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Little Cigars and Cigarillos: Users, Perceptions, and Reasons for Use

Amy L. Nyman, MA,

Research Consultant, Tobacco Center of Regulatory Science (TCORS), School of Public Health, Georgia State University, Atlanta, GA

Kymerle L. Sterling, DrPH,

Associate Professor, Division of Health Promotion & Behavior, School of Public Health, Georgia State University, Atlanta, GA

Scott R. Weaver, PhD,

Research Assistant Professor, Division of Epidemiology & Biostatistics, School of Public Health, Georgia State University, Atlanta, GA

Ban A. Majeed, PhD, and

Postdoctoral Research Associate, Tobacco Center of Regulatory Science (TCORS), School of Public Health, Georgia State University, Atlanta, GA

Michael P. Eriksen, ScD

Dean and Regents' Professor, Division of Health Management & Policy, School of Public Health, Georgia State University, Atlanta, GA

Abstract

Objective—This study examines little cigar and cigarillo (LCC) adult user characteristics, perceived addictiveness, use and importance of flavors, intentions to continue use, and reasons for use to inform prevention efforts and regulatory policy.

Methods—Data come from the 2014 Tobacco Products and Risk Perceptions Survey of a national probability sample of 5717 US adults, conducted online, June–November, 2014. The analytic sample consisted of 141 current LCC users.

Results—Current LCC smokers were more likely to be male, younger, black or Hispanic, lower SES, current cigarette smokers, and to report poorer health than non-smokers. Perceived addictiveness was low overall, with 73.6% considering themselves “not at all” addicted, although female LCC users and dual users of cigarettes were more likely to consider themselves addicted to LCCs. Use of flavored LCCs was widespread. Flavors were cited as important reasons for use,

Correspondence Ms Nyman; anyman@gsu.edu.

Human Subjects Statement

The Institutional Review Board at Georgia State University approved this study and declared it to be exempt from review (reference number: H14028.)

Conflict of Interest Statement

The authors declare that there are no other financial relationships with any organizations that might have an interest in the submitted work, and there are no other relationships or activities that could appear to have influenced the submitted work.

especially among younger users, as were favorable comparisons with affordability and burn time of cigarettes.

Conclusions—Most LCC users do not perceive themselves addicted to LCCs. Users report being influenced most by flavorings and affordability, indicating that appropriate regulations and education to improve health perceptions could help reduce use of these harmful products.

Keywords

little cigars; cigarillos; perceptions of alternative/novel tobacco users; reasons for alternative/novel tobacco use

Whereas cigarette consumption in the United States (US) has declined,^{1,2} use of other combustible tobacco products continues to rise. Use of cigars in general, and little cigars and cigarillos (LCCs) in particular, has been steady and increasing among certain groups.^{3–6} In a national probability sample of US adults from 2014, 30.6% of respondents reported ever using LCCs and 2.8% of respondents reported using LCCs in the past month.⁷ Several studies have focused on the demographic characteristics of cigar smokers and found that young adults, African Americans, lower socioeconomic status (SES) populations, and current users of other tobacco products have had higher usage rates of some cigar types, including LCCs.^{3,5,8–12} The increasing popularity of LCCs has raised concerns about the toxic constituents being delivered to growing numbers of users; cigar use is at least as harmful as cigarette use, and the risk of harm increases with the frequency and intensity of use.^{13,14}

The popularity of LCCs can be attributed to many factors, including their lower price as a result of lower tax policies in relation to cigarettes in many states.^{15,16} As a result, these products are cheaper than cigarettes and are appealing to price-conscious consumers.¹⁶ Additionally, an increase in cigar products that are flavored is believed to have contributed to their rise in use, especially among younger and minority users.^{17–19} Historically, flavors have been used by the tobacco industry specifically to recruit new smokers.^{20,21} The popularity of LCCs can be further attributed to product advertising and promotion at point-of-sale.²² Lower SES communities and those with high young adult and African-American populations are typically exposed to greater advertising and promotions and lower prices on LCCs,²³ which in turn, may fuel prevalence for those groups.

Though few prior studies have segmented cigar use by the type of cigar smoked, there is evidence to suggest that distinguishing between small cigars (LCCs) and large cigars (traditional, premium cigars) may illuminate important demographic differences between product users. For example, a study of National Adult Tobacco Survey (NATS) data from 2012–2013 that divided cigar use into 3 categories (little filtered cigars, cigarillos/other mass market cigars, and premium cigars) found that the prevalence of cigarillos was highest of any cigar type and highest among young adults and non-Hispanic Blacks.²⁴ Furthermore, few previous studies have attempted to delineate the reasons why people smoke LCCs or to explore other characteristics of LCC use. One qualitative study that explored reasons for use found that 18–24 year-old African-American LCC smokers preferred LCCs to cigarettes for the taste and smell, the “buzz” they provided, social status elements, and perceived reduction

in harm and addiction.²⁵ Results of more recent qualitative research suggest that flavored tobacco in LCCs made smoking more palatable and enhanced users' moods. Additionally, the visual, smell, and taste cues from the LCC packaging influenced some adults' affect and their subsequent smoking behavior.²⁶ A survey of Canadian young adult cigarillo users found that the primary reasons for using cigarillos were for the flavor and as a replacement for cigarettes. More than half of these users did not consider themselves at all addicted.²⁷

Our study is the first to use a national probability sample of US adults in 2014 to broaden and update the profile of the LCC user using more recent data to monitor LCC use trends. The goals of this study were to describe the sociodemographic characteristics of the lifetime user and current user of LCCs, to examine factors associated with current LCC use, such as perceptions of addiction, use of flavors, and intentions to continue using, and to determine current users' reasons for smoking LCCs. As the US Food and Drug Administration (FDA) currently does not regulate LCCs, but with proposed deeming regulations to be decided on in the near future,²⁸ this study aids in understanding the motivations for using LCCs, and thus, will help inform eventual regulatory policies and lead to the crafting of more effective and targeted LCC health-risk messaging.

