Young Adults' Favorable Perceptions of Snus, Dissolvable Tobacco Products, and Electronic Cigarettes: Findings From a Focus Group Study

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Tobacco control policies have been effective in reducing the prevalence of cigarette smoking and per capita cigarette consumption, and contribute to recent decline in cigarette sales in the United States.² Probably because of this decline and clean indoor air laws, tobacco companies have introduced new smokeless tobacco products to the United States.³⁻⁹ These products include snus (spitless moist snuff packed in porous bags) and dissolvable tobacco products (spitless, dissolvable oral tobacco products in the shape of breath mint, breath strip, and toothpick). In addition, electronic cigarettes (e-cigarettes; devices that vaporize nicotine to be inhaled) recently have been introduced to the United States. These yet-tobe-regulated products have gained popularity: 10.4% of adult smokers in the test markets for snus tried snus,10 and in an experiment examining adult smokers' intention to use smokeless tobacco and nicotine replacement therapies as alternatives for cigarettes, 55.1% of the participants preferred snus and dissolvable tobacco over nicotine lozenges.¹¹ Internet searches for e-cigarettes also have increased dramatically.¹² These products are a public health concern because they may act as gateways to cigarette smoking, 13 substitute for cigarettes in smokeless locations, or displace effective cessation treatment14 and consequently obstruct further decline in the prevalence of tobacco use.

Research focusing on public perceptions of newly introduced tobacco products has been limited. This presents a missed opportunity because behavioral theories posit that individuals' perceptions and attitudes predict behavior changes, ¹⁵ and consumer research has found that perceptions of a product's attributes are associated with intent to purchase. ¹⁶ It is particularly important to examine young adults' perceptions of these new products because they have been a target of tobacco company

Objectives. We explored young adults' perceptions of snus (spitless moist snuff packed in porous bags), dissolvable tobacco products, and electronic cigarettes and intention to try these products.

Methods. We conducted 11 focus group discussions involving a total of 66 young adults (18–26 years old) on these new tobacco products (e.g., harmfulness, potential as quit aids, intention to try) held between July and December 2010. We analyzed discussions using a thematic approach.

Results. Participants generally reported positive perceptions of the new products, particularly because they came in flavors. Few negative perceptions were reported. Although some participants believed these products were less harmful than cigarettes and helpful in quitting smoking, others thought the opposite, particularly regarding electronic cigarettes. Participants also commented that these products could be gateways to cigarette smoking. Half of the participants, including a mix of smokers and nonsmokers, admitted they would try these products if offered by a friend.

Conclusions. Young adults perceive the new tobacco products positively and are willing to experiment with them. Eliminating flavors in these products may reduce young adults' intentions to try these products. (*Am J Public Health.* 2012; 102:2088–2093. doi:10.2105/AJPH.2011.300525)

marketing.¹⁷ One study examining patrons' posts on the Camel Snus Web site found that patrons liked the flavors of the product and the fact that they could use it in places where smoking is not allowed.¹⁸ However, the investigators could not determine the ages of the patrons, and the study also lacked generalizability since it only included the subset of Camel Snus users who visited and posted comments. In another study, an online survey of 81 persons who visited a smoking cessation Web site showed that e-cigarettes are primarily used to help in quitting cigarette smoking¹⁹; however, the sample was highly selective and largely European, which restricts generalizing the findings to the United States. We did not identify any research on perceptions of dissolvable tobacco products.

To provide insights into young adults' perceptions of these products, we recruited young adults to participate in a series of focus group discussions on their perceptions of snus, dissolvable tobacco products, and e-cigarettes and their intention to try these products. We also examined whether these perceptions differed by gender and socioeconomic level. We discuss implications for tobacco control policies.

METHODS

We recruited young adults in the Minneapolis—St. Paul, Minnesota, metropolitan area who were enrolled in or had graduated from 4-year colleges (to represent those with higher socioeconomic status) and young adults who were enrolled in or had graduated from 2-year colleges or who had not enrolled in postsecondary education (to represent those with lower socioeconomic status). We used 4 recruitment strategies: (1) online advertisements, (2) flyers on one 4-year and two 2-year college campuses, (3) announcements in a student life newsletter at a 2-year college, and (4) a recruitment booth on a 2-year college campus. To be eligible, participants had to be

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between 18 and 26 years old, and either had used some tobacco product at least 1 day in the past 30 days or could specify where they had seen tobacco advertisements (e.g., saw ads in magazines or received direct mail from tobacco companies) during the 30 days prior to recruitment. We offered a \$25 gift card as an incentive.

