

Original Investigation

Receptivity to Taboka and Camel Snus in a U.S. test market

Lois Biener & Karen Bogen

Abstract

Introduction: The two largest U.S. cigarette manufacturers introduced Swedish-style low-nitrosamine smokeless tobacco (snus) to several U.S. test markets in summer 2006. Since then, snus brands and test markets have proliferated.

Methods: This article assesses consumer response by analyzing data from the 2006 and 2007 Indiana Adult Tobacco Survey (IATS), a statewide telephone survey of 3,544 adults. During those years, the IATS included questions on awareness and trial of Camel Snus and Taboka. Analyses examined rates and predictors of awareness and trial statewide, and within the central Indiana test market.

Results: Nineteen percent of Indiana adults were aware of either Taboka or Camel Snus in 2006 and 2007. Estimates are larger (29%) for central Indiana and larger still (70%) for central Indiana smokers. Trial of snus, however, was very low (1.5% statewide), except among male smokers in central Indiana, 20% of whom are estimated to have tried it. Multivariate analyses showed that trial was more likely among men than women (odds ratio [OR] 13.85), residents of central Indiana than those farther from Indianapolis (OR 2.96), recipients than nonrecipients of tobacco promotions (OR 6.08), and those believing that smokeless tobacco is less harmful than cigarettes compared with those who believe it is equally or more harmful (OR 3.86).

Discussion: Results from this study suggest substantial initial interest in the new products among male smokers in this test market, especially those who receive promotional mailings from tobacco companies, which often include coupons for free or discounted products.

Introduction

In summer 2006, the two largest U.S. cigarette manufacturers took the groundbreaking step of entering the smokeless tobacco

arena. Philip Morris announced the start of a test market of Taboka in Indianapolis, IN, and R. J. Reynolds announced test markets for Camel Snus in Portland, OR, and Austin, TX. Both of these products are modeled after the smokeless tobacco product used in Sweden and referred to as “snus,” the Swedish word for snuff. These products differ from traditional chewing tobacco, dip, and snuff in that (a) they are lower in tobacco-specific nitrosamines, a major carcinogen in tobacco; (b) they do not require spitting; and (c) they are packaged in small teabag-like pouches that are placed under the upper lip and can be relatively unobtrusive when in use.

It is generally understood that one of the reasons for this movement of cigarette companies into the smokeless tobacco market is the proliferation of restrictions on where cigarettes can be smoked and the declining market for cigarettes in the United States (Levere, 2006). At the same time, growing attention to methods of harm reduction has increased interest in lower nitrosamine smokeless tobacco as a product that, if taken up by smokers in lieu of smoking, could result in greatly reduced morbidity and mortality. There is substantial agreement in the public health community that the low-nitrosamine smokeless products are much less harmful than cigarettes (Levy et al., 2004; Luo et al., 2007; Savitz, Meyer, Tanzer, Mirvish, & Lewin, 2006). Nevertheless, there is a great deal of controversy about whether to disseminate information about the harm-reduction potential of switching from smoking to low-nitrosamine smokeless tobacco use. Many tobacco control professionals feel that to do so would result in a net increase in harm to the population (Hatsukami, Lemmonds, & Tomar, 2004; Tomar, 2007). They maintain that if health agencies promote the switch from cigarettes to smokeless tobacco, they may perpetuate tobacco use among smokers who would otherwise quit and remain tobacco free. The public may interpret “safer” to mean “safe,” and the information could lead to adoption by nonsmokers or recent quitters who would otherwise have stayed off tobacco altogether, and it could serve as a gateway to more harmful combustible tobacco use. Promotion of smokeless tobacco use could also support continued smoking by providing an alternate method for maintaining nicotine levels in situations where smoking is prohibited. In fact, the advertising

Lois Biener, Ph.D., *Center for Survey Research, University of Massachusetts Boston, Boston, MA*
Karen Bogen, Ph.D., *Center for Survey Research, University of Massachusetts Boston, Boston, MA*

Corresponding Author:

Lois Biener, Ph.D., *Center for Survey Research, University of Massachusetts Boston, 100 Morrissey Boulevard, Boston, MA 02125, USA. Telephone: 617-287-7200; Fax 617-287-7210; E-mail: lois.biener@umb.edu*

Present address:

Karen Bogen, *Mathematica Policy Research, Cambridge, MA*

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for these products seems designed to help smokers deal with the problem of proliferating smoke-free workplace bans. Product advertisements encourage adoption with tag lines such as “Pleasure for wherever”; “Snusing is allowed in the following places: in a bar, on a boat, or in your car”; “Instead of a smoke, tuck a Taboka”; “No spit. No smoke. No boundaries.”

Those in favor of providing more detailed health information about low-nitrosamine smokeless products point to the situation in Sweden, where among men, the prevalence of snus use (20%) is higher than that of smoking (17%; Bates et al., 2003), and where (a) there is no evidence that uptake of snus serves as a gateway to smoking, (b) there is evidence that snus use has facilitated smoking cessation, and (c) the lung cancer rate among Swedish men has declined to become the lowest in Europe (Foulds, Ramström, Burke, & Fagerstrom, 2003; Ramström & Foulds, 2006). There is also a compelling argument that health professionals have an ethical obligation to make this information available to the public (Kozlowski & Edwards, 2005).

Although there are strong feelings on each side of the question, virtually no evidence about the population response to the test marketing of the products has been published to date. This article provides the first such evidence by analyzing data from a random-digit-dialed telephone survey of Indiana adults.

Promotion of snus in Indiana

Indianapolis was the only test market for Philip Morris’s first snus product, Taboka. The product was available from August 2006 until March 2008. A survey of a random sample of 41 convenience stores and other tobacco outlets carried out in winter 2006/2007 indicated that the product was available in 90% of the stores and was being heavily marketed with signage and two-for-one offers (Clark et al., 2007). Coupons for free samples of Taboka were seen on packs of Marlboro cigarettes in many of the stores, and consumers on the Marlboro mailing list received coupons and brochures on the new product through the mail (Sneegas, 2008). In March 2007, Camel Snus began test marketing in Indianapolis, making two snus products available there. In addition to point-of-purchase and Internet advertising, Camel Snus was advertised in local newspapers and was distributed for free in area bars.

Questions about awareness and ever use of Taboka were included on the 2006 Indiana Adult Tobacco Survey (IATS), and in 2007, the questions on snus were revised to refer to both Taboka and Camel Snus. This permits an examination of the level of awareness and trial of these new products and a review of the characteristics of the individuals most likely to learn about and try the products. We predicted that awareness (having heard of one of the snus products) would be greater among central Indiana residents than those residing at a greater distance from the test market in Indianapolis; among young adults, who seem to be the target audience; and among those more likely to be exposed to tobacco promotions (i.e., smokers, especially those on mailing lists). We expected that the factors leading to awareness would also significantly affect trial of snus. In addition, we predicted that trial would be higher among men than among women, since use of smokeless tobacco products in general is much more likely among men (Mumford, Levy, Gitchell, & Blackman, 2006; Nelson et al., 2006), and among those who believe that smokeless tobacco is safer than cigarettes.

Methods

Sampling procedures

The IATS, conducted by professional interviewers at the Research Triangle Institute, gathered information from adult residents between November 2006 and March 2007. A second cross-sectional sample was interviewed between October and December for the 2007 IATS. Each year, the survey was designed as a random sample of adults aged 18 years and older. African American and Hispanic adults were oversampled, as were adults in more rural regions of the state. In addition, approximately 50% of the sample was drawn from households for which an address match could be obtained. Cases with an address were sent an advance letter describing the study and asking for their participation. Completed interviews were obtained from 2,030 respondents for the 2006 survey (response rate = 20.9%) and 1,514 for the 2007 survey (response rate = 24.1%).

