

University of Massachusetts Medical School
eScholarship@UMMS

UMass Worcester PRC Publications

UMass Worcester Prevention Research Center

2018-07-18


A Comparison of Tanning Habits Among Gym Tanners and Other Tanners

Sherry L. Pagoto
University of Connecticut - Storrs

Et al.

Let us know how access to this document benefits you.

Follow this and additional works at: https://escholarship.umassmed.edu/prc_pubs

 Part of the Behavioral Medicine Commons, Behavior and Behavior Mechanisms Commons, Community Health and Preventive Medicine Commons, Exercise Science Commons, Neoplasms Commons, Preventive Medicine Commons, Public Health Education and Promotion Commons, and the Skin and Connective Tissue Diseases Commons

Repository Citation

Pagoto SL, Nahar VK, Frisard CF, Conroy DE, Lemon SC, Oleski J, Hillhouse J. (2018). A Comparison of Tanning Habits Among Gym Tanners and Other Tanners. UMass Worcester PRC Publications. <https://doi.org/10.1001/jamadermatol.2018.1779>. Retrieved from https://escholarship.umassmed.edu/prc_pubs/99

This material is brought to you by eScholarship@UMMS. It has been accepted for inclusion in UMass Worcester PRC Publications by an authorized administrator of eScholarship@UMMS. For more information, please contact Lisa.Palmer@umassmed.edu.

Letters

RESEARCH LETTER

A Comparison of Tanning Habits Among Gym Tanners and Other Tanners

Physical activity has been associated with increased risk of malignant melanoma,¹ as has the use of tanning beds.² The presence of tanning beds in gyms is a concerning trend. Two of the largest American gym chains (Planet Fitness and Anytime Fitness) with total combined membership of more than 13 million people, offer indoor tanning. Nearly half of the gyms in Canada offer indoor tanning as well.³ Little is known about the characteristics of tanners who use gym tanning beds. The present study examined the proportion of indoor tanners who use gym tanning beds and tested whether they have riskier habits than other tanners. We also examined whether physical activity was related to the frequency of indoor tanning among tanners.

Methods | A nationally representative sample of 773 individuals who have ever tanned indoors or who intend to tan was recruited through Survey Sampling International. We used data from the 636 participants who had tanned indoors at least once. Participants were asked whether they had ever used a tanning bed or booth in a gym as well as if they tan primarily in a location other

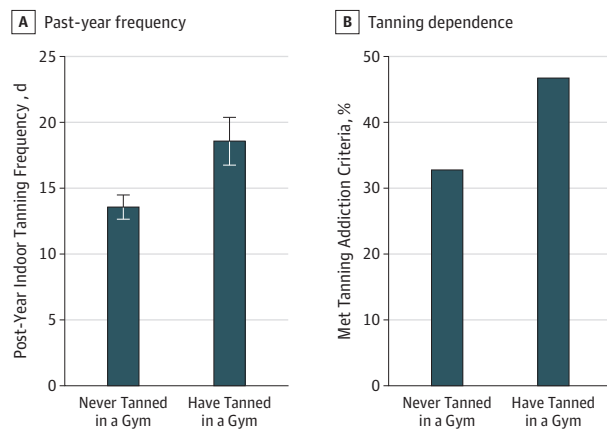
than a tanning salon and, if so, to indicate that location. We report the proportion of indoor tanners who have ever tanned in a gym and those who primarily tan in gyms. We then compared those who had tanned in gyms with those who had never tanned in a gym on demographics, physical activity, indoor tanning frequency in the past year, and criteria for tanning dependence. Finally, we examined the correlation between physical activity frequency and past year indoor tanning. Physical activity was measured via a single item asking, “how many of the past 7 days did you exercise or participate in sports activities for at least 20 minutes that made you sweat and breathe hard.”⁴ Tanning dependence was measured using the 7-item Behavioral Addiction Indoor Tanning Screener (BAITS), a screener developed to capture tanning behaviors that correspond to behavioral addictions, such as feelings of diminished control and strong urges to engage in indoor tanning.⁵ Participants who indicated 2 or more BAITS items were considered positive for tanning dependence.⁵ The institutional review board at the University of Massachusetts Medical School determined that this study was exempt from review. Bivariate comparisons were performed using χ^2 tests and 2-tailed, independent-samples *t* tests, as appropriate, with significance determined at $P < .05$. All analyses were performed in SPSS software, version 23 (SPSS Inc).

Table. Demographic Characteristics (N = 636)

Characteristic	Tanned in Gym, No. (%)		P Value
	Never (n = 482)	Ever (n = 154)	
Age, mean (SD)	37.11 (13.59)	33.40 (9.75)	<.001
Sex			
Women	322 (76.1)	101 (23.9)	.78
Men	160 (75.1)	53 (24.9)	
Race			
White	375 (77.8)	111 (72.1)	.34
Hispanic	49 (10.2)	19 (12.3)	
Other	58 (12.0)	24 (15.6)	
Education			
High school or GED	69 (14.4)	15 (9.9)	.32
Some college	116 (24.3)	32 (21.1)	
Associate/bachelor degree	217 (45.4)	76 (50.0)	
Postgraduate degree	76 (15.8)	29 (19.1)	
Income per year, \$			
<30 000	81 (16.8)	18 (11.7)	.41
30 000-59 999	154 (32.0)	48 (31.2)	
60 000-99 999	157 (32.6)	54 (35.1)	
100 000 or greater	90 (18.7)	34 (22.1)	
Indoor tanning frequency in past year, mean (SD)	13.56 (20.22)	18.57 (22.63)	.01
Days exercised in past 7 d, mean (SD)	2.73 (2.14)	3.85 (2.14)	<.001
Symptoms of tanning addiction			
Yes	158 (32.8)	72 (46.8)	.002

Abbreviation: GED, general education development.

