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Tanning addiction and psychopathology: Further evaluation of anxiety disorders and substance abuse

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Abstract

Background—Little research has investigated the correlates of problematic tanning and tanning dependence.

Objective—To identify characteristics associated with problematic tanning and tanning dependence, and to evaluate simultaneously the associations of variables as correlates of problematic tanning and tanning dependence.

Method—To assess tanning-related characteristics, psychopathology, and demographics, we administered questionnaires to 533 tanning university students; 31% met criteria for tanning dependence, 12% for problematic tanning.

Results—Both problematic tanning and tanning dependence were significantly associated with being female ($p < .001$; $p < .001$, respectively) and with higher scores on screening measures of obsessive-compulsive ($p < .001$, $p = .005$, respectively) and body dysmorphic disorders ($p = .019$, $p < .001$, respectively). Frequency of tanning in the past month was the strongest correlate of problematic tanning ($p < .001$) and tanning dependence ($p < .001$) when included in a model that controlled for shared variance among demographics and psychopathology.

Limitations—The sample was recruited from one university and contained only self-report measures.

Conclusion—Results suggest that those who engage in excessive tanning may also have significant psychiatric distress. Additional research is needed to characterize compulsive, problematic tanning as well as its rates, correlates, and risk factors among diverse samples.

Keywords

problematic tanning; tanning dependence; behavioral addictions; university students; obsessive-compulsive disorder

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Skin cancer is among the most common types of cancer in the United States[1] with an estimated 76,900 new cases of melanoma for 2013.[2] Because most skin cancers are due to exposure to ultraviolet radiation,[3] skin cancer is one of the most preventable types of cancer.[2] The public is generally aware of this potential harm,[4] yet many continue to tan purposefully.[5–10]

Some researchers suggest that excessive tanning is a symptom of psychiatric disorders, such as body dysmorphic disorder (BDD) or obsessive-compulsive disorder (OCD).[5] For example, some individuals who excessively tan endorse preoccupation with deficits in appearance and others endorse obsessive and intrusive thoughts about tanning.[5] Other investigations report significant positive associations between tanning and anxiety and affective disturbance.[5,6]

Alternatively, many researchers[5,7–10] suggest conceptualizing excessive ultraviolet (UV) tanning as a behavioral addiction. Empirical support for this conceptualization comes from research demonstrating shared characteristics between those with excessive engagement in activities and those who are dependent on substances.[11] Further, tanning bed UV exposure increased cerebral blood flow in brain areas associated with drug reward to a greater extent than exposure to tanning beds without UV light.[12] Recently, researchers have applied substance dependence criteria provided by the *Diagnostic and Statistical Manual for Mental Disorders* (4th ed., DSM-IV) to tanning.[13,14] For example, in addition to continuing to tan despite experiencing negative consequences,[10] some individuals continue to tan past the point of what is necessary to achieve their desired appearance.[7]

To identify individuals who engage in potentially addictive tanning, researchers developed assessment tools for UV tanning using modified DSM-IV criteria for substance-related disorders (hereafter referred to as Tanning-DSM) and the CAGE (a brief alcohol problem screening measure; hereafter referred to as Tanning-CAGE).[10] Prior investigations provide initial support for the validity of both of these measures.[7,8,15] Research using these tools has found that a substantial proportion of university students engage in problematic tanning and tanning dependence. [8,15,16]

Prior research has also demonstrated that both problematic tanning and tanning dependence are associated with more frequent tanning, preference for indoor tanning, and initiation of tanning at a younger age.[7,8,10,15,16] These studies have also linked excessive tanning to demographics including being younger, White, and female. Additionally, individuals meeting proposed criteria for both problematic tanning and tanning dependence are more likely to have used alcohol and marijuana in the past 30 days and to report more anxiety symptoms.[8]

The research reviewed above provides a foundation for understanding problematic tanning behaviors, but assessing additional characteristics of excessive tanning may help clarify its conceptualization and may guide the development of screening and intervention protocols. We developed the present study to evaluate: (a) whether a variety of tanning-related, demographic, psychological, and substance use characteristics were associated with problematic tanning and/or tanning dependence and (b) the relative associations of tanning

behavior, sex, and previously uninvestigated symptoms of psychopathology as correlates of problematic tanning and tanning dependence.

