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Author manuscript

*Tob Regul Sci.* Author manuscript; available in PMC 2016 July 01.

Published in final edited form as:

*Tob Regul Sci.* 2015 July ; 1(2): 103–120. doi:10.18001/TRS.1.2.1.

## Content Analysis of Trends in Print Magazine Tobacco Advertisements

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### Abstract

**Objectives**—To provide a descriptive and comparative content analysis of tobacco print magazine ads, with a focus on rhetorical and persuasive themes.

**Methods**—Print tobacco ads for cigarettes, cigars, e-cigarettes, moist snuff, and snus (N = 171) were content analyzed for the physical composition/ad format (e.g., size of ad, image, setting, branding, warning label) and the content of the ad (e.g., rhetorical themes, persuasive themes).

**Results**—The theme of pathos (that elicits an emotional response) was most frequently utilized for cigarette (61%), cigar (50%), and moist snuff (50%) ads, and the theme of logos (use of logic or facts to support position) was most frequently used for e-cigarette (85%) ads. Additionally, comparative claims were most frequently used for snus (e.g., “spit-free,” “smoke-free”) and e-cigarette ads (e.g., “no tobacco smoke, only vapor,” “no odor, no ash”). Comparative claims were also used in cigarette ads, primarily to highlight availability in different flavors (e.g., “bold,” “menthol”).

**Conclusions**—This study has implications for tobacco product marketing regulation, particularly around limiting tobacco advertising in publications with a large youth readership and prohibiting false or misleading labels, labeling, and advertising for tobacco products, such as modified risk (unless approved by the FDA) or therapeutic claims.

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#### Conflict of Interest Statement

All authors of this article declare they have no conflicts of interest.

## Keywords

cigarettes; content analysis; e-cigarettes; persuasion; tobacco advertising

Tobacco control efforts have resulted in significant reduction in cigarette smoking among United States (U.S.) adults over the past five decades, but has slowed down in recent years.<sup>1</sup> Centers for Disease Control and Prevention examined excise tax data from the U.S. Department of Treasury's Alcohol and Tobacco Tax and Trade Bureau, and reported that from 2000 to 2011, whereas consumption of cigarettes decreased 32.8%, consumption of non-cigarette combustible tobacco increased 123.1%. The percentage of combustible tobacco (comprised of loose tobacco and cigars) consumption increased from 3.4% in 2000 to 10.4% in 2011. The largest changes was observed from 2008 to 2011, when small cigar consumption decreased from 5.9 billion to 0.8 billion (an 86.4% decrease), whereas large cigar consumption increased from 5.7 billion to 12.9 billion (a 126.3% increase).<sup>2</sup> In addition, use of other non-cigarette tobacco products (NCTPs), particularly e-cigarettes in the last decade has increased,<sup>3–6</sup> resulting in a poly-tobacco product marketplace. Ten years of data from the National Survey on Drug Use and Health Results show that rates of poly-tobacco use were essentially unchanged from 2002 to 2011 (8.7% to 7.4%), though some product combinations, including cigarettes and smokeless tobacco, cigars and smokeless tobacco, and use of more than two products increased. In tobacco users under age 26, the proportion of poly-tobacco use increased, even as overall tobacco use declined.<sup>5</sup> Furthermore, data from the 2011, 2012, and 2013 National Youth Tobacco Surveys of students in grades 6–12 clearly revealed that between 2011 and 2013, the number of never-smoking youth who used e-cigarettes increased three-fold, from 79,000 to more than 263,000.<sup>4</sup>

Thought to be driving the recent increase in NCTP use, there have been increased expenditures on NCTP marketing and promotion.<sup>7,8</sup> According to the Federal Trade Commission's report on cigarette and smokeless tobacco advertising and promotion, the U.S. expenditure on advertising and marketing of smokeless tobacco products rose from \$444.2 million in 2010 to \$451.7 million in 2011.<sup>9</sup> Over a 3-month period in 2012, almost \$20 million were spent on advertising NCTPs with the greatest amount spent on the promotion of smokeless (~\$8 million) and snus (~\$10 million), and the largest circulation reported for e-cigarette advertisements (ads).<sup>8</sup> E-cigarette advertising expenditures across magazines, TV, newspapers, and internet tripled from \$6.4 million in 2011 to \$18.3 million in 2012.<sup>7</sup> Underscoring the growth of NCTPs in the U.S. marketplace,<sup>2–5</sup> recent sales figures estimate sale of smokeless tobacco products exceeds \$2.94 billion.<sup>9</sup>

Of great concern to the tobacco control community, these smokeless tobacco products are marketed as viable alternatives to smoking particularly in places where clean indoor air laws have imposed external restrictions on smoking (e.g., worksites, public transportation, restaurants and bars).<sup>10–12</sup> The potential for such marketing trends to undermine smoking prevention and cessation efforts,<sup>10,13–15</sup> particularly for youth and young adults cannot be overlooked. Increasing number of studies demonstrate strong link between tobacco marketing and youth smoking experimentation and use.<sup>16–19</sup> Therefore, robust surveillance

of NCTP advertising is critical to inform Food and Drug Administration (FDA) regulation and to protect public health.<sup>8</sup>

The tobacco control community has less agreement as to whether smokeless tobacco products (such as moist snuff and snus) and e-cigarettes are beneficial or harmful for public health and if they should be used as a substitute/alternate for smoking among those who experience difficulty quitting or do not want to quit.<sup>20-22</sup> The latest policy statement from the American Association for Cancer Research (AACR) and the American Society of Clinical Oncology (ASCO) on e-cigarettes recognizes that e-cigarettes may be helpful in potentially altering patterns of tobacco use and affect the health of the public. However, given a lack of definitive data, the AACR and ASCO recommend additional research on these devices, including assessing the health impacts of e-cigarettes, understanding patterns of e-cigarette use, and determining what role e-cigarettes have in cessation.<sup>20</sup>

With the passing of the Family Smoking Prevention and Tobacco Control Act (Tobacco Control Act) in June, 2009, regulatory approaches related to advertising, marketing, and promotion of tobacco products were conferred to the FDA, with a particular emphasis on restrictions to decrease the marketing and appeal of tobacco products to children and adolescents. Besides marketing restrictions circulated by the FDA in March, 2010, such as prohibition of the use of tobacco brand names in sponsorship of sporting, entertainment, and cultural events; prohibition of the use of tobacco brand names or logos on clothing, hats, and other non-tobacco items; and limitation of tobacco advertising in publications with a large youth readership, the FDA also prohibited false or misleading labels, labeling, and advertising for tobacco products, such as modified risk (unless approved by the FDA) or therapeutic claims. Additionally, the FDA banned the use of descriptors such as “light”, “mild”, or “low”. These statutory provisions in Section 911b of the Tobacco Control Act became effective in June, 2010.<sup>23,24</sup>

