Body Image 25 (2018) 31–34

Contents lists available at ScienceDirect

Body Image

journal homepage: www.elsevier.com/locate/bodyimage

Brief research report

Current and ideal skin tone: Associations with tanning behavior among sexual minority men

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ARTICLE INFO

Article history:
Received 4 July 2017
Received in revised form 24 January 2018
Accepted 26 January 2018

Keywords:
Ideal skin tone
Skin cancer risk
Tanning
Sexual minority
Body image

ABSTRACT

Sexual minority men have high rates of skin cancer, yet little is known about skin cancer risk behaviors in this population. It was hypothesized that current skin tone would moderate the association between darker ideals and tanning behaviors. Data were collected online from 231 sexual minority men in San Diego, United States of America, with a mean age of 24.66 (*SD* = 5.44). Ideal and current skin tone ratings and indoor and outdoor tanning behaviors were assessed. Darker ideals were significantly associated with increased indoor and outdoor tanning. The effect of darker ideals on tanning was strongest among individuals with lighter current skin tone, indicating a significant interaction. Sexual minority men whose perceived skin tone did not match their ideal were more likely to engage in skin cancer risk behaviors. Future skin cancer prevention programs aimed at sexual minority men may consider techniques that modify ideal skin tone internalization.

1. Introduction

Skin cancer is one of the most commonly diagnosed forms of cancer in the United States, with 5.4 million new cases of non-melanoma skin cancer reported in 2012 and an annual melanoma incidence rate of 26 per 100,000 (American Cancer Society, 2017; Rogers, Weinstock, Feldman, & Coldiron, 2015). Sun exposure and the use of indoor tanning beds are preventable behaviors associated with skin cancer risk (Armstrong & Kricker, 2001; Wehner et al., 2012). Thus, it is important to gain a better understanding of tanning motivation, to establish effective ways to reduce tanning behavior and, by extension, the incidence of skin cancer.

Appearance motives and the belief that tanned skin is attractive are correlates of tanning behaviors, particularly in Western populations (Asvat, Cafri, Thompson, & Jacobsen, 2010; Holman & Watson, 2013). Individuals in the West, for example, are likely to perceive tanned individuals as having more positive traits (Gillen & Bernstein, 2015; Swami et al., 2008). White women endorsed the advantages of tanning, for example, if they had exposure to media portrayals of the tanned ideal and a desire to meet sociocultural norms (Jackson and Aiken, 2000). Internalization of this tanned ideal is also positively associated with a discrepancy between current and ideal skin tone in White women (Prichard, Kneebone, Hutchinson, & Wilson, 2014). Studies examining the discrepancy, or difference score, between current and ideal skin tone have used rating scales or skin tone charts that represent skin tones in the population being studied (Prichard et al., 2014; Swami, Henry, Peacock, Roberts-Dunn, & Porter, 2013). Women and men, primarily White, with greater discrepancies, engage in higher rates of sun tanning and indoor tanning, and lower rates of sun protection behaviors, such as sunscreen use (Hemrich, Pawlow, Pomerantz, & Segrist, 2014; Hutchinson, Prichard, Ettridge, & Wilson, 2015; Prichard et al., 2014). Skin tone ideals may, therefore, play a role in skin cancer risk behaviors.

Sexual minority (defined by sexual identity, *e.g.*, gay or bisexual, and/or by attraction to the same sex) men have some of the highest rates of skin cancer diagnoses, with roughly twice the odds compared to heterosexual men (Mansh, Katz, Linos, Chren, & Arron, 2015). This discrepancy in prevalence may be related to tanning behaviors, as sexual minority men are at greater odds of engaging in indoor tanning than heterosexual men and at rates comparable to heterosexual women (Yeung & Chen, 2016). Sexual minority men also experience higher appearance dissatisfaction than heterosexual men (Frederick & Essayli, 2016) and may engage in tanning behaviors to accentuate muscle tone. The aim of the current study

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https://doi.org/10.1016/j.bodyim.2018.01.007
1740-1445/

was to explore whether current skin tone moderates the relationship between ideal skin tone and behaviors associated with skin cancer risk in a sample of sexual minority men. Consistent with prior research (*e.g.*, Hutchinson et al., 2015), among lighter compared with darker current skin tones, ideal skin tone was expected to be positively associated with frequency of tanning events and intent to indoor and outdoor tan in the last 3 months, as lighter skinned individuals may be more motivated to move closer to the ideal.

