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Tobacco Marketing Receptivity and Other Tobacco Product Use Among Young Adult Bar Patrons

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A B S T R A C T

Purpose: Use of other tobacco products (smokeless tobacco, hookah, cigarillo, and e-cigarettes) is increasing, particularly among young adults, and there are few regulations on marketing for these products. We examined the associations between tobacco marketing receptivity and other tobacco product (OTP) use among young adult bar patrons (aged 18–26 years).
Methods: Time-location sampling was used to collect cross-sectional surveys from 7,540 young adult bar patrons from January 2012 through March of 2014. Multivariable logistic regression analyses in 2015 examined if tobacco marketing receptivity was associated (1) with current (past 30 day) OTP use controlling for demographic factors and (2) with dual/poly use among current cigarette smokers (n = 3,045), controlling for demographics and nicotine dependence.
Results: Among the entire sample of young adult bar patrons ($Mean_{age}$ = 23.7, standard deviation = 1.8; 48.1% female), marketing receptivity was consistently associated with current use of all OTP including smokeless tobacco (adjusted odds ratio [AOR]= 2.56, 95% confidence interval [CI] 2.08–3.16, $p < .001$), hookah (AOR = 1.97, 95% CI 1.58–2.43, $p < .001$), cigarillos (AOR = 3.00, 95% CI 2.21–4.08, $p < .001$), electronic cigarettes (AOR = 2.43, 95% CI 1.93–3.04, $p < .001$), and multiple tobacco products (AOR = 2.93, 95% CI 2.45–3.51, $p < .001$). Among current smokers, marketing receptivity was significantly associated with use of smokeless tobacco (AOR = 1.63, 95% CI 1.22–2.18, $p < .01$), cigarillos (AOR = 1.81, 95% CI 1.22–2.70, $p < .01$), and multiple tobacco products (AOR = 1.58, 95% CI 1.27–1.97, $p < .001$).
Conclusions: OTP use is common among young adult bar patrons, and it is associated with tobacco marketing receptivity. Efforts to limit tobacco marketing should address OTP in addition to cigarettes.

IMPLICATIONS AND CONTRIBUTION

In a sample of young adult bar patrons, this study found that tobacco marketing receptivity was associated with other tobacco product use (smokeless tobacco, hookah, cigarillos, and electronic cigarettes). Results suggest that restrictions on cigarette advertising should be applied to all tobacco products in order to prevent use by young people.

There is growing concern about the use of other tobacco products (OTPs) such as smokeless tobacco (dip, snuff, chewing tobacco, and snus), hookah, cigars and cigarillos, and electronic cigarettes (e-cigarettes) among adolescents and young adults in the United States [1,2]. According to the 2012–2013 National Adult Tobacco Survey, among young adults 18–26 years old, 7.5% reported currently using smokeless tobacco, 16.8% hookah, 16.8% cigars, and 8.3% e-cigarettes [3]. Furthermore, high rates of multiple tobacco product use have been reported among both adolescents [1] and young adults [2].

The increase in OTP use among young people may be driven by a surge in marketing of these products over the past years. Product and advertisement limitations on cigarettes currently do not apply to OTP other than smokeless tobacco [4,5]. The tobacco

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industry is investing more heavily in the advertisement of noncombustible tobacco products [6], and young adult exposure to e-cigarette marketing increased by more than 300% from 2011 to 2013 [7]. Cigar advertising at the point of sale is more intensive in neighborhoods with a higher proportion of young adults [8]. In addition, online e-cigarette advertisements frequently use messages appealing to young people or advertise on Web sites with large youth and young adult audiences [9,10]. Web sites representing hookah establishments rarely provide warning messages with regard to the health effects of hookah smoking [11]. Perhaps due to the success of these marketing tactics, more than 60% of young adults report awareness of OTP such as snus and little cigars [12] and between 32% and 50% of adolescents report awareness of e-cigarettes, hookah, and snus [13].

Tobacco marketing plays a causal role in uptake of cigarette smoking [14–16]. Studies have operationalized tobacco marketing in different ways including recall [17] or objective quantification of exposure [18], having a favorite tobacco advertisement [19] or an index of self-reported marketing receptivity [20,21]. The index of marketing receptivity assumes different stages of receptivity from low (brand recognition and recall), to moderate (endorsing a favorite ad), and high (owning or being willing to use a company branded item); [22] and this receptivity to tobacco marketing is a well-established attitudinal predictor of cigarette smoking initiation among adolescents [22] and young adults [21]. The highest receptivity, measured by assessing ownership of or willingness to use a tobacco company promotional item, is a strong predictor of smoking uptake [20,22] and is associated with dual use and multiple product use among youth [23].