METHODS

Data Source

Our data come from the 2014 Tobacco Products and Risk Perceptions Survey conducted by the Georgia State University Tobacco Center of Regulatory Science (TCORS). The survey is an annual, cross-sectional survey of a probability sample drawn from GfK's KnowledgePanel, a probability-based Web panel designed to be representative of non-institutionalized US adults. Only adults sampled via address-based sampling or random digit dialing (previous) are eligible to join KnowledgePanel. Recruited panelists without Internet access are provided a computer with Internet access. Information from the profile survey is used to calculate a panel demographic post-stratification weight to adjust for sources of sampling and non-sampling error, such as panel recruitment non-response, and panel attrition. Data collection occurred June–November, 2014. Participants completed the main survey in 23 minutes (median) and received a cash-equivalent of \$5 for their participation.

Sample

A probability sample of US adults from KnowledgePanel and a representative oversample of pre-identified cigarette smokers were selected with probabilities proportional to size (PPS) after application of the panel demographic post-stratification weight. Overall, we invited 7991 KnowledgePanel members to participate in the survey: (1) 7061 members for the general population sample, of which 74.3% completed the screener survey and qualified for the main survey; and (2) 930 members for the smoker augment sample, of which 697 completed the screener and 599 (74.9%) qualified for the main survey by confirming their current smoking status. Of 5833 qualified completers, 116 cases were excluded due to refusing to answer more than one-half of the survey questions, yielding an analytic sample of 5717 cases. A final stage completion rate of 74.4% and a qualification rate of 98.2% were obtained. The average panel recruitment rate for this study, reported by GfK, was 13.7% and

the average profile rate was 65.3%, for a cumulative response rate of 6.6%. More detailed sample information can be found elsewhere.⁷ The sample of interest for this study was 1725 lifetime users of LCCs, including 141 current (past month) users.

Measures

LCC smoking status—Respondents were provided a written description and generic images of LCCs. The description read as follows: “Little cigars and cigarillos are smaller than traditional cigars. They are usually brown. Some are the same size as cigarettes, and some come with plastic or wood tips. Some common brands are Black and Mild, Swisher Sweets, Dutch Masters, Phillies Blunts, Prime Time, and Winchester.” Brand names were included due to research indicating LCC use may be underreported without such brand name indicators.^{29–31} Respondents then were asked which products they had “heard of before taking this survey” and which products they “have ever tried, even just one time.” Those who reported they had tried LCCs then were asked if they had used the product in the past 30 days. Respondents who answered affirmatively to “have ever tried, even just one time” were classified in this study as *lifetime LCC smokers* and those who answered affirmatively to use of LCCs in the past 30 days were classified as *current LCC smokers*.

Cigarette smoking status—Respondents who reported not having smoked at least 100 cigarettes in their lives were classified as *never smokers* of cigarettes. Those respondents who reported smoking at least 100 cigarettes in their lives were classified as *current smokers* of cigarettes if they reported currently smoking cigarettes “every day” or “some days” and as *former smokers* of cigarettes if they reported currently smoking them “not at all.”

Characteristics and perceptions of LCC smokers—LCC smokers were asked a variety of questions about their use, including their age of initiation, frequency of past-month use, whether or not they consider themselves addicted to LCCs and the perceived strength of their addiction, whether they had ever smoked LCCs containing flavors other than tobacco flavor, and their thoughts on continued use of LCCs in the future.

Reasons for use of LCCs—Respondents who reported ever smoking LCCs were asked to rate the importance of 11 reasons for use, including statements about the affordability, harm, and acceptability of LCCs compared to cigarettes, use of LCCs as a smoking cessation aid, characteristics of LCCs (longer burn time, appeal of flavors), affect related to LCC use (relaxation, “buzz”), advertisement, and curiosity about use. The survey item read as follows: “The next questions are about the reasons people smoke little cigars and cigarillos. For each reason listed, please indicate how important it is to you in your past or current use of little cigars or cigarillos.” The reasons were presented in random order and respondents rated the statements on a 5-point scale from “not at all important” to “very important.”

Following the 11 separate ratings, LCC smokers were asked to select from those same reasons their single most important reason they smoke, or had ever smoked, LCCs.

Respondents were offered an additional “other” option for the single most important reason item.

Respondent characteristics—Demographic and other respondent characteristics data were obtained from profile surveys administered by GfK to KnowledgePanel panelists. Respondent characteristics used in this study included sex, age, race/ethnicity, educational attainment, annual household income, US region, perceived health status, and cigarette smoking status.

Statistical Analysis

IBM SPSS with the Complex Samples module (v.21) was used to obtain design-based (weighted) point estimates and 95% confidence intervals for lifetime and current use of LCCs, perceptions of addiction, use of flavored LCCs, intentions to continue using LCCs, and reasons for use. Associations among variables were tested using weighted generalized linear models. Specifically, Rao-Scott chi-square tests of association were performed to evaluate the bivariate associations between categorical variables (eg, cigarette smoking status and perceptions of addiction to LCCs), and weighted multivariable logistic regression models were used to estimate the adjusted odds ratios for respondent characteristics, perceptions, and intentions with LCC use. Finally, the adjusted associations between sociodemographic characteristics and smoking status with importance of reasons for LCC use were examined with multivariable linear regression models.