Analysis methods

The two samples were combined for the current analyses, resulting in a sample size of 3,544. The data were poststratified and weighted to account for the stratified sampling design and to reflect actual demographic breakdowns in Indiana. Estimates of awareness and trial of Taboka or Camel Snus were obtained statewide; for central Indiana counties, which include the city of Indianapolis and surrounding towns; and for various demographic and smoking status subgroups. Bivariate analyses were conducted to describe the characteristics of people most likely to hear about and try snus. Multivariate logistic analyses were conducted to explore factors independently associated with awareness and trial.

Measures

Outcome variables. During the interim between the two IATS data collections analyzed in this article, the snus products available in the Indianapolis test market had changed. At the time of the 2006 data collection, only Taboka was available. The questions on awareness and trial were the following: “Tobacco companies have recently introduced a new product called Taboka. Have you ever heard of this product?” (if yes) “Have you ever tried this product?” By the time of the next year’s data collection, Camel Snus was also in test market there. The questions were changed to include the additional brand name, as well as a description of the nature of the product: “Tobacco companies have recently introduced spitless, smokeless tobacco products called Camel Snus and Taboka. Have you ever heard of either of these products?” (if yes) “Have you ever tried one of these products?”

Predictors

Smoking status. Current smokers were characterized as those reporting that they had smoked 100 cigarettes in their life and currently smoked “some days” or “every day.”

Potential exposure to marketing. The following questions measure potential for exposure to marketing: “What county do you live in?” Responses were categorized into central Indiana residents (i.e., close to Indianapolis, the announced test market) or outside of that region. “During the past 30 days, when you have gone to a convenience store, gas station, or other store,

how often do you see in-store displays or advertisements for cigarettes?” Responses on a 4-point, *often* to *never*, scale were dichotomized into *often* versus *less than often*. “During the past 30 days, have you received things like coupons or other promotional items or free samples at bars or nightclubs from tobacco companies?” (yes/no) “In the past 30 days, did you receive things like coupons or other promotional items in the mail from tobacco companies?” (yes/no).

Perception of harmfulness of smokeless tobacco.

The IATS used a 4-point, *strongly agree* to *strongly disagree*, scale to measure the respondent’s perception of the harmfulness of smokeless tobacco: “Using chewing tobacco or snuff is safer to the individual user than smoking regular cigarettes.” Responses were dichotomized into *strongly agree/agree* versus *disagree/strongly disagree*.

Demographics. The analyses include standard demographic items including gender, a three-category age scale (continuous variable collapsed to 18–30, 31–45, and 45+ years), ethnicity (White, non-Hispanic vs. minority), and education (more than high school vs. high school or less).

Results

Descriptive analyses

Table 1 presents the sample characteristics and the rate of awareness and trial of snus by various subgroups. Statewide, 19.9% of respondents were aware of snus and 1.5% report having tried it. These estimates vary considerably by subgroup. For example, respondents in central Indiana were much more likely to report awareness of snus than those outside of that area (29.1% vs. 16.0%, $p < .001$) and are about twice as likely to have tried it (2.4% vs. 1.1%, $p < .05$). Statewide, the rates of awareness for men (21.2%) and women (18.8%) are relatively similar ($p = .47$), but men are significantly more likely to have tried snus than are women (2.8% vs. 0.2%, $p < .001$). If one examines the population group most likely to be exposed to snus marketing and those most open to trying smokeless tobacco, that is, male smokers in central Indiana, analyses (not shown) indicate that 63.6% had heard of it (95% confidence interval [CI] 48.4–76.6) and 20.3% had tried it (95% CI 10.7–35.3). This constitutes 32% of the male smokers who were aware of snus. By comparison, although 76% of the female smokers in central Indiana had heard of snus, only 1.4% tried it (1.8% of those who had heard of it).

Table 1 also shows that although exposure to tobacco advertising in convenience stores was not significantly associated with awareness of snus, receiving promotional items at bars and clubs and through the mail was. With regard to trial of snus, in addition to the exposure factors associated with awareness, seeing ads in convenience stores was significantly associated with trial of snus. Perception of smokeless tobacco as less harmful than cigarettes was not associated with having heard of snus but was significantly related to trying it. The year of data collection was not associated with either awareness or trial of snus.