In order to inform regulatory decisions around marketing of tobacco products, a descriptive surveillance of tobacco product advertising is important. Marketing and promotion of NCTPs, particularly for snus and e-cigarettes often compare these products with conventional cigarettes. Ads describe the NCTPs as healthier, cleaner, and easier to use than conventional cigarettes. For instance, a content analysis of 59 branded e-cigarette retail websites demonstrated use of claims that e-cigarettes were cleaner (95%), cheaper (93%), and easier to use anywhere (71%) as compared to conventional cigarettes.<sup>25</sup> Similarly, a content analysis of print and television ads for non combustible tobacco products revealed that all of the e-cigarette ads contained a comparative theme, framing e-cigarettes as desirable alternatives to smoking.<sup>8</sup> Ads for snus have followed similar trends, with newspaper and magazine ads promoting snus as a better alternative to cigarettes or smokeless tobacco.<sup>12</sup> As well, recent research highlights that little cigar/cigarillo ads on YouTube were marketed as cheaper, smoother, and less harmful than cigarettes.<sup>26</sup>

Clearly, the preponderance of comparative themes is well evident in NCTP ads, but ads are also well known to carry multiple themes. Past research demonstrates that besides comparative themes, NCTP ads also highlight individuality, masculinity, and sociability aspects of product use, while also utilizing celebrity endorsements, taste and availability of

varied flavors as marketing strategies.<sup>8,12,25,27</sup> Whereas past research highlights persuasive themes and marketing strategies in tobacco product advertisements, they usually focus on one specific product type. The utilization of print media in creating persuasive messages about different kinds of tobacco products has not been examined previously, and is a focus of this study.

Exposure of people, particularly youth to print ads in magazines continues to stay very high, despite exposure to ads online, on TV, and radio. For instance, recent research revealed that e-cigarette print ads in magazines reached 32.2 million teens and young adults from January through November 2013.<sup>28</sup> Therefore, we focused our analysis on NCTP print ads, and report on a comprehensive analysis of NCTP advertising in magazines to better understand the multiple facets of rhetoric and persuasive themes utilized by tobacco companies to market NCTPs. In addition, we present a comparative analysis with cigarette advertising in order to demonstrate similarities and differences in persuasive approaches to marketing all tobacco products. The findings from this study will help inform FDA about the tobacco print advertising landscape for all tobacco products and provide specific recommendations for FDA marketing regulations.

## METHODS

### Sample and Selection of Ads

The sample consisted of 175 unique print NCTP ads placed in consumer magazines, Sunday magazines, local magazines, and Hispanic magazines. The search for ads was outsourced to Kantar Media (Kantar Media Intelligence). They searched for NCTP ads in the given one year time period (August 2012 to August 2013), using a proprietary web-based database, Strategy, and using the following keywords: chew, chewing tobacco, cigarette, cigarillos, cigars, dip, dissolvables, e-cigs, electronic cigarettes, hookah, little cigars, smoking, smokeless, smokeless tobacco, snuff, snus, tobacco, tobacco dissolvables, tobacco orbs, tobacco sticks, tobacco strips, and vaping. Details of the publication of the magazine ads and copies of each advertisement (in color) were obtained from a search of over 300 magazines.

This search yielded 1,122 tobacco product ads, with 588 cigarette ads, 272 e-cigarette ads, 139 moist snuff (excluding snus) ads, 87 cigar ads, 32 snus ads, and 4 miscellaneous tobacco-related ads (including 2 ads for varenicline medication, 1 ad for tobacco patient service, and 1 ad for tobacco road trip. These 4 miscellaneous ads were excluded from the content analysis, and will not be discussed further). Among the remaining 1,118 ads, 175 were determined to be distinct ads, based on Timberlake, Pechmann, Tran, and Au's (2011)<sup>12</sup> definition, "an advertisement was considered distinct if it differed from other advertisements by text or image and not by color alone" (p. 432). Therefore, a distinct ad was an ad that was different from other ads (within each product type) in terms of text and/or image. After removing the 4 miscellaneous tobacco ads, the final sample consisted of 171 ads, with 70 cigarette ads, 44 snuff ads, 27 e-cigarette ads, 22 cigar ads, and 8 snus ads.

As a preliminary analytic step, all NCTP and cigarette ads that were sent by Kantar Media and met the search criteria (ie, distinct, tobacco product ad, published between August 2012 to August 2013) were downloaded. Besides each ad in original colors, we also received

information about a) type of product including product name, headline or slogan of the ad, brand name, and parent company; and b) details about the magazine where the ad was published including magazine name, number of times the ad was published, date(s) of publication, and dollar amount spent on each ad publication. First, we collapsed the data together to create a database, where each ad was identified with an ID and the slogan/headline, followed by product name, parent company, brand name, the magazines in which the ad was published, number of times the ad was published in each magazine, and the total amount of dollars spent on the ad. Then, we ran descriptive analyses including frequencies and crosstabs to analyze the frequencies and sums of ads by product type.

## Content Analysis

We used a deductive approach to coding to analyze the tobacco product ads. The structure of analysis was operationalized based on prior content analyses,<sup>12,29–33</sup> (exception: coding categories for warning labels were derived from relevant regulation for warning labels in the US<sup>34–36</sup>) and consisted of two broad categories: the physical composition/format of the ad (including coding for size of ad, image, slogan, product placement, setting, branding, use of color, non-traditional image size, and warning label) and the content of the ad (including coding for rhetorical themes and persuasive themes). Table 1 presents the coding scheme and includes a list of coding categories and definitions.

**Coding procedures**—In this study, the unit of analysis was the NCTP or cigarette print magazine ad. Two research assistants were first trained to apply the coding scheme (Table 1) reliably, followed by the actual coding of each distinct ad. Consistent with coding procedures recommended by Bylund et al. (2010),<sup>37</sup> the coders began by coding 10% of the ads ( $n = 17$  ads were double-coded) independently to test for inter-coder reliability. After establishing reliability, each coder independently coded 20% ads ( $n = 34$  ads each). At this stage, half of the ads were coded, and we performed a second inter-coder reliability check on 10% of the ads ( $n = 18$  ads were double-coded) to test for coder drift. After establishing reliability, each coder independently coded the remaining 20% ads ( $n = 34$  ads each).

We utilized Krippendorff's alpha to calculate inter-coder reliability.<sup>38,39</sup> Krippendorff's alpha values should be above 0.8, with values above 0.7 considered acceptable for studies that require agreement of multiple observers/coders.<sup>40</sup> Reliability coefficients for all coded variables exceeded acceptable levels, with values ranging from .75 to 1.00. Any disagreements were resolved by a third coder, resulting in 100% final agreement.

## RESULTS

### Preliminary Data Analysis

A total of 1,118 NCTP and cigarette ads (approximating 171 unique ads) were advertised in print magazines from August 2012 to August 2013 (see Table 2). The highest amount of money spent on magazine ads was for cigarettes (\$90,331,275), followed by ads for e-cigarettes (\$39,826,834), moist snuff (\$27,139,402), cigars (\$8,959,340), and snus (\$6,141,912). Tobacco product brands with the largest number of ads in each product category were as follows: Newport (for cigarettes), Blu (for e-cigarettes), Grizzly (for moist

snuff), Macanudo (for cigars), and Camel (for snus). Additionally, the distribution of tobacco product ads in all magazines is presented in Table 3.