Prior to conducting these analyses, we assessed the extent and ignorability of missing data for lifetime use and past 30-day use questions for LCCs. The number of participants with missing data on lifetime LCC use and past 30-day LCC use was 568 (9.9%) and 602 (10.5%), respectively. The primary reason for these missing data is a layout/programming of alternative/novel tobacco use questions that led to some participants unintentionally skipping past these questions. Pearson chi-square tests of the missing completely at random (MCAR)³² assumption were conducted using Mplus software (v. 7.3) and were non-significant ($p > .99$). As an additional check, full information maximum likelihood estimates of the weighted proportions of using each product under the missing at random (MAR) assumption were compared to the corresponding MCAR estimates. Differences in estimates were less than 0.5%. On the basis of these checks, respondents with missing data were excluded from further analyses under the supported assumption that missingness is ignorable and completely at random. An expanded summary of the missing data has been published previously.⁷

RESULTS

Characteristics of LCC Users

Associations between respondent characteristics and LCC use are shown in Table 1. Lifetime use of LCCs was significantly more likely among men, those of white, non-Hispanic ethnicity, those with more education, and those who considered themselves to be in poorer health. In general, lifetime use was higher among young adults, although 55–64 year-olds had higher odds of usage than those over 65. Current and former cigarette smokers each

had more than 5 times greater odds of lifetime use of LCCs compared with those who have never smoked cigarettes. Similar to lifetime users, current LCC users were also more likely to be male and younger. However, current users were more likely to be of black race or Hispanic ethnicity, less educated, and report lower income. Those who reported poorer health status were also more likely to report current LCC use, although this association was not statistically significant when controlling for smoking status and other demographic variables. Current and former cigarette smokers had more than 7 times and twice the odds, respectively, of current use of LCCs compared with those who have never smoked cigarettes.

Among current LCC users, the average age of initiation was 26.5 years (95% CI = 24.1, 28.9), with dual users of LCCs and cigarettes initiating LCC use at a significantly ($p = .01$) later age (27.6 years, 95% CI = 24.5, 30.7) than exclusive LCC users (21.2 years, 95% CI = 17.9, 24.4) (data not shown). However, when controlling for current age, the relationship between smoking status and age of initiation ceased to be significant. On average, current LCC users had smoked LCCs on 8.2 days in the past month (95% CI = 6.1, 10.3). This frequency did not differ by demographics with the exception of income: lower income users reported smoking LCCs on significantly ($p = .01$) more days in the past month (9.7 days, 95% CI = 6.8, 12.5) than higher income users (5.1 days, 95% CI = 3.0, 7.2) (data not shown).

Perceptions of Addiction

Table 2 displays the degree to which current LCC users consider themselves addicted to LCCs. The majority of current LCC users reported they are “not at all” addicted to LCCs. However, female users of LCCs were more likely than male users to report they are “very” addicted to LCCs. Furthermore, whereas none of the current LCC smokers who had never smoked cigarettes felt they were addicted to LCCs, 19.3% of dual users and 23.8% of former cigarette smokers considered themselves “somewhat” addicted and 10.2% of dual users and 7.0% of former cigarette smokers considered themselves “very” addicted to LCCs. One should note, however, that dual users’ perceived addiction to LCCs was less pronounced than their perceived addiction to cigarettes; the majority of dual users considered themselves either “somewhat” (48.7%, 95% CI = 36.7, 60.9) or “very” (36.6%, 95% CI = 25.9, 48.7) addicted to cigarettes (data not shown). Adjusting for sociodemographic factors, those users who considered themselves “somewhat addicted” to LCCs had over 17 times greater odds of being current (past month) users than of being former users relative to those who did not know whether they were addicted (Table 3, Model 1).

Use of Flavors

About two-thirds (66.4%, 95% CI = 56.5, 75.1) of current LCC smokers reported they had ever smoked LCCs with flavors other than tobacco flavor, and that proportion did not differ significantly by sex, race, age, education, income, or cigarette smoking status. After controlling for sociodemographic factors, those who have ever used flavored LCCs were significantly more likely to be current users than to be former users (Table 3, Model 2).

Intentions for Future LCC Use

Current users' intentions for future LCC use were varied. Almost one-fourth of those who had smoked LCCs in the past month (23.1%, 95% CI = 15.7, 32.6) reported they "probably won't smoke LCCs again." Another one-fourth (26.2%, 95% CI = 18.8, 35.4) reported they "will probably smoke LCCs for a short time," whereas 19.1% (95% CI = 12.5, 28.1) reported they "will probably continue smoking LCCs for a long time." Nearly one-third of current users (31.6%, 95% CI = 23.0, 41.6) responded with "don't know" when asked their thoughts on future LCC use (data not shown). Whereas there was no statistically significant difference ($p = .20$) between the intentions of current LCC users by cigarette smoking status, the dual users were somewhat less likely to report that they "probably won't smoke LCCs again" (14.7%, 95% CI = 8.5, 24.3) than were former and never cigarette smokers (33.1%, 95% CI = 17.0, 54.3 and 33.5%, 95% CI = 15.1, 58.8, respectively).