Data Collection

Focus group discussions were held between July and December 2010. We assigned participants to groups on the basis of their gender and education (enrolled in or graduated from a 4-year college or not) because exposure to tobacco marketing has been reported to differ by these 2 characteristics.^{20,21} We developed a discussion guide based on a literature review of new tobacco products and related marketing strategies, and on discussion with experts in tobacco control policy, tobacco marketing, advertising and communication, and social media. The guide included topics such as perceptions of new tobacco products (e.g., harmfulness relative to cigarettes and potential as quit aids) and experiences with these products. We showed participants pictures of snus, dissolvable tobacco products (Camel Strips, Orbs, and Sticks) and e-cigarettes because some of the products were not available in Minnesota at the time of the focus groups. One author (K. C.), who had received training in conducting and analyzing focus group discussions, moderated each 2-hour semistructured focus group discussion. Participants completed a short questionnaire on demographic information and tobacco use before the discussion.

Data Analysis

We audio-recorded and transcribed verbatim all focus group discussions, and analyzed them using a thematic approach.²² The first author (K. C.) reviewed all transcripts and derived a set of themes and subthemes from the discussions, and the second author (L. F.) independently reviewed all transcripts and the appropriateness of the themes and subthemes derived by the first author. Disagreements on themes and subthemes were resolved through discussion. The first author then coded all the transcripts by categorizing relevant statements in the transcripts under themes and subthemes.²³ The second author then

reviewed the coded statements. Disagreements on the codes were resolved through discussion. Two other authors (N. M and A. C.) then verified the results of the analysis after reading through all transcripts. We also examined results by gender and education level.

RESULTS

We conducted 11 focus group discussions involving a total of 66 young adults (26 men and 40 women, 2–11 per group). Participants were between 18 and 26 years old (Table 1). About 50% of the participants were 4-year college students or graduates, 56% were White and 29% were Asian, and 70% used tobacco within 30 days prior to recruitment. We observed only minor differences by gender and education on perceptions of snus, dissolvable tobacco products, and e-cigarettes. These differences are discussed in the appropriate subsections of Results.

General Perceptions of New Tobacco Products and E-Cigarettes

Accessible and convenient. Participants commonly said that snus, dissolvable tobacco products, and e-cigarettes made tobacco use very accessible, since they could use these products at any time and anywhere, including places where smoking cigarettes was prohibited ("[Y]ou can't just light up a cigarette in class. But if you have [the dissolvable tobacco products], you can just easily slip [them] in so you're always constantly getting nicotine and other stuff."). Participants thought they could use these products when they were in a hurry ("You're in a rush to go places, you can't just be smoking."). They perceived these products as more convenient than cigarettes and chewing tobacco because they did not need a lighter or to spit. Participants also said snus and dissolvable tobacco products could be carried around very easily because of the compact size of the packaging.

Attractive and modern. Participants unanimously found the packaging of snus and dissolvable tobacco products "extremely attractive" (Figure 1). They thought the packages were more modern than a pack of cigarettes. Participants believed the products were cleverly designed to attract attention and induce curiosity so people would try them ("The

packaging is flashy. I could see people going for it just because of the packaging."). Female participants thought the packaging of snus and dissolvable tobacco products also looked "stylish," "cute," and "could be [a] fashion accessory." These products were perceived as innovative since they presented new ways to consume tobacco and redefined tobacco use. Participants also said that the tobacco companies were trying to update the image around smoking from "rustic, rugged" to "more modern, sleek" with these products. Participants perceived use of these products as "hip" and "on the cutting edge of being the new 'in' thing." Some thought these products were for younger and new generations of smokers. E-cigarettes were perceived as "high-tech."