### Substantive Data Analysis

**Physical composition/format of the ad**—The coding for physical composition of the ad included size of ad, image, slogan, product placement, setting, branding, use of color, non-traditional image size, and warning label. Whereas ads incorporated a range of physical attributes (see Table 4), there were some similarities and differences in physical composition of the ads by the type of tobacco product. Similarities in physical composition of the ad were evident where-in a majority of ads for all tobacco products were full page ads (ranging from 64% cigar ads, 75% snus ads, 77% moist snuff ads, and 89% cigarette and e-cigarette ads), included an image of the advertised product (in 87% cigarette ads, 93% moist snuff ads, and 100% cigar, e-cigarette, and snus ads), strategically placed the advertised product in a way that draws attention (in 77% cigar ads, 87–88% cigarette and cigar ads, and 93% e-cigarette and moist snuff ads), did not use a non-traditional size of the advertised product (ranging from 0% snus ads, 7% cigarette and e-cigarette ads, 14% moist snuff ads, and 18% cigar ads), and clearly labeled the brand name of the advertised product (86% cigar ads, and 100% cigarette, e-cigarette, snus, and moist snuff ads).

Differences in physical characteristics/format included type of slogan used to convey the meaning of the ad, use of colors, and use of warning labels. Whereas a majority of cigarette (71%) and cigar ads (59%) used a stand-alone slogan, where written words convey the main message of the ad without reference to the image (e.g., “Camel crush experience: Squeeze the filter, click the capsule, change the flavor”; “Arturo Fuente: The reigning family of premium cigars”; “Newport non-menthol cigarettes: Pleasure tastes great in red”), a majority of e-cigarette (93%) and moist snuff ads (93%) utilized an image-dependent slogan, where written words convey the message of the ad only in conjunction with the image (e.g., “If you can’t fix it with a hammer, you’ve got an electrical problem”; “Man rule #1: Make your own rules”; “Some choices are hard...this is easy”). Snus ads equally made use of stand-alone (50%; e.g., “Are you snus’n?”; “Not all snus is created equal”) and image-dependent slogan (50%; e.g., “Cavemen created fire, we made it unnecessary”; “Go your own speed. That’s when you find what you’re looking for”).

Differences were also evident in use of color. Whereas a majority of cigarette (80%), cigar (59%), e-cigarette (85%), and snus (88%) ads utilized 6 or more colors in their ads, moist snuff ads (89%) used only 3–5 colors. Table 4 provides a distribution of specific warning labels used for the tobacco product ads. Other warning labels not included in our content analysis coding but came up in a few of the e-cigarette ads were: 18+ ID required/not for sale to minors; Blu cigs are not a smoking cessation product and have not been evaluated by the Food and Drug Administration, nor are they intended to treat, prevent or cure any disease or condition (n = 2 e-cig ad). Two ads for Mystic e-cigarettes included a whole warning paragraph, with words written in a very small font, “Mystic electronic cigarettes are intended for use by smokers of legal age (18 or older in California), and not by children, women who are pregnant or breast feeding, or persons who are at risk of heart disease, high blood pressure, diabetes...” Finally, two cigarette ads included an extra warning besides the

ones specified in the coding manual, “no additives in our tobacco does NOT mean a safer cigarette.”

**Content of the Ads**—Content coding included rhetorical and persuasive themes (see Table 1). The utilization of rhetorical themes varied by product type (see Table 4). The theme of pathos was most frequently utilized for cigarette ads (61%), cigar ads (50%), and moist snuff ads (50%), and the theme of logos was most frequently used for e-cigarette ads (85%). Snus ads did not utilize any one dominant theme: pathos (25% ads), logos (37.5% ads), and ethos (37.5% ads).

Use of persuasive themes also varied by product type. The most frequently used persuasive theme were: conventional reasons to buy (89% cigarette ads, 73% cigar ads, 85% e-cigarette ads, 88% snus ads, and 32% moist snuff ads), comparative reasons to buy (66% cigarette ads, 18% cigar ads, 89% e-cigarette ads, 88% snus ads, and 7% moist snuff ads), and sex role model endorsement (37% cigarette ads, 27% cigar ads, 56% e-cigarette ads, 25% snus ads, and 96% moist snuff ads).

## DISCUSSION

This study presents a content analysis of 171 print tobacco ads in popular magazines. Three major conclusions emerge from this analysis. First, print ads for e-cigarettes have become prolific, and only second to cigarettes. In a 12-month period, the cigarette and e-cigarette industries spent almost \$130 million on print advertising. Although we did not have comparable data on money spent on other forms of advertising, recent research clearly documents that overall the largest spent for e-cigarette promotions occurs for print advertising, followed by money spent on television ads.<sup>8</sup> These findings contribute to the body of literature showing the growth in the advertising and promotion of poly-tobacco products.<sup>8,25</sup> This sheer magnitude of advertising, particularly for e-cigarettes may potentially (1) initiate new users among those who have never smoked or used e-cigarettes before; (2) initiate e-cigarette use among former smokers, who eventually relapse back to conventional cigarettes; and (3) encourage “dual use” among current cigarette users to use e-cigarettes in areas where smoking is not permitted, and maintaining nicotine addiction.<sup>8,41</sup> E-cigarettes are growing in popularity, as evidenced by substantial increases in electronic search queries,<sup>42</sup> product awareness,<sup>43</sup> exposure to print and television e-cigarette ads,<sup>13</sup> perceptions of e-cigarettes as being less harmful than conventional cigarettes,<sup>44</sup> and in motivating initiation, trial/experimentation and use of e-cigarettes.<sup>3,6,45</sup> In an effort to maintain tobacco cessation efforts and advances in tobacco use reduction, more research examining the influence of such advertising on people’s perception or use of e-cigarettes (and other tobacco products) is warranted.

Second, tobacco companies are utilizing a number of advertising techniques to develop the ads and market their products. Examining the composition of ads is important because ads have attractive visuals that capture people’s attention. An analysis of the physical properties of the ads demonstrated that a majority of all tobacco product ads were full-page ads, included an image of the advertised product, placed the product in a way that drew attention, used a variety of colors, included the brand name, and placed the ad in a variety of settings.

Physical construction of the ads by utilizing these techniques do increase the attention-grabbing quality of the ads, but a deconstruction of such techniques is useful for helping people, particularly young adults and adolescents to become wary of advertising tactics and motives. This finding is beyond the scope of what FDA can do, but is informative for public health scholars, particularly those developing interventions for preventing tobacco use among the youngsters.

In order to increase skepticism about tobacco marketing and claims among would-be tobacco product users, it is important to teach skills to decode the tobacco ads and decipher meaning.<sup>29</sup> One such key technique is medic literacy, defined as the ability to access, analyze, evaluate, and produce media in a variety of different forms.<sup>46</sup> Media literacy advocates a critical analysis of various kinds of mass media messages, identification of the functions of the media, and engagement that encourages students to critically and consciously examine media messages.<sup>47</sup> The current study provides us with a library of tobacco ads that could be further used as stimuli in media literacy workshops to increase critical thinking about tobacco marketing.