Method

After receiving Institutional Review Board approval, we recruited undergraduates in psychology courses via a web-based subject pool during the fall semester of 2011 from a large public Midwestern university. Potential participants reviewed a study description in the subject pool system that described the chief purpose as "to study tanning (exposure to UV light through tanning in the sun or a tanning bed) in university students" and that they would "be asked to read and answer several sets of questionnaires about [their] tanning, other health-related behaviors, and basic background information." Those interested in participating could click a link to the study website, where they could provide informed consent and complete the self-report questionnaires anonymously. Individuals could participate regardless of whether they had ever tanned. Participants received research credit in their psychology course.

A total of 684 individuals participated and were assessed for lifetime prevalence of tanning ("Have you ever gone tanning, indoors or outdoors?").[17] Of those 684 individuals, 533 (78%) indicated they had tanned before and comprised the sample for the present analyses (see Table 1, column 2 for additional data).

We used Harrington and colleagues'[7] Tanning-DSM designed to assess tanning dependence. Consistent with prior research, participants who endorsed three or more of the eight criteria on this questionnaire were considered to meet criteria for tanning dependence.[7,8,10] We also used Harrington and colleagues'[7] four-item tanning-specific version of the CAGE alcohol screener.[18,19] Two affirmative answers are considered indicative of problematic tanning.[7,8,10]

We used the Dysmorphic Concerns Questionnaire[20,21] to assess concerns about physical appearance and past attempts to deal with perceived problems with physical appearance. Using guidelines from Mancuso et al.,[21] we used a score of 9 or higher to classify individuals as screening positive for BDD. We assessed past-month OCD symptoms using the Obsessive Compulsive Inventory-Revised.[22–24] Based on Foa and colleagues,[22] we used a score of 21 or higher to classify individuals as screening positive for OCD. The Patient Health Questionnaire[25–28] was used to screen for depression with a score of 10 or higher.

The Alcohol Use Disorder Identification Test-Consumption[29–31] was used to identify hazardous drinking. As suggested by a recent review,[31] we used the cut-off of ≥ 4 for men and ≥ 3 for women to indicate a positive screen. The Drug Abuse Screening Test-10[31–33] was used to screen for non-medical drug abuse (excluding alcohol and nicotine). As suggested by Yudko et al.,[32] we used a cut-off score of ≥ 3 as indicative of screening positive for a potential drug abuse problem. We developed several items assessing demographics and tanning behaviors (descriptive information is presented in Tables 1 and 2, column 2).

We conducted chi-square analyses and independent samples *t*-tests to evaluate the bivariate associations between both problematic tanning status and tanning dependence status and demographic, psychopathology, substance use, and tanning characteristics. We used logistic regression analysis with simultaneous entry to evaluate sex (male-female), depression (positive-negative), body dysmorphic concerns (positive-negative), obsessive compulsive disorder (positive-negative), drug abuse (positive-negative), hazardous drinking (positive-negative), and frequency of tanning in the past month (0 to 1, 2 to 8, and 9 or greater tanning episodes) as correlates of problematic tanning status (yes-no) and tanning dependent status (yes-no).

Results

Among the 533 tanners, 31% (165/533) met the criteria for tanning dependence as assessed by the Tanning-DSM and 12% (65/533) met the criteria for problematic tanning as assessed by the modified Tanning-CAGE items. In addition, 80% (52/65) of the respondents who met problematic tanning criteria also met criteria for tanning dependence, but 32% (53/165) of those who met the criteria for tanning dependence also met criteria for problematic tanning. The frequency of participants' responses on the Tanning-CAGE and Tanning-DSM by problematic tanning status and tanning dependence status are provided in Table 3. Tables 1 and 2 display proportions and bivariate comparisons between problematic tanning and tanning dependence and demographic and tanning characteristics. On measures assessing substance use and psychopathology, the proportion of participants screening positive for BDD and OCD were higher among those meeting the criteria for problematic tanning and tanning dependence relative to those not meeting these criteria. In addition, the proportion of individuals who screened positive for drug abuse and hazardous drinking were significantly higher among those meeting the criteria for dependent tanning compared to those who did not (see Table 1).

Results of the logistic regression analyses, including odds ratios, are located in Table 4. In the model evaluating odds of screening positive for tanning dependence, female sex and screening positive for BDD and OCD were significant independent variables. Being female and screening positive for BDD were *not* significant in the model evaluating problematic tanning, but screening positive for OCD was. The strongest correlate of both problematic tanning and tanning dependence was frequency of tanning in the past 30 days, and this association was strongest for participants who tanned at least nine times in the previous 30 days.