Figure. Gym Tanning Status



Indoor tanning frequency (A) and dependence (B).

Results | Findings revealed that 154 indoor tanners (24.2%) had tanned at least once in a gym and 44 of them (28.6%) reported tanning primarily at a gym. People who had tanned in a gym were younger than other tanners (mean [SD], 33.40 [9.75] vs 37.11 [13.59] years; $P < .001$) and more physically active (3.85 [2.14] vs 2.73 [2.14] days/wk; $P < .001$), but did not differ by sex (Table). People who have tanned in a gym reported significantly more tanning visits in the past year (18.57 [22.63] vs 13.56 [20.22] visits; $P = .01$) and were more likely to be at risk for tanning dependence than other tanners (72 [46.8%] vs 158 [32.8%]; $P = .002$) (Figure). Physical activity was associated with higher frequency of tanning ($r = 0.12$; $P = .003$).

Discussion | Approximately 25% of tanners have tanned in gyms and they tan 67% more often than other tanners. Nearly half of gym tanners were at risk for tanning dependence. Gym tanners were more physically active than other tanners. Among all tanners, greater physical activity was associated with more tanning visits. The presence of tanning beds in gyms could reinforce the misconception that tanning is healthy. Gym owners' awareness of the risks of tanning beds should be explored as well as their reasons for including tanning in their businesses. Skin cancer prevention efforts targeting gyms and active adults in general are needed.

Sherry L. Pagoto, PhD
 Vinayak K. Nahar, MD, MS, PhD
 Christine Frisard, MPH
 David E. Conroy, PhD
 Stephenie C. Lemon, PhD
 Jessica Oleski, MA
 Joel Hillhouse, PhD

Author Affiliations: UConn Center for Health and Social Media, UConn Institute for Collaboration on Health, Interventions, and Policy, Department of Allied Health Sciences, University of Connecticut, Storrs (Pagoto, Oleski); Department of Dermatology, University of Mississippi Medical Center, Jackson (Nahar); Center for Animal and Human Health in Appalachia, College of Veterinary Medicine, School of Mathematics and Sciences, DeBusk College of Osteopathic Medicine, Lincoln Memorial University, Harrogate, Tennessee (Nahar); Division of Preventive and Behavioral Medicine, Department of Medicine, University of Massachusetts Medical School, Worcester (Frisard, Lemon); Department of Kinesiology, Pennsylvania State University, University Park (Conroy); Department of Community and Behavioral Health, College of Public Health, East Tennessee State University, Johnson City (Hillhouse).

Accepted for Publication: Accepted April 30, 2018.

Corresponding Author: Sherry L. Pagoto, PhD, UConn Center for Health and Social Media, UConn Institute for Collaboration on Health, Interventions, and Policy, Department of Allied Health Sciences, University of Connecticut, 2006 Hillside Rd, Unit 1248, Room 22, Storrs, CT 06269 (sherry.pagoto@uconn.edu).

Published Online: July 18, 2018. doi:10.1001/jamadermatol.2018.1779

Author Contributions: Dr Pagoto and Ms Frisard 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.

Concept and design: Pagoto, Lemon, Hillhouse.

Acquisition, analysis, or interpretation of data: Pagoto, Nahar, Frisard, Conroy, Oleski, Hillhouse.

Drafting of the manuscript: Pagoto, Nahar.

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

Statistical analysis: Pagoto, Frisard.

Obtained funding: Pagoto, Hillhouse.

Administrative, technical, or material support: Nahar, Oleski, Hillhouse.

Supervision: Pagoto, Oleski.

Conflict of Interest Disclosures: Dr Pagoto has served as a paid consultant for Johnson & Johnson. No other disclosures are reported.

Funding/Support: This study was funded by the Centers for Disease Control and Prevention, Division of Cancer Prevention and Control, Prevention Research Center grant CDC U48 DP001933-04 (Dr Pagoto).

Role of the Funder/Sponsor: The funding organization had a role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Disclaimer: 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.

- Moore SC, Lee IM, Weiderpass E, et al. Association of leisure-time physical activity with risk of 26 types of cancer in 1.44 million adults. *JAMA Intern Med*. 2016;176(6):816-825. doi:10.1001/jamainternmed.2016.1548
- Colantonio S, Bracken MB, Beecker J. The association of indoor tanning and melanoma in adults: systematic review and meta-analysis. *J Am Acad Dermatol*. 2014;70(5):847-57.e1, 18. doi:10.1016/j.jaad.2013.11.050
- Huang CM, Kirchoff MG. A cross-sectional study of indoor tanning in fitness centres. *J Cutan Med Surg*. 2017;21(5):401-407. doi:10.1177/1203475417706059
- Centers for Disease Control and Prevention (CDC). National Center for Health Statistics (NCHS). National Health and Nutrition Examination Survey Questionnaire (or Examination Protocol, or Laboratory Protocol) https://www.cdc.gov/nchs/Nhanes/2013-2014/PAQ_H.htm. Accessed 2/27/18.
- Stapleton JL, Hillhouse JJ, Turrisi R, Baker K, Manne SL, Coups EJ. The Behavioral Addiction Indoor Tanning Screener (BAITS): An Evaluation of a Brief Measure of Behavioral Addictive Symptoms. *Acta Derm Venereol*. 2016;96(4):552-553. doi:10.2340/00015555-2290