Reporting the intention to use LCCs, for either a short or a long time, was significantly associated with current LCC use among lifetime users, in comparison to those who reported they did not know their intentions regarding continued use (Table 3, Model 3). When all 3 factors (perceived addiction, use of flavors, and thoughts on future use of LCCs) were included in the model (Table 3, Model 4), findings from the 3 previous models were supported, with only slightly diminished effect sizes.

Reasons for LCC Use

Table 4 shows the percentage of current LCC users who selected each of the various reasons for use provided as their single most important reason. For nearly one-half of all current LCC users, a reason associated with enjoyment of LCCs was selected as the single most important reason for use: specifically, "come in flavors I like", "help me feel relaxed," "enjoy the smell," or "give me a good buzz." For about one-fourth of current LCC users, reasons pertaining to favorable comparisons with cigarettes were most important: "more affordable than cigarettes," "longer burn time than cigarettes," or "more acceptable than cigarettes." "To satisfy my curiosity" was selected by just over one in 10 current LCC users. Reasons related to the harm reduction use of LCCs, "could help me quit smoking cigarettes" and "less harmful than cigarettes," were not selected by many as the single most important reason for use. Few said they "buy because of promotions on store windows or inside stores" or named another reason as the single most important for their use. The other reasons specified were few and included using the papers for smoking other substances or smoking them only on certain occasions.

Table 5 shows mean ratings for the importance of each reason for using LCCs among current LCC users, adjusting for sex, race, age, and cigarette smoking status. With few exceptions, average ratings of the importance for reasons were below the midpoint of the 5-point scale, indicating that current LCC users did not necessarily find any reason especially important. There were no statistically significant differences in ratings for any reason by sex. White, non-Hispanic LCC smokers placed higher importance on "longer burn time than cigarettes" ($p = .01$) and "help me feel relaxed" ($p < .01$) as reasons for use than did LCC smokers who are a race/ethnicity other than white or black. Whereas there were differences in mean ratings between white, non-Hispanic respondents and black, non-Hispanic respondents,

those differences were not statistically significant. LCC smokers aged 18–34 rated reasons “They come in flavors I like” ($p = .01$) and “To satisfy my curiosity” ($p < .01$) higher than did LCC smokers who were 35 or older. Dual LCC and cigarette smokers rated numerous reasons more highly than current LCC smokers who are not cigarette smokers, most notably those reasons comparing LCCs with cigarettes. “Promotions on store windows” and “Curiosity” also were rated more highly as reasons for use by dual cigarette/LCC users than by former cigarette smokers and those who smoke only LCCs.

To assess whether the importance of flavors was a potential motivator of LCC use, we explored the relationship between higher importance rating of the statement “They come in flavors I like” and current use. We found that higher importance rating of the statement “They come in flavors I like” was significantly associated with greater odds of current LCC use (OR = 1.41, 95% CI = 1.22, 1.63) among those who have ever used LCCs (data not shown). This relationship held when controlling for sex, age, race, education, income, and smoking status; however, it ceased to be statistically significant when controlling for the importance of other reasons for use.

DISCUSSION

Our study yields several notable findings concerning the characteristics of LCC usage and reasons for use. The role of flavors in LCC use is an important one. Following deliberate knowledge of their appeal and marketing intent by the tobacco industry,^{20,21} flavored LCCs are widely used and flavored tobacco products, with their ability to mask harsh taste, have been established to be appealing, especially to younger users.^{17–19,33} We find that use of flavors is associated with current use; those who have smoked flavored LCCs are about twice as likely to be current users as those who have not. Furthermore, flavors and other factors associated with enjoyment and relaxation are among the most important reasons selected for current use of LCCs, particularly among younger users, ages 18–34, who may just be initiating use. A higher importance placed on flavors as a reason for use was also associated with greater odds of current use, suggesting that minimizing or eliminating flavor options could curb usage. Thus, our data suggest that the FDA should regulate flavors in LCCs in the same way and for the same reasons they regulate flavors in cigarettes, and that doing so may deter use.

Consistent with previous research, current LCC users largely do not consider themselves addicted.²⁷ Perhaps this is due to the manner in which LCCs are smoked; prior research suggests that some LCC smokers do not smoke an entire LCC at once, but rather, only a portion at a time.³⁴ Female users and those who also currently smoke, or have smoked, cigarettes are more likely to perceive themselves as addicted, although the majority still report no addiction to LCCs. Cigarette smokers may be more attuned to the feelings associated with addiction than non-cigarette smokers, and thus, are more likely to label themselves addicted to LCCs. The perception that one is addicted to LCCs is associated with current use; lifetime users identifying as “somewhat” addicted are more likely to be current users than those who are unsure about their level of addiction. There is prior evidence that some LCC users consider LCCs, and especially flavored LCCs, less addictive than cigarettes

and generally “healthier,”³⁴ which calls for interventions that address and correct this misinformation.

The relatively high average age of initiation in our sample may be due to the fact that our current LCC smoker group consisted of all adults ages 18 and older. If we examine only the young adult users, as other studies of LCC users have done, the average age of initiation is significantly lower. The initiation age differences between exclusive users of LCCs and dual users of LCCs and cigarettes are likewise related to current age of the sample; the exclusive LCC users tend to be younger than dual users, thereby producing a lower average initiation age.