Discussion

In this sample of 533 university students who reported tanning, 31% met the suggested criteria for tanning dependence compared to the 12% who met criteria for problematic tanning. Frequency of tanning was the strongest correlate of both problematic tanning and tanning dependence, despite including several psychopathology variables that were theorized to be related to problematic tanning,[5,6,8,34] At the bivariate level, screening positive for OCD and BDD were associated with both problematic and dependent tanning. In addition, drug abuse and hazardous drinking were significantly associated with tanning

dependence. However, at the multivariate level, OCD was associated with increased likelihood of problematic tanning and tanning dependence, and female gender was only associated with dependent tanning. Taken together, these results provide evidence that excessive tanning is likely not a symptom of a substance use disorder or depression, although the associations of tanning with OCD, BDD, and sex warrant exploration.

The finding that frequency of tanning was the strongest correlate of problematic tanning and tanning dependence is similar to prior research indicating that, among young adults, frequency of gambling, drug use, and alcohol use are strongly related to their associated disorders.[35–37] This is consistent with research using a structured clinical interview for tanning abuse and dependence that found college students who were classified as dependent tanners reported the highest frequencies of indoor tanning. [14] In addition, Mosher[8] found that frequency of tanning was the only significant predictor of problematic tanning and tanning dependence in a multivariate model including substance use, anxiety, and depression measures. However, this prior investigation did not include measures of BDD, OCD, and substance *abuse*. From a screening perspective, simply inquiring about individuals' frequency of indoor and outdoor tanning may be the most efficient way to identify individuals who engage in problematic tanning. However, additional research needs to determine the most effective screening and diagnostic procedures, including exploring the clinical utility of brief screeners in addition to diagnostic interviews (e.g., Structured Interview for Tanning Abuse and Dependence).[14]

Previous research on the association between OCD and tanning behavior has shown significant associations for certain individuals (e.g., in males, in individuals with high appearance motivations to tan); however, these studies examined only indoor tanning.[6,38] Screening positive for OCD is associated with a four-fold increase in risk for problematic tanning, and a two-fold increase in risk for tanning dependence in this sample. It may be that some individuals in our sample engage in excessive tanning because of obsessive thoughts about or the compulsion to tan or because tanning is a strategy for relaxation[39] to decrease OCD symptoms. If problem tanning is conceptualized as an addictive disorder, obsessions and compulsions about tanning may instead represent craving to tan. This would be consistent with new DSM-5 criteria[40] for substance use disorders, which has added craving as a diagnostic criterion.

Regarding other measures of psychopathology, depression was not associated with either type of excessive tanning in bivariate or multivariate analyses, suggesting that when accounting for other theoretically-related factors, depression is not a marker for excessive tanning. This finding is consistent with Mosher and colleagues;[6,8] however, future research examining seasonal depression and excessive tanning may yield different results.

Another novel feature of this investigation was the inclusion of substance abuse variables that have not been assessed in relation to excessive tanning. For example, we assessed drug abuse and hazardous drinking, while previous research only measured past-month substance use. Although we found that tanning dependence was associated bivariately with screening positive for drug abuse and hazardous drinking, these associations was no longer significant in multivariate analyses. This corresponds with research showing that past-month use of two

or more substances is not associated with problematic tanning and tanning dependence when controlling for variables such as frequency of tanning, anxiety and depression symptoms.[8] Thus, despite these bivariate correlations and the similar behavior characteristics, substance abuse is likely distinct from problematic tanning and tanning dependence.

Despite the novel contributions of this investigation, there are several limitations. Our sample represented a cross-sectional subset of tanning individuals from a single, Midwestern university and the generalizability of results may differ depending on several factors, such as a campus proximity to tanning salons or space available on or near campus to tan outdoors. In addition, the rates of positive screens for psychopathology in this sample of tanners differed from those reported in other college samples[41,42] and were higher than national prevalence estimates for the disorders assessed.[43,44] However, we used relatively brief screening measures and future research should evaluate relationships between excessive tanning and formal clinical diagnosis. Because this study was advertised to students to "study tanning" selection bias may also impact our results. This investigation also relied solely on self-report that can be subject to demand characteristics; however, social desirability bias may have been reduced due to our anonymous web-based procedure.