Third, tobacco companies are using different rhetorical themes for varied tobacco product promotions. Whereas e-cigarettes are being primarily marketed with use of logical reasoning and claims, particularly in comparison with traditional combustible cigarettes (e.g., “no smoke, only vapor,” “smoke them virtually anywhere,” “don’t break your budget,” and “provides the best taste and experience”), moist snuff ads (all print ads were for Grizzly) are primarily being marketed to elicit an emotional response, particularly with the use of wit and sarcasm (e.g., “If you can’t be the best golfer, at least you can be the best swearer,” “softball is a good excuse for guys to drink beer in the same shirt,” and “Women have spas. Men have firing ranges”). Use of emotional appeals is also evident in ads for cigarettes and cigars, albeit with different persuasive messages. Whereas ads for cigarettes utilize a variety of emotional appeals including pleasure and happiness, relaxation, and good quality product, ads for cigars focus more on a high quality, premium, and first-class product. Overall, it is evident that whereas all traditional tobacco products are marketed with the use of emotional appeals (pathos theme), ads for e-cigarettes follow a different norm and are marketed with use of logical or rational appeals (logos theme). This marketing technique not only places e-cigarettes in a separate category than most traditional tobacco products, but also draws attention to it by making extensive comparisons with traditional cigarettes.

Use of different rhetoric themes and messages for selling tobacco products helps in creating a niche market for particular tobacco brands. For instance, Delnevo et al. (2012)<sup>48</sup> rationalizes the popularity of Grizzly among educated male subjects, under the age of 30, and explains that, “The success of a value brand among image conscious youth may seem surprising but it appears that Grizzly may have succeeded in portraying the image of a premium quality product offered at a value price in a way that is attractive to this segment of the population” (p. 5). As well, recent research indicates an increase in use of multiple tobacco products, with a majority of adolescents and young adults (particularly males) using products that fall outside current FDA regulatory authority.<sup>49</sup> Allowing unregulated market penetration of multiple types of tobacco products is dangerous because it not only



renormalizes tobacco use but also provides multiple options for tobacco use initiation among adolescents and young adults.

### Limitations of the Study

Given that we only content analyzed magazine print ads, we cannot conclusively comment upon all the marketing and promotion strategies of tobacco companies. However, given that we analyzed a year's worth of magazine print ads for all tobacco products, we can make some recommendations for tobacco product print advertising and marketing regulation. We did not have data on reach and target audience for all the magazines, so could not provide comprehensive demographic reach of the tobacco product ads. Finally, given the descriptive nature of the study, we did not have data on the impact of these ads on people.

Despite these limitations, the current study is the first one to comprehensively analyze print magazine advertising for all current tobacco products. Given the extensive marketing for all tobacco products, future research into demographic reach of tobacco ads and impact of ads, particularly on adolescents and young adults is paramount. The results of the current study have implications for guiding FDA tobacco regulatory policy, particularly around the promotion and marketing of tobacco products. As well, the current study provides the foundation for developing counter-attitudinal/counter-marketing interventions to debunk the marketing promises and appeal of tobacco products.

### Implications for Tobacco Regulatory Science

The current study has implications for tobacco product advertising and marketing regulation. The 2009, U.S. Family Smoking Prevention and Tobacco Control Act gave the FDA the authority to regulate tobacco products, but these regulations did not apply to e-cigarettes or cigars. Not until recently, did the FDA propose governance of other tobacco products, including regulatory requirements for age restrictions, inclusion of health warnings, and rigorous scientific review of new tobacco products and claims to reduce tobacco-related disease and death.<sup>50</sup> Given that our content analysis indicated a lack of warnings in current e-cigarette and cigar ads, we recommend inclusion of warning labels for all tobacco product ads so as to achieve compliance with the emerging FDA tobacco regulation.

The Tobacco Control Act limits tobacco advertising in publications with a large youth readership,<sup>20,21</sup> but a review of past research<sup>12,51,52</sup> on teen and youth readership clearly identifies the following magazines for which youth and young adult (ie 12–17 and 18–24 year olds) readership has been on an average more than two million/year or for which teen percentage of audience has been more than 10%: Car & Driver, Ebony, Elle, Entertainment Weekly, ESPN Magazine, Essence, Field & Stream, Glamour, GQ, Harper's Bazaar, Hot Rod, In Style, Jet, Marie Claire, Motor Trend, Outdoor Life, People, Popular Mechanics, Popular Science, Rolling Stone, SKI, Spin, Sports Illustrated, Star, TV Guide, and Vogue. As is clearly evident from Table 3, all these magazines contained ads for cigarettes, cigars, e-cigarettes, moist snuff, and snus. A clear regulatory guideline and strict enforcement that prohibits tobacco advertising in publications with a 10% or more youth and young adult readership will prevent youth access and reach to NCTP print ads.

Additionally, the Tobacco Control Act prohibits false or misleading labels, labeling, and advertising for tobacco products, such as modified risk (unless approved by the FDA) or therapeutic claims. In our content analysis, we found consistent use of comparative claims, particularly for snus (such as, “spit-free,” “smoke-free,” and “drama-free”) and e-cigarettes (such as, “no tobacco smoke, only vapor,” “no odor, no ash,” and “you get to keep the things you like about smoking, while losing the things you don’t”). Comparative claims were also used in cigarette ads, primarily to highlight availability in different flavors (such as “bold,” “menthol,” and “gold”). While these comparative claims did not explicitly state modified risk, we believe that they implicitly conveyed messages about modified risk. A future study of how these comparative claims affect consumer perceptions regarding modified risk and therapeutic claims will aid in our understanding of the implied messages conveyed by snus, e-cigarette, and cigarette ads, and further provide recommendations to FDA about prohibiting use of comparative claims that may explicitly or implicitly convey erroneous modified risk messages.

The current study also provides implications for future tobacco control research. A comparative study of marketing influences on tobacco use initiation, single tobacco product use, dual tobacco product use, or poly-tobacco product use behaviors will provide much-needed data to guide FDA tobacco regulatory policy. Finally, the study provides implications for close monitoring of advertising marketing practices of tobacco companies by including other media outlets such as billboards, radio, television, and also direct mail.

### Human Subjects Statement

Research reported in this paper was deemed exempt from human subjects review.

### Acknowledgments

Research reported in this paper was supported by National Institute of Drug Abuse (1R03DA035242-01) FDA Center for Tobacco Products (CTP). The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or the Food and Drug Administration.

Authors would like to thank Joshua Pulinat for assistance with maintaining the ad database and coding.

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**Table 1**

Coding categories and definitions used for NCTP and cigarette print magazine ad coding.