We speculate that some difference in initiation age also may be attributable to use of LCCs with marijuana, as “blunts,” with exclusive users more likely to be using LCCs for this purpose at a young age. It is important to note that whereas use of LCCs as “blunts,” with marijuana replacing some or all of the tobacco inside, is popular with some user subgroups,^{35, 36} we did not explore such use in this study. Prior research has implied that respondents may respond differently to usage questions depending on whether the definition provided includes use with marijuana or as “blunts.”^{35,37} Reasons for use and perceptions of addiction may vary widely based on the type of substance smoked.³⁴

Consistent with previous studies, our study confirms that the current smoker of LCCs is likely to fit the established profile with regard to race/ethnicity and SES; current users are more likely male, ages 18–24, black or Hispanic, and have less than a high school education.^{9,10,12} In contrast, the lifetime smoker of LCCs is more likely to be white and be more educated. These lifetime smokers may include those who have only experimented with LCCs in the past and may not have been regular users. In addition, greater education levels may be associated with a lower likelihood of progression to established or current use. Interestingly, the 55-to-64 year-old group has greater odds of lifetime use than do persons older than 64. This finding may be explained by the enormous success of R.J. Reynolds’ Winchester brand of little cigars in the early 1970s, when these respondents were young adults. At the time, televised marketing of little cigars was permitted although cigarette marketing was not, and warning labels were required only of cigarette packs.³⁸ Future studies should explore the impact of this potential legacy on this particular age group.

Our data show that those who reside in the northeastern or southern US also have more than twice the likelihood of being current LCC users when we control for demographics, possibly due to the higher concentration of urban areas in those parts of the country,³⁹ and the increased density of tobacco outlets found in urban areas.⁴⁰ There is evidence that greater density of tobacco outlets may be associated with a higher rate of initiation of combustible products among some groups.⁴¹ Current cigarette smokers are additionally more than 7 times as likely to have used LCCs in the past month, when compared with those who have never smoked cigarettes. As many of the groups associated with higher rates of LCC use have traditionally been targeted by the tobacco industry (young adults and racial minorities, in particular),^{20,23} their user status is not surprising, although obviously concerning. That LCC users continue to fit this at-risk profile is important information for the timely creation of targeted and effective health-risk messaging. Interventions need to acknowledge and

account for the perspectives of the groups at highest risk for LCC use and dual or poly-users of LCCs and other tobacco products.

In comparing the estimates of lifetime and current LCC use with those found by other studies, it is important to note that these figures are of LCC use among all adults, not merely among tobacco smokers or young adults, as is the focus of some other studies.^{3,10} Figures also may differ due to definition of “current use”; whereas data in our study rely on past 30-day use to define current use, other studies employ a definition based on now using “everyday,” “some days,” or “rarely.”²⁴ One should exercise caution in comparing this sample to others for these reasons, where the statistics generated by these data may seem low in comparison.

The fact that current LCC users who are lower-income report smoking LCCs on a greater number of days in the past month than do higher-income users might suggest a financial component to use. Lower-income users may be smoking a cheaper product or using cheaper LCCs to replace more expensive cigarettes. The relative affordability of LCCs makes them attractive to current users, indicating increased taxes on LCCs could be an additional deterrent to use.

Our study additionally finds that the intention to continue using LCCs, especially “for a long time,” when compared with a lack of clear intention, is strongly predictive of current use; current users intend to continue their use. Whether this is something with which they are content or whether they wish to quit but feel they are unable to do so is unclear. Further data on decision making concerning intentions for LCC use among users would be helpful in addressing cessation efforts.

There are a number of limitations to our findings. First, our survey contains a relatively small number of current LCC users. Expanding upon this subsample in future research would help to characterize specific demographic subgroups, such as those of lower SES, racial/ethnic minorities, and dual and poly-users of other tobacco products. Second, a multi-dimensional measure of current LCC use that explores more than a simple marker of past month usage would help segment users by “established” versus “sporadic” or “experimental” product usage. Third, it is possible that our study did not capture all of the most salient reasons for using LCCs, given that importance ratings for the provided reasons were low overall. It is additionally possible that LCC users’ reasons for use have changed over time and we are not able to capture their changing reasons over the course of use. Also, the cross-sectional nature of our data makes it difficult to understand reasons for use as a causal factor driving current use. Finally, as previously mentioned, our survey did not clarify whether LCC users were smoking only tobacco, marijuana (as “blunts”), or with a combination of substances. Future surveys should attempt to make this distinction.

In conclusion, our study builds upon the limited prior research on adult LCC users by updating their demographic profile using national 2014 data. Additionally, we explore lesser-known characteristics of use such as intentions, perceptions of addiction, impact of flavored products on use, and other reasons for use. These are among the FDA’s current research priorities and their exploration yields information valuable to the creation of

regulatory policies and health risk messaging. Previous studies have explored trends in LCC use and segmented users by demographics, but few have examined user perceptions or the importance of flavors as a motivation for current use. Future studies should utilize larger samples of current LCC users with a diverse demographic profile to illuminate the differences between specific population groups more fully. Doing so will enable the most effective, targeted health-risk messaging to specific user groups and those susceptible to future use.

IMPLICATIONS FOR TOBACCO REGULATION

This study uses a recent national probability sample of US adults to examine the demographic characteristics of users of little cigars and cigarillos. It additionally explores lesser-known characteristics of use including the importance of flavors, users' perceptions of addiction, reasons for use, and intentions for future use. In doing so, it addresses several current FDA/CTP (Center for Tobacco Products) research priorities by building on what is known about the current use of LCCs. These data provide information relevant to both proposed deeming regulations and health-risk messaging campaigns to address risk perceptions.

