.3 (0.1)	0.98 (0.38-2.57)	0.97
Body Mass Index				
Underweight	375	1.2 (0.7)	0.64 (0.17-2.41)	0.51
Normal Weight	3,337	1.7 (0.3)	1.0 (Reference)	
Overweight	5,047	1.2 (0.2)	0.74 (0.43-1.26)	0.26
Obese	3,932	0.9 (0.2)	0.58 (0.31-1.10)	0.09
Sun Sensitivity				
No Sunburn	6,050	0.8 (0.2)	1.0 (Reference)	
Mild Sunburn	3,137	1.4 (0.3)	1.70 (0.79-3.65)	0.17
Moderate Sunburn	2,766	1.7 (0.4)	1.48 (0.86-2.54)	0.16
Severe Sunburn	738	2.0 (0.7)	1.31 (0.73-2.36)	0.37
Family History of Skin Cancer				
No	11,775	1.2 (0.1)	1.0 (Reference)	
Yes	916	2.4 (0.8)	1.66 (0.75-3.70)	0.21
Personal History of Skin Cancer				
No	12,219	1.2 (0.1)	1.0 (Reference)	
Yes	472	1.7 (0.8)	1.41 (0.47-4.20)	0.54

^a Unweighted sample sizes for reference

^b Sunless tanning was defined as self-reported use of (1) spray-on or mist tans at a tanning salon, or (2) self-applied sunless or fake tanning products in the last 12 months.

⁶ Adjusted prevalence odds ratios calculated using multivariate logistic regression analyses controlling for age (categorical), sex, race/ethnicity, region, sexual orientation, education level, body mass index, sun sensitivity, family history of skin cancer in a first degree relative, and personal history of skin cancer.

eTable 3. Indoor Tanning, Skin Cancer Screening, Sunburn, and Sun Protection Behaviors by Sunless Tanning, Stratified by Sex