Conclusions

The results of this investigation do not provide definitive evidence for classifying problematic tanning or tanning dependence as addiction. However, further investigation of this conceptualization is warranted based on the extent to which frequency of tanning is positively associated with tanning dependence and problematic tanning even when considering the features of several psychiatric disorders. To this end, future studies should assess a variety of aspects of addiction that may also be relevant to tanning (e.g., craving, outcome expectancies) and the relationships between anxiety disorders and excessive tanning.

This line of research may help inform prevention and treatment programs, particularly for a population with a relatively high prevalence of tanning. The Tanning-CAGE and Tanning-DSM could also be administered by health clinics and counseling centers as initial screening measures of problems associated with tanning and to identify individuals who may benefit from further assessment and/or intervention. Moreover, as inter-disciplinary healthcare teams become more prevalent, primary care physicians, dermatologists, and mental health practitioners may take into consideration the mental health correlates of unsafe tanning behaviors. We also recommend the continued development of and refinement of additional assessment tools for excessive, problematic tanning to assist clinicians and researchers in the development of treatment and prevention efforts.

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Abbreviations used

OCD	Obsessive-compulsive disorder
BDD	Body Dysmorphic Disorder
UV	Ultraviolet
DSM	Diagnostic and Statistical Manual for Mental Disorders

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Capsule summary

- Tanning-related characteristics, sex, and certain psychopathology are associated with excessive tanning.
- We identify relationships between obsessive-compulsive and body dysmorphic disorders with excessive tanning.
- These results suggest the need to address mental health correlates of tanning behaviors, and the need for screening and intervention protocols.

Table 1

Mean (SD) or *n* (%) of background characteristics by full sample and problematic tanning and tanning dependence classifications

Background characteristics	Full Sample of Lifetime Tanners	Met Criteria for Problematic Tanning [a]			Met Criteria for Tanning Dependence [b]		
		No (*n* = 468; 88%)	Yes (*n* = 65; 12%)	P-value	No (*n* = 368; 69%)	Yes (*n* = 165; 31%)	P-value
Age	19.5 (1.7)	19.5 (1.5)	19.4 (2.8)	.647	19.5 (1.4)	19.5 (2.2)	.995
Sex				**< .001**			**< .001**
Female	381 (72%)	322 (85%)	59 (16%)		240 (63%)	141 (37%)	
Male	149 (28%)	143 (96%)	6 (4%)		126 (85%)	23 (15%)	
Year in College				.111			.345
1st	195 (37%)	165 (35%)	30 (46%)		132 (36%)	63 (38%)	
2nd	178 (33%)	156 (33%)	22 (34%)		118 (32%)	60 (36%)	.
3rd	94 (18%)	89 (19%)	5 (8%)		72 (20%)	22 (13%)	
4th or higher	66 (12%)	58 (12%)	8 (12%)		46 (13%)	20 (12%)	
Employment				.067			.463
Employed	253 (48%)	465 (47%)	26 (41%)		171 (47%)	82 (50%)	
Unemployed	275 (52%)	249 (53%)	37 (59%)		194 (53%)	81 (50%)	
Psychopathology[c]							
+ Dysmorphic Concerns screen [d]	134 (25%)	110 (24%)	24 (37%)	**.019**	77 (21%)	57 (35%)	**< .001**
+ Obsessive-Compulsive screen [e]	153 (28.7)	118 (25%)	35 (54%)	**< .001**	88 (24%)	65 (39%)	**.005**
+ Depression Screen [f]	102 (19%)	89 (19%)	13 (20%)	.850	63 (17%)	39 (24%)	.077
+ Drug Abuse Screen [g]	61 (11%)	54 (12%)	7 (11%)	.855	35 (10%)	26 (16%)	**.036**
+ Hazardous Drinking Screen [h]	365 (69%)	316 (68%)	49 (75%)	.201	234 (64%)	131 (79%)	**< .001**

[a] Based on *Tanning*-CAGE score ≥ 2

[b] Based on *Tanning*-DSM score ≥ 3

[c] To allow for some comparability regarding rates of psychopathology, we note the estimated national 12-month prevalence among adults for these disorders is as follows: Obsessive-Compulsive Disorder = 1.0%, Major Depressive Disorder = 6.7%, Any substance disorder = 3.8%.[43] Current prevalence for Body Dysmorphic Disorder = 2.4%.[44]