We find that flavored LCCs are commonly used; those who have ever used flavored LCCs are more likely to be current users, and flavors are strong motivators of use. Thus, regulations on flavors are strongly recommended and could have a substantial impact on usage rates. As flavors are especially motivating to younger users,^{17–19,33} regulations on flavors may have the most significant impact on initiation rates in younger populations. LCCs are additionally favored for their affordability, so tax increases likely may deter use. Health-risk messaging that addresses the harm caused by and the potential for addiction to LCCs is needed, as users of LCCs typically do not consider themselves addicted and may regard LCCs as “healthier” than cigarettes.³⁴ Messaging about the risks of use should consider and address the specific populations most likely to use LCCs, including young adults, members of racial minorities, and persons of lower SES.

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Table 1

Associations between Sociodemographic Factors and Lifetime Smoking and Current Smoking of Little Cigars and Cigarillos among US Adults, 2014

Respondent Characteristics	Lifetime Use of Little Cigars/Cigarillos		Current Use of Little Cigars/Cigarillos	
	% (95% CI)	AOR (95% CI)	% (95% CI)	AOR (95% CI)
Sex	p < .001		p = .001	
Male	42.1 (40.0, 44.2)	3.03 *** (2.60, 3.54)	3.8 (2.9, 4.8)	2.00 ** (1.27, 3.15)
Female	19.5 (17.9, 21.3)	REF	1.9 (1.4, 2.7)	REF
Age (years)	p = .01		p < .001	
18–24	25.8 (21.5, 30.5)	1.74 ** (1.24, 2.44)	5.8 (3.7, 9.0)	3.12 ** (1.39, 6.93)
25–34	35.4 (31.7, 39.2)	1.93 *** (1.49, 2.51)	4.0 (2.7, 5.9)	2.10 (0.98, 4.50)
35–44	29.7 (26.5, 33.1)	1.20 (0.94, 1.54)	2.9 (1.8, 4.5)	1.30 (0.62, 2.72)
45–54	29.4 (26.4, 32.7)	1.18 (0.93, 1.48)	2.5 (1.6, 4.0)	1.07 (0.52, 2.22)
55–64	32.4 (29.6, 35.4)	1.28 * (1.04, 1.60)	1.1 (0.6, 1.9)	0.44 (0.19, 1.03)
65+	29.5 (26.8, 32.5)	REF	1.7 (1.0, 2.9)	REF
Race/Ethnicity	p = .002		p < .001	
White, NH	32.6 (31.1, 34.2)	REF	1.9 (1.5, 2.5)	REF
Black, NH	27.4 (23.4, 32.0)	0.75 * (0.57, 0.98)	6.3 (4.2, 9.4)	2.11 * (1.18, 3.75)
Hispanic	24.7 (20.7, 29.2)	0.74 * (0.56, 0.99)	4.4 (2.7, 7.2)	2.41 ** (1.34, 4.35)
Other, NH	27.8 (22.4, 34.0)	0.82 (0.58, 1.16)	2.5 (1.2, 4.9)	1.59 (0.67, 3.75)
Education	p = .001		p < .001	
< High school	28.2 (23.6, 33.3)	0.64 ** (0.46, 0.89)	6.8 (4.5, 10.2)	2.87* (1.25, 6.61)
High school	28.1 (25.7, 30.6)	0.64 *** (0.52, 0.80)	3.0 (2.2, 4.2)	1.77 (0.86, 3.64)
Some college	35.4 (32.9, 38.0)	1.00 (0.82, 1.21)	2.8 (2.1, 3.7)	1.87 (0.95, 3.71)
College degree +	29.3 (27.1, 31.7)	REF	0.9 (0.5, 1.7)	REF
Household income	p = .07		p < .001	
<\$15K	33.4 (28.9, 38.2)	0.95 (0.69, 1.30)	8.3 (5.9, 11.6)	1.75 (0.82, 3.73)
\$15K – \$24.9K	24.1 (19.8, 29.1)	0.65 * (0.47, 0.91)	2.1 (0.9, 4.6)	0.64 (0.22, 1.82)
\$25K – \$39.9K	30.2 (26.7, 33.8)	0.91 (0.70, 1.17)	2.6 (1.5, 4.2)	0.85 (0.38, 1.92)
\$40K – \$59.9K	29.0 (25.8, 32.3)	0.83 (0.65, 1.06)	2.6 (1.6, 4.3)	1.07 (0.48, 2.42)
\$60K – \$84.9K	32.8 (29.5, 36.3)	1.04 (0.83, 1.30)	2.4 (1.5, 3.8)	1.21 (0.59, 2.48)
\$85K – \$99.9K	33.7 (28.4, 39.5)	1.04 (0.76, 1.44)	2.9 (1.2, 6.5)	1.43 (0.50, 4.11)
\$100K+	30.1 (27.6, 32.8)	REF	1.3 (0.8, 2.2)	REF
US region	p = .15		p = .004	