	Female (N=14,662) ^a			Male (N=12,690) ^a		
	Sunless Tanning in the Last 12 Months ^b			Sunless Tanning in the Last 12 Months ^b		
Variable	None (N=13,166) ^a	Sunless Tanners (N=1,496) ^a	p-value ^c	None (N=12,550) ^a	Sunless Tanners (N=140) ^a	p-value ^c
Indoor Tanning (Ever)						
Weighted % (SE)	22.2 (0.5)	59.1 (1.7)	<0.001	9.4 (0.4)	49.5 (5.6)	<0.001
aPOR (95% CI) ^d	1.0 (Ref)	3.38 (2.85-3.99)	<0.001	1.0 (Ref)	7.99 (4.88-13.08)	<0.001
Indoor Tanning (Last 12 months)						
Weighted % (SE)	4.3 (0.3)	18.0 (1.4)	<0.001	1.4 (0.1)	26.7 (4.7)	<0.001
aPOR (95% CI) ^d	1.0 (Ref)	3.29 (2.55-4.25)	<0.001	1.0 (Ref)	22.67 (13.1-39.2)	<0.001
Skin Examination (Ever)						
Weighted % (SE)	23.7 (0.5)	39.5 (1.7)	<0.001	20.8 (0.5)	35.3 (5.3)	<0.001
aPOR (95% CI) ^d	1.0 (Ref)	1.71 (1.44-2.05)	<0.001	1.0 (Ref)	2.13 (1.24-3.67)	0.01
Skin Examination (Last 24 months)						
Weighted % (SE)	14.1 (0.4)	23.6 (1.5)	<0.001	12.5 (0.4)	20.9 (4.1)	0.02
aPOR (95% CI) ^d	1.0 (Ref)	1.53 (1.25-1.89)	<0.001	1.0 (Ref)	1.73 (1.01-2.95)	0.048
Sunburn (Last 12 months)						
Weighted % (SE)	34.4 (0.6)	58.0 (1.8)	<0.001	36.5 (0.7)	61.8 (4.7)	<0.001
aPOR (95% CI) ^d	1.0 (Ref)	1.54 (1.29-1.84)	<0.001	1.0 (Ref)	2.05 (1.28-3.30)	0.003
Sunscreen Use						
Behavioral score, mean (SE) ^e	3.1 (0.02)	3.6 (0.05)	<0.001	2.4 (0.02)	3.1 (0.2)	0.001
Coefficient (95% CI) ^d	0.0 (Ref)	0.16 (0.06 to 0.26)	0.002	0.0 (Ref)	0.42 (0.09 to 0.75)	0.01
Shade						
Behavioral score, mean (SE) ^e	3.3 (0.01)	3.1 (0.03)	<0.001	3.0 (0.02)	3.0 (0.1)	0.59
Coefficient (95% CI) ^d	0.0 (Ref)	-0.10 (-0.17 to -0.03)	0.007	0.0 (Ref)	0.03 (-0.20 to 0.27)	0.79
Long Pants						
Behavioral score, mean (SE) ^e	2.3 (0.02)	2.0 (0.04)	<0.001	2.6 (0.02)	2.3 (0.13)	0.01
Coefficient (95% CI) ^d	0.0 (Ref)	-0.17 (-0.24 to -0.09)	<0.001	0.0 (Ref)	-0.26 (-0.51 to -0.02)	0.04
Long Sleeves						
Behavioral score, mean (SE) ^e	1.9 (0.02)	1.7 (0.04)	<0.001	2.0 (0.02)	2.0 (0.1)	0.75
Coefficient (95% CI) ^d	0.0 (Ref)	-0.13 (-0.21 to -0.06)	0.001	0.0 (Ref)	0.12 (-0.15 to 0.38)	0.39
Wide Brimmed Hat						
Behavioral score, mean (SE) ^e	1.9 (0.02)	1.8 (0.04)	0.25	1.9 (0.02)	1.8 (0.2)	0.64
Coefficient (95% CI) ^d	0.0 (Ref)	0.00 (-0.09 to 0.09)	0.99	0.0 (Ref)	-0.02 (-0.33 to 0.29)	0.89

^a Unweighted sample sizes for reference

^b Sunless tanning was defined as self-reported use of (1) spray-on or mist tans at a tanning salon, or (2) self-applied sunless or fake tanning products in the last 12 months.

^c Statistical significance calculated using Wald-adjusted Pearson's Chi Square tests (weighted percentages), Wald-adjusted t-tests (mean behavioral scores), multivariate adjusted logistic regression (adjusted prevalence odds ratios), or multivariate adjusted linear regression (coefficients).

^d Adjusted prevalence odds ratios and regression coefficients calculated using logistic regression and linear regression analyses, respectively, controlling for age (continuous), sex, race/ethnicity, region, sexual orientation, education level, body mass index, sun sensitivity, family history of skin cancer in a first degree relative, and personal history of skin cancer.

^e Weighted mean behavioral scores. Individual participants were assigned a behavioral score between 1 (never use) and 5 (always use) based on a Likert scale for self-reported use of each sun protection method when outdoors on a sunny day for more than 1 hour.

eTable 4. Indoor Tanning, Skin Cancer Screening, Sunburn, and Sun Protection Behaviors by Sunless Tanning Among Current Indoor Tanners, Stratified by Sex