[d] Based on Dysmorphic Concerns Questionnaire score ≥ 9

[e] Based on Obsessive Compulsive Inventory-Revised score ≥ 21

[f] Based on Patient Health Questionnaire-9 score ≥ 10

[g] Based on Drug Abuse Screening Test-10 score ≥ 3

[h] Based on Alcohol Use Identification Test score ≥ 4 for men and ≥ 3 for women

Table 2

Mean (SD) or *n* (%) of tanning characteristics by full sample and problematic tanning and tanning dependence classifications

Tanning characteristics	Full Sample of 533 Lifetime Tanners	Met Criteria for Problematic Tanning[a]			Met Criteria for Tanning Dependence[b]		
		No (*n* = 468; 88%)	Yes (*n* = 65; 12%)	P-value	No (*n* = 368; 69%)	Yes (*n* = 165; 31%)	P-value
Skin Type				**< .001**			**< .001**
Burn, never tan	17 (3%)	15 (3%)	2 (3%)		17 (5%)	0 (0%)	
Burn easy, light tan	83 (16%)	80 (17%)	3 (5%)		58 (16%)	25 (15%)	
Burn moderately, moderate tan	102 (19%)	94 (20%)	8 (12%)		79 (22%)	23 (14%)	
Burn minimally, moderate tan	221 (42%)	194 (42%)	27 (42%)		148 (40%)	73 (44%)	
Don't burn, dark tan	101 (19%)	76 (16%)	25 (39%)		57 (16%)	44 (27%)	
Don't burn, no change in appearance	8 (2%)	8 (2%)	0 (0%)		8 (2%)	0 (0%)	
Age of first tan	14.8 (3.6)	14.7 (3.6)	15.5 (3.0)	.098	14.6 (3.9)	15.4 (2.7)	**.019**
Days tanning in past month	5.0 (6.3)	3.9 (5.2)	11.3 (8.1)	**< .001**	2.9 (4.0)	8.7 (7.8)	**< .001**
Modified CAGE[c]	0.4 (0.9)	0.2 (0.4)	2.5 (0.7)	**< .001**	0.2 (0.6)	1.1 (1.1)	**< .001**
DSM-IV Tanning Dependence[d]	1.8 (1.6)	1.5 (1.5)	3.6 (1.6)	**< .001**	0.9 (0.8)	3.8 (1.0)	**< .001**
Preferred method				**< .001**			**< .001**
Indoor	70 (13%)	52 (11%)	18 (28%)		37 (10%)	33 (20%)	
Outdoor	354 (66%)	334 (72%)	20 (31%)		271 (75%)	83 (50%)	
Both	102 (19%)	76 (17%)	26 (41%)		53 (15%)	49 (30%)	
% of friends who tan weekly				**< .001**			**< .001**
None	106 (20%)	103 (22%)	3 (5%)		93 (25%)	13 (8%)	
Less than half	309 (58%)	275 (59%)	34 (52%)		219 (60%)	90 (55%)	
About half	89 (17%)	67 (14%)	22 (34%)		46 (13%)	43 (26%)	
More than half	26 (5%)	20 (4%)	6 (9%)		8 (2%)	18 (11%)	
Family members tan							
Indoors	245 (46%)	203 (44%)	42 (66%)	**< .001**	146 (40%)	99 (61%)	**< .001**
Outdoors	437 (82%)	382 (82%)	55 (87%)	.281	289 (79%)	148 (90%)	**< .005**
Been told by family/friends not to tan	235 (44%)	185 (40%)	50 (77%)	**< .001**	128 (35%)	107 (67%)	**< .001**
History of blistering sunburn	98 (18%)	86 (19%)	12 (19%)	.957	65 (18%)	33 (20%)	.687
History of tanning bed burn	86 (16%)	73 (16%)	13 (20%)	.424	48 (10%)	48 (29%)	**< .001**
Ever used tan-enhancing products	230 (43%)	183 (39%)	47 (73%)	**< .001**	114 (31%)	116 (70%)	**< .001**

Tanning characteristics	Full Sample of 533 Lifetime Tanners	Met Criteria for Problematic Tanning[a]			Met Criteria for Tanning Dependence[b]		
		No (*n* = 468; 88%)	Yes (*n* = 65; 12%)	P-value	No (*n* = 368; 69%)	Yes (*n* = 165; 31%)	P-value
Sunscreen use when tanning				**< .001**			**.002**
Never	121 (23%)	96 (21%)	25 (39%)		77 (21%)	44 (27%)	
Rarely	145 (27%)	119 (26%)	26 (41%)		88 (24%)	57 (35%)	
About ½ the time	102 (19%)	96 (21%)	6 (9%)		72 (20%)	30 (18%)	
Almost all the time	86 (16%)	82 (18%)	4 (6%)		64 (18%)	22 (13%)	
Always	75 (14%)	72 (16%)	3 (5%)		64 (18%)	11 (7%)	