Respondent Characteristics	Lifetime Use of Little Cigars/Cigarillos		Current Use of Little Cigars/Cigarillos	
	% (95% CI)	AOR (95% CI)	% (95% CI)	AOR (95% CI)
Northeast	28.1 (25.0, 31.3)	0.87 (0.68, 1.12)	3.3 (2.2, 5.0)	2.42* (1.17, 4.99)
Midwest	32.6 (29.9, 35.4)	1.05 (0.84, 1.31)	1.9 (1.2, 2.8)	1.24 (0.60, 2.55)
South	31.4 (29.1, 33.7)	1.06 (0.86, 1.31)	3.9 (2.9, 5.1)	2.17* (1.13, 4.15)
West	29.4 (26.5, 32.4)	REF	1.7 (1.0, 2.7)	REF
Perceived health status	p < .001		p = .001	
Excellent	21.1 (17.5, 25.1)	0.45** (0.26, 0.78)	1.5 (0.7, 3.1)	0.64 (0.14, 2.88)
Very good	30.1 (27.8, 32.4)	0.67 (0.40, 1.10)	2.8 (2.0, 3.9)	1.37 (0.36, 5.15)
Good	32.4 (30.2, 34.8)	0.74 (0.45, 1.22)	2.2 (1.5, 3.1)	0.83 (0.23, 3.01)
Fair	34.1 (30.0, 38.5)	0.77 (0.46, 1.30)	5.7 (3.8, 8.4)	1.83 (0.50, 6.67)
Poor	41.3 (31.8, 51.6)	REF	3.3 (1.1, 9.3)	REF
Cigarette smoking status				
Current smoker	a	5.18*** (4.21, 6.37)	a	7.40*** (4.26, 12.87)
Former smoker		5.76*** (4.80, 6.90)		2.59** (1.36, 4.93)
Never smoker		REF		REF

*
p < .05,

**
p < .01,

p < .001

Note.

Boldface indicates statistical significance (p < .05). NH = non-Hispanic. CI = confidence interval. AOR = adjusted odds ratio.

p values shown are for bivariate chi-square tests of association for which no adjustments are made for other respondent characteristic variables.

Odds ratios shown are adjusted for all variables shown.

Current use is defined as any use in the preceding 30 days.

a = Percent using LCCs by smoking status appears in Weaver et al.

Degree to which Current Users Consider Themselves Addicted to Little Cigars and Cigarillos by Sex and Smoking Status

Table 2

	Overall % (95% CI)	Sex % (95% CI)		Cigarette Smoking Status % (95% CI)		
		Male	Female	Never	Former	Current
Consider yourself addicted to LCCs:						
		p = .05		p = .03		
Not at all	73.6 (64.7, 80.9)	76.7 (66.5, 84.5)	67.8 (51.1, 81.0)	100	66.5 (46.4, 81.9)	64.9 (52.6, 75.5)
Somewhat	15.6 (10.3, 23.0)	16.0 (9.7, 25.4)	14.9 (7.0, 28.8)	0	23.8 (11.1, 43.8)	19.3 (11.9, 29.7)
Very	7.1 (3.2, 14.8)	2.6 (0.7, 8.7)	15.5 (6.2, 33.1)	0	7.0 (1.7, 24.6)	10.2 (4.1, 23.1)
I don't know	3.7 (1.7, 7.6)	4.7 (2.1, 10.3)	1.8 (0.2, 11.7)	0	2.8 (0.4, 17.4)	5.6 (2.5, 12.1)

CI = confidence interval

Table 3

Factors Associated with Current Use of Little Cigars and Cigarillos among Lifetime Users

Model Predictors	Model 1 AOR (95% CI)	Model 2 AOR (95% CI)	Model 3 AOR (95% CI)	Model 4 AOR (95% CI)
Consider yourself addicted to LCCs:				
Not at all	0.53 (0.18, 1.52)			0.81 (0.25, 2.61)
Somewhat	17.19 *** (3.90, 76.66)			14.57 ** (3.00, 70.67)
Very	5.36 (0.77, 37.31)			2.77 (0.31, 24.79)
I don't know	REF			REF
Ever used flavored LCCs:				
Yes		2.51 *** (1.56, 4.05)		1.86 * (1.10, 3.16)
No		REF		REF
Thoughts on future LCC use:				
Won't smoke again			0.15 *** (0.08, 0.29)	0.16 *** (0.08, 0.32)
Will smoke for a short time			3.61 ** (1.73, 7.54)	3.15 ** (1.48, 6.69)
Will continue smoking a long time			5.63 *** (2.51, 12.62)	3.73 ** (1.47, 9.46)
I don't know			REF	REF

*
p < .05,**
p < .01,***
p < .001

Note.

Model 1 included perceptions of addiction to LCCs. Model 2 included prior use of flavored LCCs. Model 3 included intentions to use LCCs in the future. Model 4 included all 3 factors. All models adjust for sex, age, race/ethnicity, education, household income, US region, perceived health status and cigarette smoking status.

Boldface indicates statistical significance (p < .05). AOR = adjusted odds ratio; CI = confidence interval.

Table 4

Single Most Important Reason for Using Little Cigars and Cigarillos among Current Users

	% (95% CI)
Enjoyment	
Come in flavors I like	15.4 (9.5, 24.0)
Help me feel relaxed	12.3 (7.5, 19.5)
Enjoy the smell	10.7 (6.3, 17.4)
Give me a good buzz	5.9 (2.4, 14.0)
Better than cigarettes	
More affordable than cigarettes	12.5 (7.3, 20.5)
Longer burn time than cigarettes	11.6 (6.1, 20.9)
More acceptable than cigarettes	2.9 (0.5, 14.9)
Curiosity	11.3 (6.4, 19.2)
Harm reduction	
Could help me quit cigarettes	5.5 (2.9, 10.5)
Less harmful than cigarettes	1.9 (0.6, 6.3)
Buy because of store promotions	1.7 (0.6, 4.8)
Other	8.3 (4.4, 15.2)

CI = confidence interval

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Table 5
Adjusted Mean Ratings of the Importance of Reasons for Using Little Cigars and Cigarillos among Current Users