Multivariate analyses

Table 2 shows the odds ratios (ORs) resulting from the logistic regression models looking at whether respondents had heard of snus and if they had tried it. The standard demographic vari-

ables, including gender, were not significantly associated with awareness. Residency in central Indiana (OR 2.82), being a smoker (OR 4.50), and having received tobacco promotions in the mail (OR 2.06) were all significantly related to having heard of Taboka or Camel Snus. Other indicators of exposure to tobacco marketing (i.e., seeing ads in convenience stores and promotions in bars) were not significantly associated with awareness, perhaps due to correlation with smoking status and receipt of mail promotions. The perception that smokeless tobacco is less harmful than cigarettes was unrelated to awareness of the new products.

The multivariate analysis predicting trial of snus showed that controlling for all other factors, men were much more likely to try snus than were women (OR 13.83), as were residents of central Indiana compared with those outside the test market area (OR 2.96). Receiving tobacco promotions in the mail increased the likelihood of trying snus sixfold (OR 6.07). Last, those who reported believing that smokeless tobacco is less harmful than cigarettes were significantly more likely to try snus than those who judged smokeless tobacco as being equally or more harmful than cigarettes (OR 3.86).

Discussion

The goal of this article was to begin to move the discussion about snus from a theoretical one, having to do with the potential public health benefits or harms of snus, to a discussion based on actual population response to the new products. This analysis is the first we know of to attempt to quantify the response of consumers to the marketing of the new spitless, smokeless tobacco products in the United States. The data are limited in several ways. First, the survey questions do not permit an estimate of the proportion of the “triers” who went on to use snus regularly. Without an assessment of adoption, it is not possible to investigate other important questions such as (a) whether snus will be used as a replacement for smoking or as only a situational substitute, (b) whether concurrent use leads to reductions in the number of cigarettes smoked, and (c) whether it will increase or decrease dependence on nicotine. Furthermore, the limitation of the sample to adults does not permit an examination of the potential for youth uptake.

Nevertheless, within these limitations, we are able to identify the population groups most receptive to the product and the initial effectiveness of the marketing strategies in use in 2006 and 2007. Our analyses suggest that almost one in five Indiana adults were aware of either Taboka or Camel Snus in 2006 and 2007. Estimates are substantially larger (29%) for the regions closer to the declared test market city of Indianapolis. Furthermore, among central Indiana smokers, the primary target market, the majority of smokers had heard of Taboka or Camel Snus. In spite of the relatively high level of awareness statewide, trial was very low, except among male smokers in central Indiana, 20% of whom are estimated to have tried snus. The relatively low receptivity to snus among women mirrors the experience in Sweden where the rate of female snus use, even after decades of popularity among men, is only about 4% (Cnattingius et al., 2005).

The analyses demonstrate the importance of mailed promotions from the tobacco companies in spreading the word about