Fun and recreational. Participants thought the flavors of dissolvable tobacco products made them fun and interesting to use. Female participants described the pill-form dissolvable tobacco products (Camel Orbs) as "candy that gives you a little buzz" and "fresh and minty." They also thought the new products presented "many different and exciting ways" to use tobacco, and made tobacco use "a fun activity." Some male participants perceived snus and dissolvable tobacco products as more "simple," "casual," and "recreational" than cigarettes and chewing tobacco. They commented that snus and dissolvable products were "out on the town tonight let's grab one and pass it around" type of products.

Concealed. Participants commonly thought that snus and dissolvable tobacco products made tobacco use more "discreet" since they were compact in size ("could just put them in your back pocket and have it concealable") and odorless ("wouldn't smell like cigarettes"). Participants agreed that these products would help people hide their smoking habits and "get your fix while still not giving out the image that you're a smoker or other tobacco user."

Distasteful. The most commonly reported negative perception of snus and dissolvable tobacco products was that they were distasteful. Participants thought the light-brown color of the actual dissolvable tobacco products made them "look like they would taste really icky." Female participants frequently reported they did not like the idea of putting tobacco products directly into their mouths, and said "[that is] kind of disgusting" and "gross."

TABLE 1—Characteristics of Young Adult Participants in Focus Group Discussions of Snus, Dissolvable Tobacco Products, and Electronic Cigarettes: Minneapolis-St. Paul, MN, 2010

	Men, Range or No. (%) (n = 26)	Women, Range or No. (%) (n = 40)	Total, Range or No. (%) (n = 66)
De	emographic characteristics		
Age, y	19-26	18-26	18-26
Education			
4-y college student or graduate	13 (50)	18 (45)	31 (47)
\leq 2-y college student or graduate	13 (50)	22 (55)	35 (53)
Race/ethnicity			
Asian	8 (31)	11 (28)	19 (29)
African American	2 (8)	2 (5)	4 (6)
White	15 (58)	22 (55)	37 (56)
Other	1 (3)	5 (12)	6 (9)
Use	d tobacco in the past 30 d	l	
Any tobacco products			
Yes	21 (81)	25 (63)	46 (70)
No	5 (19)	15 (37)	20 (30)
Cigarettes			
Yes	21 (81)	25 (63)	46 (70)
No	5 (19)	15 (37)	20 (30)
Other combustible products (e.g., cigars, hookah))		
Yes	6 (23)	4 (10)	10 (15)
No	20 (77)	36 (90)	56 (85)
Smokeless tobacco products			
Yes	2 (8)	0 (0)	2 (3)
No	24 (92)	40 (100)	64 (97)

Manipulative and cunning. Participants agreed that tobacco companies developed these products to deceive people. They said manufacturers of these products were trying to distance themselves from the "negative image of smoking," and made these products "seem less harmful [than] they really still are" to "trick people into thinking [they are] better [than cigarettes]," but they still provide nicotine to "[get people] to try more things to be even more hooked or addicted." Participants thought the tobacco companies wanted to simultaneously "get around the smoking ban" and "target everybody in every circle," particularly those who do not like "the yellow teeth and the smell [that results from smoking]." The bottom line for tobacco companies, participants reported, was to make the most money. Some participants thought tobacco companies showed "greed" through developing these new tobacco products and commented that "they don't need any more money. Stop killing

people." These comments were more commonly made by those who were not enrolled in or graduated from 4-year colleges.

Perceived Harmfulness Relative to Cigarettes

Participants were not in agreement on whether snus, dissolvable tobacco products, and e-cigarettes were less harmful than cigarettes. Some participants said they lacked important information about these products, such as their ingredients ("I want to know more about the chemicals"), their health impact ("What happens when you dissolve nicotine rather than chewing it or smoking it?"), and, in the case of e-cigarettes, the mechanism used to vaporize nicotine.

Some participants thought these products were just as harmful as cigarettes. They generally reported that the new products and cigarettes were "all one product, in different forms" and were "all unhealthy in their own way." Similarly, participants said that although these products might not cause lung cancer, they might cause other problems such as oral cancer or gastrointestinal problems. Some participants were concerned that snus and dissolvable tobacco products were even more harmful than cigarettes because they come into direct contact with the mouth, and people would consume them much faster than cigarettes because they were easy to use and led to nicotine overdose.

