Public Support FOR RAISING THE AGE of Sale {for Tobacco to 21 in the United States}

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ABSTRACT

Importance: Municipalities in three states have recently passed local laws making it illegal to sell tobacco products and electronic cigarettes to persons younger than 21 years of age. Raising the tobacco sales age to 21 has the potential to reduce initiation and progression to regular tobacco use.

Objectives: To assess the level of public support nationally for "Tobacco 21" initiatives.

Design, Setting, Participants: We used a previously validated mixed-mode survey design to obtain a representative, cross-sectional sample of U.S. adults in the fall of 2013.

Main Outcomes and Measure : Respondents were asked to state whether they strongly agreed, agreed, disagreed, or strongly disagreed with, "The age to buy tobacco should be raised to 21," and response categories were collapsed to "agree" or "disagree." We examined variation in support by smoking status, region, race, age, sex, and education.

Results: In the random digit dialing frame of households with landline telephones, of 1,689 eligible respondents contacted, 1,552 (91.9%) completed surveys. For the probability-based panel frame, 2,667 panelists were randomly drawn from the probability panel; 1,693 responded to the invitation, yielding a final stage completion rate of 63.5%. Of these 3,245 adults, 70.5% supported the Tobacco 21 initiative.The majority of adults regardless of smoking status, geographic region, race, sex, education, and age – including a adults under 21 - support raising the sales age to 21. Recognizing the risks of addiction for adolescents and young adults experimenting with tobacco also predicted support In multivariable analyses, support was significantly greater among never smokers (OR=2.6, 95% CI=2.1-3.3) and former smokers (OR=1.4, 95% CI=1.1-1.8) compared to current smokers. Support also varied across Census regions. Although the majority of adults under 21 support raising the sales age, adults 30-44 (OR=1.7, 95% CI=1.1-2.6), 45-64 (OR=2.2, 95% CI=1.5-3.3), and 65+ (OR=3.2, 95% CI=2.0-5.0) were more likely to support this issue. In terms of race and sex, support was higher among African Americans (OR=1.7, 95% CI=1.2-2.3), Hispanics (OR=1.4, 95% CI=1.0-1.9), and other adults (OR=1.5, 95% CI=1.1-2.2) compared to whites adults; and females compared to males (OR=2.0, 95% CI=1.7-2.4).

Conclusions: This national study demonstrates broad public support for raising the sales age of tobacco to 21 and supports increased dissemination of Tobacco 21 initiatives at the state and local levels.

INTRODUCTION

Tobacco is the leading cause of preventable disease and death in the United States. Almost all adult tobacco users started before the age of 21 and the majority of those begin during the high school years. Initiating cigarette smoking during adolescence rather than in early adulthood is more likely to lead to addiction and daily smoking. Moreover, many adults who purchase cigarettes for distribution to minors are under 21. High school students are less likely to have 21 year-olds than 18 year-olds in their social circles, suggesting reduced opportunities to access tobacco from older buyers. Raising the age of sale for tobacco has the potential to break this distribution cycle by reducing minors' ability to buy from other local high school students.

In recognition of the opportunity to prevent the majority of future tobacco use, the American Medical Association passed a 1986 resolution supporting raising the age of sale to 21, equal to that of alcohol. Efforts to achieve an age of tobacco sale of 21 were not successful at any level of government until Needham, MA passed a minimum age of tobacco sale ("tobacco 21") regulation in 2005. Over the next five years, the high school smoking rate in Needham dropped 47%. Public health advocates have followed Needham's example in 2013 and 2014, succeeding in raising the age of sale of tobacco products to 21 in 28 cities and towns in Massachusetts, New York City, Suffolk County NY, as well as the Big Island of Hawaii.

No published studies exist about levels of public support for raising the age of sale to 21. Understanding what the public believes about this regulatory action will provide important political context as state governments begin to consider these policy initiatives. Using a nationally representative sample, we examined overall levels of support for raising the age of sale to 21 as well as how levels of support varied by smoking status, sex, race, education, and geographic region. We also looked at levels of support among the critical 18-20 year old demographic, the ones who would be directly affected by such regulations.

METHODS

Cross-sectional dual-frame surveys representing national probability samples of adults were administered in 2013. The design included a Random Digit Dialing (RDD) frame and an internet panel frame developed from a probability sample of U.S. adults, in order to reduce non-coverage issues arising from wireless substitution. The probability-based panel frame included an online survey administered to a randomly selected sample from a nationally representative research panel {KN; unknown}. Surveys were administered to both frames from October to December in 2013. Data were weighted to adjust for age, race, gender, and region, as well as frame overlap among internet panel respondents who also had a landline telephone and were therefore also eligible for the RDD frame.