Coding Category	Definition	Coded As
1. Size of ad*	Size of the tobacco product ad relative to a full size page in the magazine (one answer option for each ad). 1 Full page: Ad occupying a full page of the magazine. 2 Half page: Ad occupying half page of the magazine. 3 Quarter page: Ad occupying quarter page of the magazine. 4 Other: Ad size not conforming to full page, half page, or quarter page sizes.	1 = Full page 2 = Half page 3 = Quarter page 4 = Other
2. Image content**	The type of imagery in the ad (more than one answer option per ad).	N/A
2a. Human beings	Image contains photographs of people.	0 = Absent 1 = Present
2b. Photographic artwork	Image contains photographic artwork (artwork done to enhance the overall ad image).	0 = Absent 1 = Present
2c. Advertised product	Image contains the advertised product.	0 = Absent 1 = Present
2d. Cartoon characters	Image contains cartoon character(s).	0 = Absent 1 = Present
3. Use of slogan	Written words that communicate the essence of the ad's selling proposition	0 = Absent 1 = Present
4. Type of slogan*	Type of slogan used in the ad (one answer option for each ad). 1 Stand-alone slogan: Written words in the ad communicate the message of the ad clearly, without reference to the image. 2 Image-dependent slogan: Written words in the ad communicate the message of the ad only in conjunction with the image.	1 = Stand-alone slogan 2 = Image-dependent slogan
5. Product placement	Placement of the advertised product (either image of the tobacco product or wording that specifies the tobacco product) in the middle of the ad or in a way that draws attention.	0 = Absent 1 = Present
6. Setting in the ad	Visual depiction of a clear setting or location in the ad.	0 = Absent 1 = Present
7. Type of setting**	Type of setting(s) depicted in the ad (more than one answer option per ad).	N/A
7a. Party/social gathering	Visuals in the ad that depict a party scene, prom scene, or social gathering.	0 = Absent 1 = Present
7b. Adventure/active outdoors	Visuals in the ad that depict adventurous outdoors, such as hiking, biking, mountain climbing, camping, etc.	0 = Absent 1 = Present

Coding Category	Definition	Coded As
7c. Nature/passive outdoors	Visuals in the ad that depict wilderness, nature, and/or passive activities, such as sitting alone in wilderness, shots of natural surroundings, serene waterfall, etc.	0 = Absent 1 = Present
7d. Beach	Visuals in the ad that depict a beach.	0 = Absent 1 = Present
7e. Airport	Visuals in the ad that depict an airport or runway.	0 = Absent 1 = Present
7f. Home	Visuals in the ad that depict interiors or exteriors of a home.	0 = Absent 1 = Present
7g. Hospital/Medical	Visuals in the ad that depict a hospital, doctor's clinic, or any medical apparatus.	0 = Absent 1 = Present
7h. Sporting event	Visuals in the ad that depict a sporting event, such as basketball, soccer, tennis, etc.	0 = Absent 1 = Present
7i. Office/ meeting place/conference room	Visuals in the ad that depict an office scene, meeting place, or conference room.	0 = Absent 1 = Present
7j. Bar/restaurant	Visuals in the ad that depict a bar or a restaurant.	0 = Absent 1 = Present
7k. Any other	Any other setting besides the options provided.	Write out the setting described
8. Branding	Clearly identifiable product brand name or brand logo in the ad.	0 = Absent 1 = Present
9. Frequency of brand name (open-ended response option)	Number of times the brand name or brand logo is identifiable in the ad.	Write out the number written
10. Use of color*	Use of color in the ad (one answer option for each ad). <ol style="list-style-type: none"> <li>1 1-2 colors: Count of 1-2 colors used in the ad.</li> <li>2 3-5 colors: Count of 3-5 colors used in the ad.</li> <li>3 6 or more colors: Count of 6 or more colors used in the ad.</li> </ol>	0 = 1-2 colors 1 = 3-5 colors 2 = 6 or more colors
11. Image size	Non-traditional size of the tobacco product to illustrate the main point in the ad (e.g., cigarette pack or snus pack larger than the human person).	0 = Absent 1 = Present
12. Warning label	Inclusion of a warning label in the ad.	0 = Absent 1 = Present
13. Type of warning label*	Type of warning label in the ad (one answer option for each ad). <ol style="list-style-type: none"> <li>1 Smoking Causes Lung Cancer, Heart Disease, Emphysema, And May Complicate Pregnancy</li> <li>2 Quitting Smoking Now Greatly Reduces Serious Risks to Your Health</li> <li>3 Smoking By Pregnant Women May Result in Fetal Injury, Premature Birth, And Low Birth Weight</li> <li>4 Cigarette Smoke Contains Carbon Monoxide</li> </ol>	1 = 15, corresponding with the specific warning labels

Coding Category	Definition	Coded As
	<p><b>5</b> Cigar Smoking Can Cause Cancers Of The Mouth And Throat, Even If You Do Not Inhale</p> <p><b>6</b> Cigars Are Not A Safe Alternative To Cigarettes</p> <p><b>7</b> Tobacco Smoke Increases The Risk Of Lung Cancer And Heart Disease, Even In Nonsmokers</p> <p><b>8</b> Cigar Smoking Can Cause Lung Cancer And Heart Disease</p> <p><b>9</b> Tobacco Use Increases The Risk Of Infertility, Stillbirth, And Low Birth Weight</p> <p><b>10</b> This Product Contains/Produces Chemicals Known To The State Of California To Cause Cancer, And Birth Defects Or Other Reproductive Harm</p> <p><b>11</b> This product can cause mouth cancer</p> <p><b>12</b> This product can cause gum disease and tooth loss</p> <p><b>13</b> This product is not a safe alternative to cigarettes</p> <p><b>14</b> Smokeless tobacco is addictive</p> <p><b>15</b> Any other...please write out</p>	
	<b>Content of the Ads</b>	
14. Rhetorical themes*	<p>The ability to convey your audience that your ideas are valid, or more valid than someone else's (one answer option for each ad).</p> <p><b>1</b> Pathos: Designed to elicit an emotional response by creating a pleasant mood (beautiful scenery), enhancing one's ego (using tobacco with attractive people around), reminding of responsibilities (e.g., using tobacco to show social stature/power), or offering bonuses (free samples, coupons for product, etc.).</p> <p><b>2</b> Logos: Focusing attention on the claim being made by encouraging acceptance of the position by logic or facts (e.g., use smokeless tobacco because it produces no smoke, use dissolvables because of low nicotine and multiple flavors to choose from, etc).</p> <p><b>3</b> Ethos: Focusing attention on the source of the information (the tobacco company).</p> <p><b>4</b> Unknown/undecided: Unable to discern the key theme.</p>	<p>1 = Pathos 2 = Logos 3 = Ethos 4 = Unknown</p>
15. Persuasive themes**	<p>The identification of the main text message of the ad as it explicitly adheres to the following ideas (more than one answer option per ad).</p>	N/A
15a. Conventional reasons	<p>Utilization of conventional theme for the product including a high quality product, available at a good economic deal, and for consumer satisfaction</p>	<p>0 = Absent 1 = Present</p>
15b. Comparative reasons	<p>Utilization of comparative theme for the product including portrayal of product as different (and therefore, less harmful) than other tobacco products including freedom from smoking restrictions, smoke free, spit free, appeal for embracing change, exerting your independence, and varied flavor varieties to choose from.</p>	<p>0 = Absent 1 = Present</p>
15c. Lifestyle factors	<p>Utilization of lifestyle factors theme portraying their product as an enhancement of users' lifestyle including bold/lively, glamour/luxury, and pure scene.</p>	<p>0 = Absent 1 = Present</p>
15d. Sex role model endorsement	<p>Utilization of masculine or feminine sex role model endorsement theme for the product including portrayal as masculine or feminine in image or product character. The presence of a model of either sex is, of course, is often very suggestive of the target market or typical consumer of the brand, but not always. Also, judgments about the appropriateness of the brand for either sex may derive from the choice and</p>	<p>0 = Absent 1 = Present</p>



Coding Category	Definition	Coded As
15e. Benefits of use	style of props, settings, décor, and design elements. Utilization of benefits of use theme alludes to tobacco use leading to good health and relaxation.	0 = Absent 1 = Present
15f. Social reasons for use	Utilization of social reasons for use identifies messages such as assertion that tobacco use is legitimate because of use by authority figures (such as doctors, lawyers, scientists), and/or due to popularity and use by the common man.	0 = Absent 1 = Present

Note: For all items marked with an asterisk (\*), only one valid answer option per ad. For all items marked with a double asterisk (\*\*), more than one answer options per ad.