Some participants perceived that these products were less harmful than cigarettes because they were smokeless. They reflected that smoking causes lung cancer and therefore these smokeless products were "obviously healthy compared to cigarettes." The colorful packaging and the labeling of snus and dissolvable tobacco products as "fresh" also made these products seem healthier than cigarettes. Participants believed e-cigarettes were less harmful than cigarettes because they deliver only nicotine, and hence were "definitely a lot healthier than cigarettes because you don't get all the additives." A couple of participants cited data from European countries that supported snus as less harmful than cigarettes.

Potential as Quit Aids

Participants expressed diverse opinions on the potential of snus, dissolvable tobacco products, and e-cigarettes to help people quit smoking. Some reported that these products were ineffective as quit aids because "they all have nicotine," and they did not believe that one can treat nicotine addiction with nicotine. Participants said individuals might quit smoking but "might become addicted to [these products] instead." Some participants agreed that smokers would not completely switch to these products because the products did not offer the same "oral fixation" as cigarettes and smokers were "used to the motion of having a cigarette in their fingers, breathing it in, breathing it out." Participants also commented that they valued the opportunities to meet other smokers when smoking outside, and that these products eliminated those opportunities. Participants said that people would "just keep smoking [cigarettes], but try all this new stuff too," and that tobacco companies would not manufacture products that would help people quit smoking.



Source. SnusCentral.org.²⁴

FIGURE 1—Impressions of snus, dissolvable tobacco products, and electronic cigarettes held by young adult participants in focus group discussions: Minneapolis-St. Paul, MN, 2010.

Some participants thought the new products could help people quit smoking, particularly e-cigarettes. They reported that e-cigarette cartridges had different levels of nicotine and therefore people could have a "gradual reduction" in nicotine consumption instead of quitting suddenly. Some shared anecdotes of people successfully quitting smoking with e-cigarettes or cutting back on cigarette consumption with snus. Participants commented that the appearance of snus and dissolvable tobacco products was similar to that of nicotine gums and patches.

Gateway to Tobacco Use and Intention to Try

Participants believed that snus, dissolvable tobacco products, and e-cigarettes would appeal to individuals "who are against smoking and the smoke in the air, but [have] always wanted to know the feeling of a cigarette." Nonsmokers also said that they would start with these products if they wanted to smoke "because [I am] not smoking [with these products]." Participants said that using these products would bring people "one step closer" to smoking cigarettes and users would eventually pick up smoking ("I could totally see that any of [these products] could lead to cigarettes."). Participants also thought the dissolvable tobacco products would be "popular" among teenagers because they looked like candy and were much easier to use in school than cigarettes.

Some participants were interested in snus, dissolvable tobacco, and e-cigarettes ("curious

because I haven't tried any [of these products]"), whereas others were intimidated because they did not know their health impact ("No one wants to be a guinea pig on these products and ruin their whole lives."). When asked if they would try these new products when offered them by a friend, half of the participants—a mix of smokers and nonsmokers—said they would try them.

DISCUSSION

We expanded the literature on perceptions of new tobacco products by conducting a series of focus group discussions with young adults (aged 18-26 years) on their perceptions of these products. Overall, we found that young adults perceived snus and dissolvable tobacco products as accessible, convenient, attractive, modern, fun, recreational, and concealable, while they perceived e-cigarettes as accessible, convenient, and modern. Although participants also reported negative perceptions of these products (e.g., distasteful) and the tobacco companies (e.g., manipulative and cunning), half of the participants, including both smokers and nonsmokers, admitted they would try these products if offered them by a friend. Female participants were not comfortable about putting tobacco directly into their mouth, and participants with lower education were more likely to comment that snus and dissolvable products demonstrate the greed of tobacco companies.

Particularly concerning is that young adults were unanimously attracted by the packaging

of snus and dissolvable tobacco products, and could be tempted by their packaging to try them. Tobacco companies know that people associate lighter colors with low health risk and have been using this to their advantage in cigarette packaging.²⁵ Restricting the color, shape, and size of packaging and the products to make them less appealing to young adults may reduce their intention to try these products. Participants also described snus and dissolvable tobacco products as "fun and recreational" because they were marketed as flavored. A previous report also found that the various flavors offered by e-cigarettes attracted smokers to use them.¹⁹ Although the Family Smoking Prevention and Tobacco Control Act of 2009 banned flavored cigarettes (except menthol),26 it does not cover these new tobacco products. Prohibiting flavors in all tobacco products (including e-cigarettes) may be an effective way to dissuade young people from trying these products, and subsequently prevent smoking initiation.