Table 1. Characteristics of sample and proportion who heard of and tried snus

Variable	<i>n</i> ^a (%) ^b	Heard of snus ^c		Tried snus ^c	
		% (95% <i>CI</i>)	<i>p</i> value	% (95% <i>CI</i>)	<i>p</i> value
Total	3,537 (100)	19.9 (16.8–23.5)		1.5 (1.0–2.2)	
Gender					
Male	1,677 (48.6)	21.2 (17.5–25.5)	<i>ns</i>	2.8 (1.8–4.3)	<.001
Female	1,867 (51.4)	18.8 (14.0–24.6)		0.2 (0.1–0.7)	
Age-group (years)					
18–30	471 (22.6)	23.8 (14.7–36.1)	<i>ns</i>	2.1 (0.9–5.1)	<i>ns</i>
31–44	819 (27.9)	23.2 (17.3–30.3)		2.1 (1.2–3.8)	
45+	2,226 (49.5)	16.5 (14.2–19.0)		0.8 (0.5–1.4)	
Education level					
High school or less	1,435 (40.4)	21.0 (16.7–26.0)	<i>ns</i>	2.3 (1.4–3.8)	<.05
More than high school	2,041 (59.6)	19.4 (15.1–24.4)		0.9 (0.5–1.8)	
Race/ethnicity					
White, non-Hispanic	2,435 (86.3)	20.3 (16.8–24.3)	<i>ns</i>	1.5 (0.9–2.3)	<i>ns</i>
Minority	1,091 (13.7)	17.1 (12.4–23.2)		1.6 (0.7–3.7)	
Resides in central Indiana					
Yes	977 (29.6)	29.1 (24.6–33.9)	<.001	2.4 (1.5–4.0)	<.05
No	2,549 (70.4)	16.0 (12.1–21.0)		1.1 (0.6–2.0)	
Smoking status					
Nonsmoker	2,915 (81.9)	14.6 (12.1–17.4)	<.001	1.0 (0.6–1.9)	<.001
Current smoker	625 (18.1)	44.1 (33.8–55.0)		3.5 (2.0–5.9)	
Sees tobacco ads in stores					
Less than often	1,242 (35.6)	17.5 (11.5–25.7)	<i>ns</i>	0.6 (0.2–1.4)	<.01
Often	2,245 (64.4)	21.4 (18.1–25.2)		2.0 (1.3–3.1)	
Received promos at bars/clubs					
No	3,359 (95.4)	19.1 (15.9–22.8)	<.05	1.3 (0.8–2.1)	<.01
Yes	142 (4.6)	37.1 (22.7–54.2)		5.2 (2.3–11.4)	
Received tobacco promotions in the mail					
No	2,845 (80.0)	16.3 (13.6–19.4)	<.001	0.7 (0.4–1.3)	<.001
Yes	645 (20.0)	35.2 (25.3–46.5)		4.7 (2.7–7.8)	
Believes smokeless tobacco less harmful than cigarettes					
No	3,021 (88.1)	20.8 (17.3–24.8)	<i>ns</i>	1.2 (0.7–1.9)	<.01
Yes	461 (11.9)	15.6 (11.3–20.9)		3.7 (1.8–7.5)	
Year					
2006	2,030 (50.0)	19.2 (16.5–22.1)	<i>ns</i>	1.7 (0.9–3.0)	<i>ns</i>
2007	1,514 (50.0)	20.7 (15.4–27.4)		1.3 (0.8–2.2)	

Note. *ns*, nonsignificant.

^aUnweighted *n*. Some variables do not total to 3,544 due to missing data.

^bWeighted percentage of total.

^cWeighted percentage of subgroup (e.g., females) who heard of/tried snus and 95% *CI*.

the new product and motivating consumers to try it. Many of the snus mailings contained coupons for free or discounted snus, which constitute powerful incentives for acquiring the product. It is also of interest to note that those who believe (correctly) that using smokeless tobacco is less harmful than smoking cigarettes were almost four times as likely to try snus as those who did not. The marketing of the product does not include prominent information about its harmfulness relative to cigarettes, but the fact has been discussed in the media (Helliker, 2006; Quraishi, 2006).

These findings must be interpreted with caution, however, because the response rate for the two IATS surveys was quite low. The fact that the smoking prevalence is estimated to be only 18% when the 2006 Behavioral Risk Factor Surveillance System estimated the adult smoking at 24.1% (Indiana Tobacco Prevention &

Cessation Agency, 2007) suggests a degree of bias in the sample that has not been totally removed by the poststratification weighting. Also, the sample size for the group most likely to have tried snus, male smokers in central Indiana, was quite small. It is not clear whether a larger more representative sample of smokers would yield a higher or lower report of having tried snus. A larger sample of central Indiana residents would be required to better examine the characteristics of those who were aware of and tried snus. More detailed questions on perceptions and progression to regular use would also be very valuable.