**Table 2**

Number of ads, unique ads, and total money spent on tobacco magazine ads, from August 2012-August 2013.

<b>Tobacco Product</b>	<b>Number of Ads</b>	<b>Number of Unique Ads</b>	<b>Total Money Spent on Magazine Ads (in Dollars)</b>
Cigarettes	588	70	90,331,275
Camel/Camel Crush	167	19	34,518,981
Natural American Spirit	182	11	30,794,756
Newport	239	40	25,017,538
E-Cigarettes	272	27	39,826,834
Blu	182	9	30,507,975
FIN	43	3	5,449,987
Mistic	37	10	2,265,068
Njoy	8	4	1,430,994
Cigirex	2	1	172,810
Moist Snuff	139	44	27,139,402
Grizzly	139	44	27,139,402
Cigars	87	22	8,959,340
Macanudo	24	2	3,986,511
Cigars International Club	20	4	3,350,456
Cohiba	7	1	697,610
Arturo Fuente	18	4	435,420
Partagas	2	1	217,990
Padron	3	1	100,530
La Palina	1	1	67,020
My Father Cigars	4	2	66,296
Cigar Cigars Store	5	3	26,682
Signature Cigars Store	1	1	6,045
JR Cigars Shop	2	2	4,780
Snus	32	8	6,141,912
Camel	25	3	4,999,249
General	7	7	1,142,663

**Table 3**

Distribution of tobacco product ads in all magazines.

Magazine	Tobacco Product	Brand	Number of Ads	Spend
American Profile	E-cig	FIN	3	763,290
American Way	Cigar	Arturo Fuente	14	335,400
Architectural Digest	Cigarette	Natural American Spirit	8	970,140
Atlantic, The	Cigarette	Natural American Spirit	5	316,251
Automobile Magazine	E-cigs	Blu	2	234,090
Autoweek	Cigarettes	Newport	7	253,033
Bon Appetit	Cigarettes	Natural American Spirit	5	950,193
Car & Driver*	Cigarettes	Newport	3	619,392
	Cigarettes	Camel/Camel Crush	5	1,238,784
	Cigarettes	Natural American Spirit	2	412,928
	Cigars	Cigars International Club	1	123,882
	Cigars	MacAnudo	2	393,264
	E-Cigs	Blu	5	1,032,320
	Moist Snuff	Grizzly	11	2,971,108
Celebrated Living	Cigars	Arturo Fuente	2	33,000
Cleveland Magazine	Cigars	Cigar Cigars Store	5	26,682
Conde Nast Traveler	Cigarettes	Natural American Spirit	2	383,716
Country Weekly	E-Cigs	Mistic	11	93,292
Details	Cigarettes	Camel/Camel Crush	5	504,528
	Cigarettes	Natural American Spirit	4	396,290
Ebony*	Cigarettes	Newport	11	858,624
	Cigarettes	Camel/Camel Crush	5	442,728
Elle*	Cigarettes	Natural American Spirit	6	999,345
Entertainment Weekly*	Cigarettes	Newport	13	2,463,000
	Cigarettes	Camel/Camel Crush	8	1,704,600
	Cigarettes	Natural American Spirit	9	1,748,200
	E-Cigs	Blu	9	1,704,600
	Snus	Camel	3	557,400
ESPN Magazine*	Cigarettes	Newport	7	1,238,406

Magazine	Tobacco Product	Brand	Number of Ads	Spend
	Cigarettes	Camel/Camel Crush	6	1,662,052
	Cigars	Cigars International Club	1	52,376
	Cigars	Mac Anudo	2	465,560
	E-Cigs	Blu	2	474,872
	E-Cigs	Fin	4	802,564
	E-Cigs	Njoy	1	237,436
	Moist Snuff	Grizzly	17	4,265,533
Esquire	Cigarettes	Camel/Camel Crush	5	855,257
	Cigarettes	Natural American Spirit	5	661,958
	Cigars	Cohiba	4	432,273
	E-Cigs	Blu	5	656,936
Essence*	Cigarettes	Newport	10	1,047,500
	Cigarettes	Camel/Camel Crush	5	646,800
Family Handyman	Cigarettes	Natural American Spirit	3	339,480
Field & Stream*	Cigarettes	Newport	3	483,780
	Cigarettes	Camel/Camel Crush	5	975,590
	Cigarettes	Natural American Spirit	8	1,348,410
	Cigars	Macanudo	2	297,220
	E-Cigs	Blu	3	460,790
	E-Cigs	Mistic	3	390,720
	Moist Snuff	Grizzly	14	2,140,820
	Snus	Camel	2	312,180
Forbes	Cigars	Cohiba	2	247,837
Fortune	Cigarettes	Natural American Spirit	2	289,380
Glamour*	Cigarettes	Camel/Camel Crush	5	1,377,654
	Cigarettes	Natural American Spirit	10	1,940,931
Golf Digest	Cigarettes	Natural American Spirit	2	323,380
	Cigars	Macanudo	4	1,333,943
	Moist Snuff	Grizzly	4	244,047
Golf Magazine	Cigarettes	Camel/Camel Crush	5	1,230,174
	Cigars	Macanudo	5	585,900
	Moist Snuff	Grizzly	7	1,022,900
Golf World	Cigars	Macanudo	2	84,916
GQ*	Cigarettes	Camel/Camel Crush	5	1,014,576
	Cigarettes	Natural American Spirit	4	780,389

Magazine	Tobacco Product	Brand	Number of Ads	Spend
Harper's Bazaar*	Cigarettes	Camel Crush	2	402,808
	Cigarettes	Natural American Spirit	5	610,069
Hot Rod*	Cigarettes	Newport	3	276,060
Hour Detroit	Cigars	JR Cigar Store	2	4,780
In Style*	Cigarettes	Newport	1	160,500
	Cigarettes	Camel/Camel Crush	6	1,191,400
	Cigarettes	Natural American Spirit	5	1,001,800
	E-Cigs	Fin	2	340,400
In Touch Weekly	Cigarettes	Newport	19	1,917,246
	Cigarettes	Camel/Camel Crush	8	791,568
	E-Cigs	Blu	4	369,380
Jet*	Cigarettes	Newport	19	726,393
Latina	Cigarettes	Camel/Camel Crush	4	247,214
Life & Style Weekly	Cigarettes	Newport	23	1,182,545
	Cigarettes	Camel/Camel Crush	8	434,315
	E-Cigs	Blu	4	194,523
Lucky	Cigarettes	Natural American Spirit	7	948,950
Marie Claire*	E-Cigs	Blu	5	709,275
Maxim	Cigarettes	Newport	6	1,488,865
	Cigarettes	Camel Crush	3	967,200
	Cigarettes	Natural American Spirit	8	1,775,000
	Cigars	Cigar International Club	1	241,800
	E-Cigs	Blu	5	1,361,260
	E-Cigs	Fin	3	580,320
	Moist Snuff	Grizzly	10	2,765,040
	Snus	Camel	2	483,600
	Snus	General	5	1,030,045
Men's Journal	Cigarettes	Camel/Camel Crush	5	686,670
	Cigarettes	Natural American Spirit	6	604,925
	Cigars	MacAnudo	1	108,995
	Cigars	Partagas	2	217,990
	Cigars	Cigars International Club	4	406,552
	E-Cigs	Blu	12	1,346,090
	E-Cigs	FIN	4	457,780