Some of our participants as well as those in another study¹⁹ said that e-cigarettes are "healthier" than cigarettes because e-cigarettes deliver only nicotine and are helpful in quitting smoking. The Food and Drug Administration (FDA) tested several samples of e-cigarettes and detected carcinogens such as tobaccospecific nitrosamines and toxic chemicals such as diethylene glycol in some of them.²⁷ There is also limited research on the effectiveness of e-cigarettes as quit aids. Given young adults' interest in e-cigarettes, we hope the FDA will further examine the potential risks associated with using e-cigarettes and regulate accordingly.

Some participants reported uncertainty about the health effects of the new products, and perceived as negative both the products (e.g., distasteful, wary of ingredients) and the tobacco companies (e.g., manipulative and cunning). These perceptions can be used as messages for media campaigns to deter individuals, particularly nonsmokers, from using these products. Emphasizing the products' cancer-causing potential, making use of the negative beliefs some people hold about them, and planting doubts about the intentions of tobacco companies may prevent individuals from experimenting with them.

Consistent with public health concerns that tobacco companies develop snus and

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dissolvable products to promote dual cigarette and smokeless tobacco use, ^{28,29} our participants perceived that people would use these smokeless tobacco products in addition to cigarettes instead of completely switching over. Participants also believed these new products could be a gateway to cigarette smoking. Results from previous studies examining the gateway effect of smokeless tobacco to cigarettes were mixed, ^{30,31} and did not include dissolvable tobacco and e-cigarettes. Future studies need to investigate the role of these products in smoking initiation.

About half of the participants, regardless of their smoking status, expressed interest in trying these products if offered them by friends. This suggests that young adults may be influenced by peers to try these products; additionally, these young adults may act as early adopters and influence others in their social networks to start using these products. Without effective intervention, the diffusion model³² suggests that these products may become popular among young adults. A potential countermeasure is to identify the peer leaders who are likely to be early adopters, and train them to be peer educators to promote healthy behaviors and influence their peers not to use these new tobacco products, which was effective in preventing alcohol abuse.³³

Limitations

Our findings should be interpreted with some caution. Although our sample of young adults was recruited from multiple colleges and the Internet, we cannot be certain that comments from participants would be representative of all young adults. A community-based survey with a large number of young adults is needed to confirm our findings. Small group size in some of the conducted focus groups may also be a concern. Although small group size could potentially narrow the range of opinions related to the products, it also allowed us to investigate in-depth participants' perceptions of snus, dissolvable tobacco products, and e-cigarettes, which complemented the breadth of opinions collected from groups with more participants. We also had fewer men than women in our study, despite our attempts to have equal numbers of each gender; however, because we heard fairly consistent opinions among participants within each gender, we

believe our findings would not be substantially different if there had been more male participants. We could not determine whether certain comments were made by smokers or by those who had tried these products because we did not stratify the groups by these characteristics.

Another limitation is that unlike snus and e-cigarettes, dissolvable tobacco products were not available in Minnesota during the time of the focus group discussions and therefore participants had less tangible knowledge of them than of snus and e-cigarettes. To compensate, we displayed pictures of the dissolvable tobacco products, described the products, and allowed participants to ask questions about the products during the discussions. We decided it would be inappropriate to bring samples of these products because this could encourage participants to try them. As perceptions of these products may change when young adults become more familiar with them, these perceptions should be reexamined in future studies.

Conclusions

Despite the limitations, this study deepens the understanding of young adults' perceptions of snus, dissolvable tobacco products, and e-cigarettes. We found that young adults generally perceived these products positively, and both smokers and nonsmokers reported that they would use them when the opportunity arose. One strategy to reduce their use is to ban flavoring in these products, as has been done with cigarettes.

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Contributors

All authors participated in conceptualizing and designing the study, collecting the data, conducting the analyses, and writing the article.

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Human Participant Protection

This study was approved by the University of Minnesota institutional review board. Participants provided written informed consent before taking part in the study.

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