	Sex			Race			Age				Cigarette Smoking Status		
	Male (95% CI) (a)	Female (95% CI) (b)	White, NH (95% CI) (a)	Black, NH (95% CI) (b)	Other (95% CI) (c)	18-34 (95% CI) (a)	35+ (95% CI) (b)	Never (95% CI) (a)	Former (95% CI) (b)	Current (95% CI) (c)			
“More affordable than cigarettes.”	1.51 (1.12, 1.90)	1.44 (0.93, 1.95)	1.63 (1.28, 1.99)	1.70 (1.03, 2.38)	1.09 (0.48, 1.70)	1.43 (0.99, 1.87)	1.52 (1.06, 1.98)	0.91 ^c ** (0.33, 1.50)	1.48 (0.84, 2.12)	2.03 (1.64, 2.43)			
“Less harmful than cigarettes.”	1.28 (0.91, 1.65)	1.40 (0.92, 1.88)	1.64 (1.32, 1.97)	1.31 (0.67, 1.95)	1.07 (0.51, 1.62)	1.53 (1.04, 2.03)	1.15 (0.75, 1.54)	1.13 (0.47, 1.79)	1.34 (0.67, 2.01)	1.55 (1.24, 1.86)			
“Could help me quit smoking cigarettes.”	0.83 (0.55, 1.11)	0.80 (0.41, 1.19)	1.01 (0.69, 1.32)	0.80 (0.33, 1.27)	0.63 (0.21, 1.05)	0.97 (0.62, 1.32)	0.65 (0.34, 0.97)	0.22 ^c *** (-0.20, 0.65)	0.76 ^c * (0.32, 1.20)	1.46 (1.14, 1.78)			
“More acceptable than cigarettes.”	1.02 (0.66, 1.38)	0.95 (0.44, 1.45)	1.13 (0.79, 1.47)	0.89 (0.30, 1.49)	0.93 (0.32, 1.55)	1.23 (0.81, 1.65)	0.74 (0.30, 1.18)	0.60 ^c * (0.01, 1.18)	1.01 (0.42, 1.61)	1.34 (0.98, 1.71)			
“Enjoy the smell of LCCs.”	1.70 (1.29, 2.11)	1.48 (0.91, 2.04)	1.86 (1.49, 2.23)	1.58 (0.90, 2.25)	1.33 (0.64, 2.01)	1.71 (1.20, 2.23)	1.46 (1.01, 1.91)	1.33 (0.62, 2.04)	1.65 (0.93, 2.38)	1.78 (1.42, 2.14)			
“Have a longer burn time than cigarettes.”	1.57 (1.13, 2.00)	1.19 (0.71, 1.68)	1.78 ^c * (1.45, 2.11)	1.34 (0.57, 2.12)	1.02 (0.47, 1.56)	1.60 (1.13, 2.08)	1.15 (0.70, 1.61)	0.89 ^c ** (0.17, 1.61)	1.30 (0.64, 1.97)	1.95 (1.62, 2.28)			
“Come in flavors I like.”	1.90 (1.55, 2.24)	1.73 (1.16, 2.30)	1.84 (1.46, 2.21)	1.79 (1.17, 2.42)	1.81 (1.21, 2.42)	2.17 ^b * (1.73, 2.62)	1.46 (0.99, 1.92)	1.63 (1.06, 2.19)	1.86 (1.13, 2.58)	1.96 (1.60, 2.31)			
“Help me feel relaxed.”	1.61 (1.23, 1.98)	1.21 (0.72, 1.70)	1.96 ^c ** (1.61, 2.31)	1.33 (0.70, 1.95)	0.94 (0.39, 1.49)	1.60 (1.14, 2.06)	1.22 (0.82, 1.62)	1.12 (0.43, 1.82)	1.58 (0.96, 2.19)	1.52 (1.23, 1.82)			
“Give me a good buzz.”	1.07 (0.71, 1.43)	1.03 (0.53, 1.54)	1.27 (0.90, 1.63)	1.14 (0.46, 1.81)	0.74 (0.26, 1.23)	1.28 (0.82, 1.73)	0.82 (0.40, 1.24)	0.91 (0.23, 1.59)	0.83 (0.26, 1.41)	1.40 (1.07, 1.73)			
“Buy them because of promotions I see on store windows or inside stores than sell them.”	0.66 (0.41, 0.92)	1.12 (0.72, 1.53)	1.05 (0.77, 1.32)	1.04 (0.54, 1.54)	0.60 (0.19, 1.00)	0.83 (0.52, 1.14)	0.96 (0.61, 1.30)	0.73 ^c * (0.27, 1.20)	0.52 ^c *** (0.18, 0.85)	1.43 (1.12, 1.74)			
“To satisfy my curiosity.”	0.88 (0.60, 1.16)	0.84 (0.44, 1.24)	0.99 (0.70, 1.27)	0.89 (0.40, 1.38)	0.70 (0.26, 1.15)	1.17 ^b ** (0.82, 1.53)	0.55 (0.21, 0.88)	0.61 ^c * (0.10, 1.11)	0.73 ^c * (0.28, 1.17)	1.25 (0.95, 1.54)			

* p < .05,
** p < .01,
*** p < .001

Note.

All variables adjusted for each of the characteristics shown in the table: sex, race, age, and cigarette smoking status.

Superscript letters denote statistical significance between columns within rows. Columns are labeled (a), (b), or (c). CI = confidence interval. NH = non-Hispanic.

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