Magazine	Tobacco Product	Brand	Number of Ads	Spend
	Snus	Camel	3	343,335
Motor Trend *	Cigarettes	Newport	2	394,680
	Cigars	Cigars International Club	1	128,280
	E-Cigs	Blu	2	394,680
	Moist Snuff	Grizzly	13	3,058,385
National Enquirer	Cigarettes	Newport	33	1,688,460
New York Magazine	E-Cigs	Njoy	1	88,424
Newsweek	Cigarettes	Natural American Spirit	5	1,016,880
Ocean Drive Magazine	Cigars	Cohiba	1	17,500
OK Weekly	E-Cigs	Blu	9	511,295
	E-Cigs	Cigirex	1	63,645
	E-Cigs	FIN	9	454,610
Out	Cigarettes	Camel/Camel Crush	2	76,153
	Cigarettes	Natural American Spirit	4	125,967
	E-Cigs	Njoy	3	114,230
Outdoor Life *	Cigarettes	Camel/Camel Crush	5	555,390
	Cigarettes	Natural American Spirit	5	470,140
	Cigar	Cigars International Club	1	58,740
	Moist Snuff	Grizzly	12	1,212,750
	Snus	Camel	2	207,790
People *	Cigarettes	Newport	15	2,632,080
	Cigarettes	Camel/Camel Crush	10	3,359,457
	E-Cigs	Blu	1	44,900
	E-Cigs	Mistic	6	468,537
People En Espanol	Cigarettes	Camel Crush	3	237,300
People Style Watch	Cigarettes	Newport	1	81,000
Playboy	Cigarettes	Camel Crush	3	459,712
	Cigarettes	Natural American Spirit	9	1,132,174
	Cigarettes	Newport	3	367,770
	Cigars	Cigars International Club	1	44,940
	Cigars	Macanudo	2	199,458
	E-Cigs	Blu	11	1,106,574
	E-Cigs	FIN	2	229,856
	Moist Snuff	Grizzly	12	1,766,998
	Snus	Camel	2	229,856

Magazine	Tobacco Product	Brand	Number of Ads	Spend
Popular Mechanics *	Cigarettes	Camel Crush	2	447,780
	Cigarettes	Natural American Spirit	8	1,344,210
	Cigarettes	Newport	3	447,780
	Cigars	Macanudo	3	447,600
	E-Cigs	Blu	9	1,322,010
	Moist Snuff	Grizzly	12	2,365,220
Popular Photography	Cigarettes	Natural American Spirit	3	183,100
Popular Science *	Cigarettes	Camel/Camel Crush	3	430,800
	Cigarettes	Natural American Spirit	8	1,159,900
	E-Cigs	Blu	5	718,000
Robb Report	Cigars	Artuto Fuente	2	67,020
	Cigars	La Palina	1	67,020
	Cigars	My Father Cigars	4	66,296
	Cigars	Padron	3	100,530
Rolling Stone *	Cigarettes	Camel/Camel Crush	8	2,035,202
	Cigarettes	Natural American Spirit	9	1,886,474
	Cigars	Cigars International Club	3	356,955
	E-Cigs	Blu	15	2,984,195
	E-Cigs	FIN	2	403,010
	E-Cigs	Njoy	1	201,505
	Moist Snuff	Grizzly	14	2,321,147
	Snus	Camel	4	796,425
SKI *	Snus	General	2	112,618
Smart Money	Cigars	Cigars International Club	1	97,588
Soap Opera Digest	Cigarettes	Newport	25	297,760
	E-Cigs	Mistic	6	58,200
Southern Living	E-Cigs	Mistic	3	325,900
Spin *	Cigarettes	Natural American Spirit	1	23,730
	E-Cigs	Blu	1	55,220
Sports Illustrated *	Cigarettes	Camel/Camel Crush	10	4,818,740
	Cigarettes	Newport	9	2,491,800
	Cigars	Cigars International Club	2	785,434
	E-Cigs	Blu	9	3,524,813
	E-Cigs	Njoy	2	789,400

Magazine	Tobacco Product	Brand	Number of Ads	Spend
	Moist Snuff	Grizzly	14	3,005,454
	Snus	Camel	3	1,197,973
Star*	Cigarettes	Camel/Camel Crush	4	573,100
	Cigarettes	Newport	7	840,565
	E-Cigs	Blu	25	2,877,520
	E-Cigs	Cigirex	1	109,165
	E-Cigs	FIN	8	641,900
	E-Cigs	Mistic	8	928,420
Time	Cigarettes	Natural American Spirit	10	3,782,070
	Cigars	Cigars International Club	3	998,900
	E-Cigs	Blu	8	2,664,872
TV Guide*	Cigarettes	Newport	16	3,060,300
US Airways Magazine	Cigars	Macanudo	3	69,656
US Weekly	Cigarettes	Camel/Camel Crush	8	2,224,980
	Cigarettes	Natural American Spirit	10	2,279,531
	E-Cigs	Blu	30	5,643,750
	Snus	Camel	4	870,690
USA Weekend	Cigars	Cigars International Club	1	55,009
	E-Cigs	FIN	5	574,752
Vanity Fair	Cigarettes	Camel/Camel Crush	6	1,386,693
Vogue*	Cigarettes	Camel/Camel Crush	5	1,038,450
W	Cigarettes	Natural American Spirit	1	106,168
Washingtonian Magazine	Cigar	Signature Cigar Store	1	6,045
Wired	Cigarettes	Camel Crush	3	501,308
	Cigarettes	Natural American Spirit	3	482,678
	E-Cigs	Blu	1	116,012

\* Magazines identified in prior studies<sup>12,51,52</sup> for which youth and young adult (ie, 12–17 and 18–24 year olds) readership has been on an average more than two million/year or for which teen percentage of audience has been more than 10%.



**Table 4**

Frequency and distribution of tobacco ad content coding.