Both marketing and health education messages should include the information that all tobacco products are harmful and that abstinence from all tobacco products is the most healthful choice. At the same time, simply saying that smokeless tobacco is “not safe” is not a

Table 2. ORs for hearing of and trying Taboka or Camel Snus (n = 3,318)

Variable	Heard of snus		Tried snus	
	OR (95% CI)	p value	OR (95% CI)	p value
Gender				
Female	1.00	<i>ns</i>	1.00	<.001
Male	1.31 (0.92–1.88)		13.83 (3.71–51.54)	
Age-group (years)				
18–30	1.28 (0.75–2.19)	<i>ns</i>	3.33 (0.86–12.91)	<i>ns</i>
31–44	1.32 (0.81–2.15)		2.02 (0.82–4.99)	
45+	1.00		1.00	
Education level				
More than high school	1.00	<i>ns</i>	1.00	<i>ns</i>
High school or less	1.03 (0.65–1.63)		2.05 (0.85–4.91)	
Race/ethnicity				
White, non-Hispanic	1.00	<i>ns</i>	1.00	<i>ns</i>
Minority	0.71 (0.46–1.11)		0.94 (0.29–3.06)	
Resides in central Indiana				
No	1.00	<.001	1.00	<.01
Yes	2.82 (1.96–4.06)		2.96 (1.29–6.81)	
Smoking status				
Nonsmoker	1.00	<.001	1.00	<i>ns</i>
Current smoker	4.50 (2.79–7.28)		2.16 (0.73–6.40)	
Sees tobacco ads in stores				
No	1.00	<i>ns</i>	1.00	<i>ns</i>
Yes	1.06 (0.68–1.64)		2.32 (0.78–6.91)	
Received tobacco promotions at bars/clubs				
No	1.00	<i>ns</i>	1.00	<i>ns</i>
Yes	0.84 (0.34–2.09)		0.97 (0.31–3.05)	
Received tobacco promotions in the mail				
No	1.00	<.01	1.00	<.001
Yes	2.06 (1.23–3.43)		6.07 (2.20–16.75)	
Believes smokeless tobacco less harmful than cigarettes				
No	1.00	<i>ns</i>	1.00	<.05
Yes	0.82 (0.51–1.31)		3.86 (1.28–11.64)	
Year				
2006	1.00	<i>ns</i>	1.00	<i>ns</i>
2007	1.22 (0.80–1.86)		0.97 (0.37–2.54)	

Note. *ns*, nonsignificant; OR, odds ratio.

sufficient stance for public health communications (Kozlowski & Ewards, 2005). There is a recognized continuum of risk along which various tobacco products can be placed, with low-nitrosamine smokeless tobacco products much lower on the risk continuum than combustible tobacco (Zeller et al., 2009), although it is not harmless (Hecht et al., 2008; International Agency for Research on Cancer, 2007). Devising an effective way to inform the public about the continuum should be an important research priority, as currently consumers are woefully incorrect in their assessments of relative risk of various tobacco products (O'Connor et al., 2007). This state of affairs could result in people deciding not to give up smoking in favor of a product lower on the risk continuum because they assume that all tobacco products are equally harmful.

The U.S. Food and Drug Administration may soon be given authority to regulate tobacco, including imposing limitations on advertising messages. Optimal policy regarding appropriate advertising messages for snus are not at all obvious at this time. The current advertising strategies for snus appear to encourage

dual use, and the health impact of that practice has not been established. We have learned from the IATS that people in the test market area are widely aware of these products, and the relatively high rate of trial among men must continue to be monitored. The fact that mailed promotions from the tobacco companies are important predictors of awareness and trial raises concerns about the composition of those mailing lists. Anecdotal reports abound of nonsmokers in bars and clubs being encouraged by young tobacco company representatives to say they are smokers in order to get various promotional items on offer. Drivers' licenses are then copied and the individual is added to the mailing list. In addition to nonsmokers, some of those on mailing lists may have recently quit smoking. Thus, receiving a promotion for a product that may appear less harmful than the cigarettes they gave up could provoke relapse to tobacco use. More thorough surveillance of population response to snus in test market areas is essential to provide tobacco control professionals with the data they need to formulate policy recommendations as well

as education and treatment interventions regarding the new smokeless products.

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Declaration of Interests

None declared.

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