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Masculine norms and sunscreen use among adult men in the United States: A cross-sectional study



To the Editor: Traditional gender roles have been shown to influence health-related behaviors. Masculinity is often linked with health-harming behaviors, whereas femininity is often linked with health-promoting behaviors.^{1,2} Focus groups suggest that men avoid sunscreen because of its association with beauty products and have difficulty asking male peers to help apply sunscreen because it violates male-to-male body contact norms.³ Despite these findings and men's higher incidence of melanoma,⁴ sun protection interventions rarely focus on men. We hypothesized that men strongly adhering to masculine norms have poor sun safety compared with men moderately adhering to masculine norms.

We used cross-sectional questionnaire data from 961 adult men recruited through ResearchMatch, a national recruitment tool. The study sample consisted primarily of older (range, 18-92 years; mean, 51.8), heterosexual, white, and educated men (Table D). The questions captured information regarding demographics, masculine ideologies, and sun safety. The Male Role Norms Inventory—Short Form's Avoidance of Femininity subscale was used to classify men as displaying less adherence (Less-M), medium adherence (Med-M), or more adherence (More-M) to masculine norms. Previous studies have provided evidence for this scale's construct validity.⁵ Stratification was determined before data collection. For each variable, a multivariate logistic regression generalized logit model was constructed. The dependent variable was the degree of adherence to masculine norms, and the independent variables were related to sun safety. Med-M was selected as the reference category so that More-M and Less-M could be compared with Med-M. Because our hypothesis compares men moderately and strongly adhering to masculine norms, the More-M-to-Med-M odds ratios are reported. The multivariate models included age, race, education, and sexual orientation. The study was approved by Northwestern Institutional Review Board. Statistical analysis was performed with SAS software (SAS OnlineDoc 9.4, SAS Institute Inc, Cary, NC).

Table I. Participant characteristics

Variable	Value
Age, y	
Mean	51.8
Median	55
Range (SD)	18-92 (17.00)
Masculinity, (%)	
Less-M	277 (28.8)
Med-M	514 (53.5)
More-M	170 (17.7)
Race, (%)	
White	860 (89.5)
Nonwhite	101 (10.5)
Education, (%)	
High school or less	42 (4.4)
Some college or more	919 (95.6)
Sexual orientation, (%)	
Bisexual	66 (6.9)
Heterosexual/straight	792 (82.4)
Homosexual/gay	103 (10.7)
Geographic region, (%)	
Northeast	142 (14.8)
West	193 (20.1)
Midwest	318 (33.1)
South	308 (32.0)
Skin type, (%)	
I or II	255 (26.5)
III or IV	654 (68.1)
V or VI	52 (5.4)

Less-M, Less adherence to masculine norms; *Med-M*, medium adherence to masculine norms; *More-M*, more adherence to masculine norms; *SD*, standard deviation.

Logistic regression models revealed that men who did not use sunscreen regularly (adjusted odds ratio [aOR], 1.44; 95% confidence interval [CI], 1.00-2.07) or believed that tanning protects them from skin damage (aOR, 1.74; 95% CI, 1.10-2.76) had increased odds of strongly adhering to traditional masculine norms. Men who viewed young-looking skin as not at all important (aOR, 0.39; 95% CI, 0.22-0.70), slightly important (aOR, 0.40; 95% CI, 0.24-0.67), or important (aOR, 0.47; 95% CI, 0.28-0.81) compared with very important had decreased odds of strongly adhering to traditional masculine norms (Table II).

These findings suggest that men strictly adhering to masculine norms are less likely to use sunscreen regularly or demonstrate tanning knowledge, despite valuing young-looking skin. One proposed explanation is that sun safety is a feminine concern that is at odds with traditional male roles. This study's large sample size lent power to statistical models and controlled for potentially confounding variables. Limitations include self-reported data, inclusion of men with a history of skin cancer, and

Table II. More adherence to masculine norms and related outcomes

Variable	Degree of masculinity, n (%)		Odds of More-M compared with Med-M	
	Med-M	More-M	aOR* (95% CI)	P value
Do you use sunscreen regularly?				
No	277 (53.9)	107 (62.9)	1.44 (1.00-2.07)	.05
Yes	237 (46.1)	63 (37.1)	1 (ref)	
How concerned are you about ultraviolet rays that can cause skin damage?				
Not at all concerned	56 (10.9)	27 (15.9)	1.29 (0.68-2.43)	.44
Slightly concerned	206 (40.1)	70 (41.2)	0.93 (0.57-1.54)	.79
Fairly concerned	168 (32.7)	42 (24.7)	0.68 (0.40-1.16)	.16
Very concerned	84 (16.3)	31 (18.2)	1 (ref)	
How important to you is young-looking skin?				
Not at all important	105 (20.4)	29 (17.1)	0.39 (0.22-0.70)	.002
Slightly important	212 (41.2)	59 (34.7)	0.40 (0.24-0.67)	<.001
Important	137 (26.7)	43 (25.3)	0.47 (0.28-0.81)	.006
Very important	60 (11.7)	39 (22.9)	1 (ref)	
Do you think that you can protect yourself from skin damage by getting a tan?				
True, I don't know (incorrect)	67 (13.0)	35 (20.6)	1.74 (1.10-2.76)	.019
False (correct)	447 (87.0)	135 (79.4)	1 (ref)	
Do you think that a sunscreen with SPF 30 offers twice as much skin protection as an SPF 15 sunscreen?				
True, I don't know (incorrect)	335 (65.2)	118 (69.4)	1.19 (0.81-1.73)	.37
False (correct)	179 (34.8)	52 (30.6)	1 (ref)	
Do you think that when skin cancer is detected early it can be effectively treated?				
True (correct)	491 (95.5)	168 (98.8)	4.02 (0.93-17.34)	.063
False, I don't know (incorrect)	23 (4.5)	2 (1.2)	1 (ref)	

Boldface indicates statistical significance ($P \leq .05$).

aOR, Adjusted odds ratio; CI, confidence interval; Med-M, medium adherence to masculine norms; More-M, more adherence to masculine norms; ref, reference; SPF, sun protection factor.

*aOR includes age, race, education, and sexual orientation.

over-representation of white, educated men. Despite these limitations, this study suggests that adherence to masculine norms can serve as a barrier to sun safety and thus, can increase skin cancer risk. Future sun safety interventions could use these findings to address the impact of gender norms when targeting men. Further studies are needed to elucidate the mechanisms underlying these associations.

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