Less is known about the role of tobacco marketing receptivity and OTP use among young people. In youth, the exposure to OTP marketing (snus and e-cigarettes) is associated with experimentation with these products [24], and polytobacco use has also been found to be associated with marketing receptivity [1]. One study using a college student sample used a mediation analysis and found that e-cigarette marketing receptivity was associated with perceptions of low harm of these products, which in turn was associated with higher usage [25]. Another study examining young adult bar patrons in 2009–2011 found that marketing receptivity was positively associated with hookah use and dual use of hookah and cigarettes [26].

Young adult bar patrons are at particularly high risk for tobacco use [27,28] and have been especially targeted by tobacco industry marketing efforts [29,30]. Yet, little is known about OTP use (smokeless tobacco, hookah, cigarillos, and e-cigarettes) in young adult bar patrons and if OTP use is related to tobacco marketing receptivity. To address this, we investigated OTP use and its associations with marketing receptivity, that is, the willingness to use a tobacco company promotional item, in a sample of young adult bar patrons from seven large U.S. cities.

Methods

Procedure and participants

Data were collected as part of a larger tobacco use study from January 2012 through March 2014. Time-location sampling was used to generate a sample of young adult bar and club goers in Albuquerque, Los Angeles, Nashville, Oklahoma City, San Diego, San Francisco, and Tucson. Venues, dates, and times were selected randomly from comprehensive lists of young adult-oriented bars and clubs in order to assign similar probabilities of selection to individuals within the sample. Time-location sampling methods used in this study were developed to reach underserved populations [31] and have been described in previous studies collecting surveys from young adult bar patrons [27,28]. When trained study personnel entered the bar, they enumerated the number of patrons present and approached all young adults present who appeared to be within the age range and invited them to participate in the study. Study personnel explained the study, and participants completed verbal informed consent to maximize participants' convenience. We did not include patrons who appeared to be intoxicated or who were unable or unwilling to complete the informed consent procedure for any reason. For the data in this study, response rate (percentage of eligible young adult bar patrons who completed surveys) was 77%. Valid questionnaires were available from 7,750 participants. Participants reported age when completing the questionnaire, which was later validated using self-reported date of birth. A total of 130 participants (1.7%) were excluded since the age calculated based on date of birth fell outside the range of the current study (18–26 years). An additional 80 participants (1.0%) were excluded since they did not provide information on their gender or race/ethnicity. This resulted in a total sample of $N = 7,540$ participants recruited from 98 venues and 7 cities for the current analyses. In all cities, between 1,100 and 1,200 participants were included with the only exception of Oklahoma City with 521 participants. Smoking was allowed in bars in Oklahoma City and Nashville; Albuquerque, Tucson, San Diego, Los Angeles, and Francisco had smokefree bars. State-wide smokefree bar policies did not change during the study period. The surveys used a three-form planned missing data design (participants answer one of three randomly selected versions of the survey) in which each form includes a certain number of core questions asked of all participants and another group of items that are asked only to two-thirds of participants [32]. This design allowed us to reduce participant fatigue and response burden by having each individual answer fewer items while still collecting data from a large number of participants. All study procedures were reviewed and approved by the Committee on Human Research of the University of California, San Francisco.

Measures

Demographics. Demographic variables included age (continuous measure, 18–26 years old) and sex (male/female). Race/ethnicity was based on participants' responses to two items: ethnicity (Hispanic or not) and race (African-American, Asian, white, Hawaiian/Pacific Islander, American Indian/Alaskan Native, or more than one race) and recoded into four categories (Hispanic, non-Hispanic white, non-Hispanic black, and non-Hispanic other). Participants reported their educational status, which was recoded into a dichotomous variable (currently in college/graduated vs. no college/dropped out) and self-reported sexual orientation which was recoded into a dichotomous variable (straight vs. gay/bisexual/other).

Tobacco marketing receptivity. Marketing receptivity was assessed with one item [21–23] ("Some tobacco companies offer promotional items [such as clothing and bags] which have the company brand name or logo on them that the public can buy or get for free. Do you think you would use a tobacco industry promotional item?") and responses were recorded dichotomously (yes/no).