[a] Based on *Tanning*-CAGE score ≥ 2

[b] Based on *Tanning*-DSM score ≥ 3

[c] Total score ranges from 0 to 4

[d] Total score ranges from 0 to 8

Table 3

Affirmative responses for modified CAGE questions and modified DSM-IV questions by problematic/nonproblematic tanners and dependent/ nondependent tanners

	Met Criteria for Problematic Tanning		Met Criteria for Tanning Dependence	
Questions	**No (*n* = 468)**	**Yes (*n*= 65)**	**No (*n* = 368)**	**Yes (*n* = 165)**
CAGE				
Have you tried to stop tanning, but still continue?	7 (2%)	27 (42%)	8 (2%)	26 (16%)
Do you ever get annoyed when people tell you not to tan?	53 (11%)	59 (91%)	34 (9%)	78 (47%)
Do you ever feel guilty that you tan too much?	5 (1%)	35 (54%)	11 (3%)	29 (18%)
When you wake up in the morning, do you want to tan?	12 (3%)	38 (59%)	7 (2%)	32 (26%)
DSM-IV				
Do you feel that you need to spend more and more time in the sun or tanning bed in order to maintain your tan?	123 (27%)	40 (62%)	45 (12%)	118 (72%)
Do you feel unattractive or anxious to tan if you do not maintain your tan?	108 (23%)	52 (80%)	35 (10%)	125 (76%)
Do you think that you should stop tanning or decrease the time you spend tanning	62 (13%)	30 (46%)	24 (7%)	68 (41%)
Have you tried to stop tanning, but still continue?	11 (2%)	22 (34%)	1 (<1%)	32 (19%)
Have you ever missed a social engagement, work, school, or other recreational activities because you went tanning (either indoors or outdoors) instead?	14 (3%)	12 (19%)	1 (<1%)	25 (15%)
Have you ever gotten in trouble at work, with family, or with friends due to tanning?	16 (3%)	13 (20%)	3 (1%)	26 (16%)
Do you continue to tan despite knowing that it is bad for your skin (can cause wrinkles, premature aging, sun spots, etc.)?	237 (51%)	55 (86%)	138 (38%)	154 (93%)
Have you ever had a skin cancer or have a family history of skin cancer?	141 (30%)	12 (19%)	71 (19%)	82 (50%)

Table 4

Correlates of problematic tanning status and tanning dependence status

	Nonproblematic tanning vs. Problematic tanning		Nondependent tanning vs. Dependent tanning	
Predictor	**Odds ratio (95% C.I.)**	***p*-value**	**Odds ratio (95% C.I.)**	***p*-value**
Female[a]	2.23 (0.76–6.56)	.146	2.45 (1.30–4.59)	**.005**
Obsessive compulsive disorder[b]	4.29 (2.18–8.40)	< **.001**	1.95 (1.15–3.32)	**.013**
Body dysmorphic concerns[c]	1.30 (0.65–2.61)	.459	1.65 (0.96–2.81)	.069
Drug abuse[d]	0.69 (0.25–1.93)	.483	1.49 (0.71–3.12)	.293
Hazardous drinking[e]	1.02 (0.48–2.17)	.967	1.59 (0.92–2.74)	.094
Depression[f]	0.82 (0.35–1.93)	.648	1.79 (0.96–3.35)	.068
# of days tanning in previous 30		< **.001**		< **.001**
0–1 days	(reference group)		(reference group)	
2–8 days	4.63 (1.83–11.71)	**.001**	2.58 (1.49–4.48)	**.001**
9 days or more	17.41 (7.07–42.90)	< **.001**	8.26 (4.44–15.35)	< **.001**
	Model Chi Square = 96.25***		Model Chi-square = 113.47***	

Abbreviations: C.I. – Confidence Interval

[a]Reference group = male

[b]Reference group = negative screen for OCD

[c]Reference group = negative screen for BDD

[d]Reference group = negative screen for drug abuse

[e]Reference group = negative screen for hazardous drinking

[f]Reference group = negative screen for depression