Coding Categories	Physical Composition/Format of the Ads						
	Cigarette Ads N = 70 (%)	Cigar Ads N = 22 (%)	E-Cig. Ads N = 27 (%)	Snus Ads N = 8 (%)	Snuff Ads N = 44 (%)		
1. Size of ad*							
1a. Full page	62 (88.57%)	14 (63.63%)	24 (88.89%)	6 (75%)	34 (77.27%)		
1b. Half page	0 (0%)	2 (9.09%)	1 (3.70%)	0 (0%)	0 (0%)		
1c. Quarter page	2 (2.86%)	2 (9.09%)	0 (0%)	0 (0%)	0 (0%)		
1d. Other	6 (8.57%)	4 (18.18%)	2 (7.41%)	2 (25%)	10 (22.73%)		
2. Image content**							
2a. Human beings	47 (67.14%)	11 (50%)	15 (55.55%)	4 (50%)	1 (2.27%)		
2b. Photographic artwork	69 (98.57%)	20 (90.91%)	23 (85.19%)	8 (100%)	13 (29.54%)		
2c. Advertised product	61 (87.14%)	22 (100%)	27 (100%)	8 (100%)	41 (93.18%)		
2d. Cartoon characters	0 (0%)	1 (4.56%)	0 (0%)	0 (0%)	0 (0%)		
3. Use of slogan	70 (100%)	19 (86.36%)	27 (100%)	8 (100%)	44 (100%)		
4. Type of slogan*							
4a. Stand-alone slogan	50 (71.43%)	13 (59.10%)	2 (7.41%)	4 (50%)	3 (6.82%)		
4b. Image-dependent slogan	20 (28.57%)	6 (27.27%)	25 (92.59%)	4 (50%)	41 (93.18%)		
5. Product placement	61 (87.14%)	17 (77.27%)	25 (92.59%)	7 (87.5%)	41 (93.18%)		
6. Setting in the ad	43 (61.43%)	8 (36.36%)	10 (37.04%)	4 (50%)	3 (6.82%)		
7. Type of setting**							
7a. Party/socialization	27 (38.57%)	6 (27.27%)	1 (3.70%)	2 (25%)	0 (0%)		
7b. Adventure/active outdoors	3 (4.28%)	0 (0%)	1 (3.70%)	1 (12.5%)	0 (0%)		
7c. Nature/passive outdoors	6 (8.57%)	5 (22.73%)	3 (11.11%)	1 (12.5%)	2 (4.54%)		
7d. Beach	4 (5.71%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)		
7e. Airport	0 (0%)	0 (0%)	2 (7.41%)	0 (0%)	0 (0%)		
7f. Home	6 (8.57%)	2 (9.09%)	1 (3.70%)	0 (0%)	0 (0%)		

Coding Categories	Cigarette Ads N = 70 (%)	Cigar Ads N = 22 (%)	E-Cig. Ads N = 27 (%)	Sinus Ads N = 8 (%)	Snuff Ads N = 44 (%)
7g. Hospital/Medical	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
7h. Sporting event	3 (4.28%)	1 (4.56%)	0 (0%)	0 (0%)	0 (0%)
7i. Office/ meeting place/conference room	1 (1.42%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
7j. Bar/restaurant	6 (8.57%)	0 (0%)	1 (3.70%)	1 (12.5%)	0 (0%)
8. Branding	70 (100%)	19 (86.36%)	27 (100%)	8 (100%)	44 (100%)
9. Frequency of brand name (open-ended response option)	M = 6.34, SD = 3.20	M = 5.23, SD = 4.07	M = 6.81, SD = 2.83	M = 6.25, SD = 2.87	M = 2.73, SD = 1.25
10. Use of color*					
10a. 1–2 colors	0 (0%)	1 (4.56%)	0 (0%)	0 (0%)	0 (0%)
10b. 3–5 colors	14 (20%)	5 (22.73%)	4 (14.81%)	1 (12.5%)	39 (88.64%)
10c. 6 or more colors	56 (80%)	13 (59.10%)	23 (85.19%)	7 (87.5%)	5 (11.36%)
11. Image size	5 (7.14%)	4 (18.18%)	2 (7.41%)	0 (0%)	6 (13.64%)
12. Warning label^	70 (100%)	7 (31.81%)	4 (14.81%)	8 (100%)	44 (100%)
12a. Smoking causes lung cancer, heart disease, emphysema, and may complicate pregnancy	21 (30%)	1 (4.54%)	0 (0%)	0 (0%)	0 (0%)
12b. Quitting smoking now greatly reduces serious risks to your health	13 (18.57%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
12c. Smoking by pregnant women may result in fetal injury, premature birth, and low birth weight	12 (17.14%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
12d. Cigarette smoke contains carbon monoxide	21 (30%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
12e. Cigars are not a safe alternative to cigarettes	0 (0%)	1 (4.54%)	0 (0%)	0 (0%)	0 (0%)
12f. Tobacco use increases the risk of infertility, stillbirth, and low birth weight	3 (4.28%)	5 (22.73%)	0 (0%)	0 (0%)	0 (0%)
12g. This product can cause mouth cancer	0 (0%)	0 (0%)	0 (0%)	2 (25%)	11 (25%)

Coding Categories	Cigarette Ads N = 70 (%)	Cigar Ads N = 22 (%)	E-Cig. Ads N = 27 (%)	Snus Ads N = 8 (%)	Snuff Ads N = 44 (%)
12h. This product can cause gum disease and tooth loss	0 (0%)	0 (0%)	0 (0%)	1 (12.5%)	14 (31.82%)
12i. This product is not a safe alternative to cigarettes	0 (0%)	0 (0%)	0 (0%)	3 (37.5%)	11 (25%)
12j. Smokeless tobacco is addictive	0 (0%)	0 (0%)	0 (0%)	2 (25%)	8 (18.18%)
12k. Other age restrictions, e-cigs are not a smoking cessation device.	0 (0%)	0 (0%)	4 (14.81%)	0 (0%)	0 (0%)
<b>Content of the Ads</b>					
13. Rhetorical themes*					
13a. Pathos	43 (61.43%)	11 (50%)	4 (14.81%)	2 (25%)	22 (50%)
13b. Logos	15 (21.43%)	2 (9.09%)	23 (85.19%)	3 (37.5%)	1 (2.27%)
13c. Ethos	10 (14.30%)	4 (18.18%)	0 (0%)	3 (37.5%)	3 (6.82%)
13d. Unknown/undecided	2 (2.86%)	2 (9.09%)	0 (0%)	0 (0%)	18 (40.91%)
14. Persuasive themes**					
14a. Conventional reasons	62 (88.57%)	16 (72.73%)	23 (85.19%)	7 (87.5%)	14 (31.82%)
14b. Comparative reasons	46 (65.71%)	4 (18.18%)	24 (88.89%)	7 (87.5%)	3 (6.82%)
14c. Lifestyle factors	19 (27.14%)	4 (18.18%)	4 (14.81%)	1 (12.5%)	3 (6.82%)
14d. Sex role model endorsement	26 (37.14%)	6 (27.27%)	15 (55.56%)	2 (25%)	42 (95.45%)
14e. Benefits of use	3 (4.28%)	2 (9.09%)	1 (3.70%)	1 (12.5%)	0 (0%)
14f. Social reasons	7 (10%)	4 (18.18%)	1 (3.70%)	1 (12.5%)	2 (4.54%)

Note: For all items marked with an asterisk (\*), only one valid answer option per ad. For all items marked with a double asterisk (\*\*), more than one answer options per ad.

<sup>^</sup> None of the ads for any of the tobacco products included these warning labels: cigar smoking can cause cancers of the mouth and throat, even if you do not inhale; tobacco smoke increases the risk of lung cancer and heart disease, even in nonsmokers; cigar smoking can cause lung cancer and heart disease; this product contains/produces chemicals known to the state of California to cause cancer, and birth defects or other reproductive harm.