2. Method

2.1. Participants and procedures

Participants ($N = 231$) were recruited on social media platforms, Facebook and Instagram, in late July through early September 2016, using paid advertisements. Advertisements were visible only to Facebook and Instagram users who specified on their profiles that they were within ages 14 to 35 years, interested in men, and resided in the San Diego area. Those interested in the study were redirected to an online data collection page and were instructed to log-in *via* their Facebook username and password. Afterwards, potential participants responded to a screening questionnaire to determine if they met the following criteria: (1) between 14 and 35 years of age; (2) a male gender identity; (3) a sexual minority status (*e.g.*, identify as gay, bisexual, and/or indicate they are attracted to men); (4) currently reside in San Diego County, California; and (5) understand and speak English. Respondents with a history of a skin cancer diagnosis were excluded from participation. The age range (14–35) was selected as meta-analytic research has indicated that indoor tanning before the age of 35 significantly increases the risk of skin cancer (International Agency for Research on Cancer Working Group on artificial ultraviolet (UV) light and skin cancer, 2007), and there are high prevalence rates of indoor tanning among adolescent boys (ranging from 14 to 17), particularly sexual minority boys (Blashill, 2017).

Eligible participants were presented with an online consent form if they were over the age of 18, or an assent form if they were under 18 (parental consent was waived because of the collection of sensitive information requiring discretion and protection of participants' privacy). Upon survey completion, participants provided their name and email to receive the study incentive, a $15 gift card to a large Internet-based retailer. Participants were reminded that their identifying information would not be linked to their survey responses. All participants provided informed consent and the Institutional Review Board approved study procedures.

2.2. Measures

2.2.1. Demographics

Participants answered questions that assessed age, race, ethnicity, sexual identity (*e.g.*, gay, bisexual), sexual attraction (*i.e.*, only, mostly, or equally attracted to men or women), and zip code of current residence.

2.2.2. Tanning behaviors

Participants self-reported the number of times, in the last 3 months, they (a) indoor tanned and (b) outdoor tanned/sunbathed; each of these items represented a separate frequency variable. Intentions to indoor tan and outdoor tan were assessed with the following two items: "I plan to indoor tan in the next 3 months" and "I plan to sunbathe/outdoor tan in the next 3 months." Response options ranged from 1 (*Definitely do not intend*) to 7 (*Definitely intend*).

2.2.3. Current and ideal skin tone

Current and ideal skin tones were measured using the Skin Tone Rating Scale (STRS; Prichard et al., 2014). The original female version of the scale was revised to comprise twelve male figures ranging from 1 (*i.e.*, Very light-skinned) to 12 (*i.e.*, Very dark-skinned; Hutchinson et al., 2015). For an example of the scale, please see Hutchinson et al. (2015). Participants chose a number (*i.e.*, figure) that most closely represented their current skin tone and their ideal skin tone.

2.2.4. Skin type

The Fitzpatrick Skin Type Classification Scale (Fitzpatrick, 1988) is a self-report measure in which individuals select one of 6 skin type categories based on sun sensitivity, skin color and other body features (*e.g.*, hair and eyes).

2.2.5. Validity check items

Three validity check items were embedded within the battery of questionnaires, as recommended for online studies (Huang, Curran, Keeney, Poposki, & DeShon, 2012). Only participants who responded correctly to all validity items were included in analyses. As a result, 52 participants were excluded.

2.3. Statistical analysis

Outcome variables were indoor tanning and outdoor tanning frequency and intent, contributing to a total of two count and two continuous outcomes. Models with continuous outcomes were tested *via* PROCESS macro (Hayes, 2013) within SPSS v.23. Generalized linear models with a negative binomial distribution in SPSS were used to account for over-dispersion present in count outcomes (*i.e.*, indoor and outdoor tanning frequency). For all models, current skin tone (independent variable), ideal skin tone (moderator variable), and their interaction term were entered as explanatory variables, which were all mean-centered. Sensitivity analyses with adjusted models were also tested, controlling for race, ethnicity, and skin type. The race variable was dichotomized (White *vs.* non-White) due to low variability in race categories. Finally, simple slope analyses were conducted at 1 standard deviation above and below the mean current skin tone.

3. Results

3.1. Descriptives

See Table 1 for descriptive statistics and sociodemographic characteristics of the sample.

3.2. Indoor tanning outcomes

In sensitivity analyses, adjusted models controlling for race, ethnicity, and skin type did not substantially change model fit or magnitude of effects. Therefore, the unadjusted, parsimonious models were interpreted for all outcome variables.

3.2.1. Frequency

The overall model was significant, $\chi^2(3) = 53.30$, $AIC = 430.77$, $p < .001$. Darker ideal skin tone rating was positively associated with increased frequency of indoor tanning, $B = .66$ (95% CI: .32, 1.00), $SE = .17$, $p < .001$; however, this effect was qualified by a significant ideal by current skin tone interaction, $B = -.12$ (95% CI: −.22, −.01), $SE = .05$, $p = .026$. The effect of darker ideal skin tone on the number of indoor tanning incidences was strongest at a current skin tone rating 1 standard deviation below the mean, $B = .90$, $t(229) = 4.12$, $p < .001$ (see Supplementary Fig. 1). There was also a significant