	Female (N=14,662) ^a			Male (N=12,690) ^a		
	Sunless Tanning in the Last 12 Months ^b			Sunless Tanning in the Last 12 Months ^b		
Variable	None (N=545) ^a	Sunless Tanners (N=267) ^a	p-value ^c	None (N=176) ^a	Sunless Tanners (N=35) ^a	p-value ^c
Indoor Tanning Frequency						
Mean (SE)	16.4 (1.4)	19.2 (2.0)	0.25	10.3 (1.4)	19.1 (5.5)	0.12
Skin Examination (Ever)						
Weighted % (SE)	23.3 (2.6)	22.5 (3.1)	0.85	23.7 (4.5)	43.9 (10.8)	0.12
aPOR (95% CI) ^d	1.0 (Ref)	1.17 (0.70-1.96)	0.55	1.0 (Ref)	4.89 (1.30-18.39)	0.02
Skin Examination (Last 24 months)						
Weighted % (SE)	15.9 (2.4)	12.9 (2.5)	0.39	16.5 (4.0)	17.6 (7.2)	0.89
aPOR (95% CI) ^d	1.0 (Ref)	0.90 (0.50-1.62)	0.72	1.0 (Ref)	1.28 (0.29-5.68)	0.74
Sunburn (Last 12 months)						
Weighted % (SE)	54.6 (2.8)	63.8 (4.0)	0.07	64.6 (4.8)	64.2 (9.8)	0.98
aPOR (95% CI) ^d	1.0 (Ref)	1.18 (0.72-1.96)	0.51	1.0 (Ref)	0.87 (0.31-2.46)	0.79
Sunscreen Use						
Behavioral score, mean (SE) ^e	2.9 (0.1)	3.1 (0.1)	0.31	2.6 (0.2)	3.0 (0.3)	0.31
Coefficient (95% CI) ^d	0.0 (Ref)	0.03 (-0.26 to 0.31)	0.18	0.0 (Ref)	0.61 (-0.13 to 1.35)	0.11
Shade						
Behavioral score, mean (SE) ^e	2.7 (0.05)	2.6 (0.08)	0.68	2.6 (0.1)	2.7 (0.2)	0.82
Coefficient (95% CI) ^d	0.0 (Ref)	-0.10 (-0.28 to 0.09)	0.32	0.0 (Ref)	0.07 (-0.38 to 0.52)	0.76
Long Pants						
Behavioral score, mean (SE) ^e	1.6 (0.06)	1.6 (0.08)	0.99	2.2 (0.1)	2.0 (0.2)	0.3
Coefficient (95% CI) ^d	0.0 (Ref)	0.03 (-0.15 to 0.21)	0.78	0.0 (Ref)	-0.35 (-0.79 to 0.10)	0.13
Long Sleeves						
Behavioral score, mean (SE) ^e	1.3 (0.04)	1.3 (0.05)	0.32	1.6 (0.1)	1.6 (0.2)	0.95
Coefficient (95% CI) ^d	0.0 (Ref)	-0.08 (-0.19 to 0.03)	0.15	0.0 (Ref)	0.07 (-0.31 to 0.44)	0.73
Wide Brimmed Hat						
Behavioral score, mean (SE) ^e	1.4 (0.05)	1.5 (0.08)	0.33	1.5 (0.1)	1.6 (0.2)	0.55
Coefficient (95% CI) ^d	0.0 (Ref)	0.09 (-0.11 to 0.30)	0.35	0.0 (Ref)	0.13 (-0.32 to 0.58)	0.57

^a Unweighted sample sizes for reference

^b Sunless tanning was defined as self-reported use of (1) spray-on or mist tans at a tanning salon, or (2) self-applied sunless or fake tanning products in the last 12 months.

^c Statistical significance calculated using Wald-adjusted Pearson's Chi Square tests (weighted percentages), Wald-adjusted t-tests (mean behavioral scores), multivariate adjusted logistic regression (adjusted prevalence odds ratios), or multivariate adjusted linear regression (coefficients).

^d Adjusted prevalence odds ratios and regression coefficients calculated using logistic regression and linear regression analyses, respectively, controlling for age (continuous), sex, race/ethnicity, region, sexual orientation, education level, body mass index, sun sensitivity, family history of skin cancer in a first degree relative, and personal history of skin cancer.

^e Weighted mean behavioral scores. Individual participants were assigned a behavioral score between 1 (never use) and 5 (always use) based on a Likert scale for self-reported use of each sun protection method when outdoors on a sunny day for more than 1 hour.