TABLE 1. SAMPLE CHARACTERISTICS

Characteristic*	Unweighted N=3,245	Unweighted Percentage	Weighted Percentage
Smoking Status			
Never Smokers	1,900	58.6%	59.9%
Former Smokers	900	27.7%	24.6%
Current Smokers	413	12.7%	14.4%
Refused	32	1.0%	1.1%
Region			
Northeast	571	17.6%	17.3%
Midwest	787	24.3%	22.1%
South	1,262	38.9%	37.8%
West	597	18.4%	22.2%
Refused	28	0.9%	0.6%
Race			
White	2,468	76.1%	70.3%
Black	363	11.2%	11.3%
Hispanic	169	5.2%	10.3%
Other	204	6.3%	7.2%
Refused	41	1.3%	0.9%
Age			
18-20	100	3.1%	4.8%
21-29	258	8.0%	14.6%
30-44	644	19.8%	28.7%
45-64	1,211	37.3%	34.3%
65+	966	29.8%	16.2%
Refused	66	2.0%	1.5%
Sex			
Males	1,371	42.2%	47.4%
Females	1,874	57.8%	52.6%
Education			
Less than HS	239	7.4%	9.0%
High School	918	28.3%	26.9%
Some College	891	27.5%	28.9%
College Degree	1,184	36.5%	34.9%
Refused	13	0.4%	0.3%

TABLE 2. SUPPORT FOR RAISING THE AGE OF SALES TO 21 YEARS OF AGE

Characteristic	Percentage in Support (95% CI)
Overall	70.5% (68.9%-72.1%)
Smoking Status*	
Never Smokers	76.0% (74.0%-78.0%)
Former Smokers	65.1% (61.7%-68.5%)
Current Smokers	57.8% (53.2%-62.4%)
Region*	
Northeast	71.0% (67.2%-74.8%)
Midwest	71.1% (67.7%-74.5%)
South	72.5% (69.9%-75.1%)
West	66.4% (62.8%-70.0%)
Race	
White	68.4% (66.4%-70.4%)
Black	80.3% (76.1%-84.5%)
Hispanic	72.0% (67.0%-77.0%)
Other	74.3% (68.5%-80.1%)
Age*	
18-20	61.7% (53.7%-69.7%)
21-29	66.6% (62.2%-71.0%)
30-44	67.0% (63.9%-70.1%)
45-64	72.7% (70.0%-75.4%)
65+	78.1% (74.4%-81.8%)
Sex*	
Males	62.7% (60.2%-65.2%)
Females	77.5% (75.5%-79.5%)
Education*	
Less than HS	75.1% (69.9%-80.3%)
High School	74.8% (71.8%-77.8%)
Some College	68.5% (65.4%-71.6%)
College Degree	67.6% (64.8%-70.4%)
Experimenting with cigarettes is a part of growing up*	
Agree	73.5% (71.4%-75.6%)
Disagree	66.1% (63.4%-68.8%)
It is important that adolescents and young adults never experiment with tobacco*	
Agree	77.0% (75.3%-78.7%)
Disagree	46.9% (42.9%-50.9%)
People can become addicted to nicotine even after smoking just a few cigarettes*	
Agree	77.3% (75.5%-79.1%)
Disagree	53.6% (49.6%-57.6%)
Don't Know	62.3% (57.4%-67.2%)
Even one dose of nicotine or smoking one cigarette can change brain chemistry*	
Agree	79.6% (77.6%-81.6%)
Disagree	53.6% (49.6%-57.6%)
Don't Know	66.8% (63.3%-70.3%)

*Percentage answering each question ranged between 96.2% and 97.7%

TABLE 3. LOGISTIC REGRESSION. SUPPORT FOR RAISING THE AGE OF SALES TO 21 YEARS OF AGE

Characteristic	Overall N=3245
Smoking Status	
Never Smokers	2.3 (1.7-3.0)
Former Smokers	1.3 (0.9-1.7)
Current Smokers	REF
Region	
Northeast	1.4 (1.0-1.9)
Midwest	1.4 (1.1-1.9)
South	1.3 (1.0-1.7)
West	REF
Race	
White	REF
Black	1.8 (1.3-2.5)
Hispanic	1.3 (1.0-1.8)
Other	1.7 (1.1-2.4)
Age	
18-20	REF
21-29	1.5 (0.9-2.4)
30-44	1.6 (1.0-2.5)
45-64	2.1 (1.3-3.2)
65+	3.2 (2.0-5.3)
Sex	
Males	REF
Females	1.8 (1.5-2.2)
Education	
Less than HS	1.7 (1.2-2.4)
High School	1.6 (1.2-2.0)
Some College	1.1 (0.9-1.4)
College Degree	REF
Experimenting with cigarettes is a part of growing up*	
Agree	REF
Disagree	0.8 (0.7-1.0)
It is important that adolescents and young adults never experiment with tobacco*	
Agree	2.9 (2.3-3.6)
Disagree	REF
People can become addicted to nicotine even after smoking just a few cigarettes*	
Agree	1.3 (1.0-1.7)
Disagree	REF
Don't Know	0.8 (0.6-1.1)
Even one dose of nicotine or smoking one cigarette can change brain chemistry*	
Agree	2.3 (1.8-2.9)
Disagree	REF
Don't Know	1.2 (0.9-1.6)

RESULTS

Sample Characteristics

Table 1 shows the demographic characteristics of the overall sample. In the RDD frame, of 1,689 eligible respondents contacted, 1,552 completed surveys (completion rate, 91.9%). For the internet panel frame, 2,667 panelists were randomly drawn from the probability panel; 1,693 responded to the invitation, yielding a final stage completion rate of 63.5%.

Support for Raising Age of Sale for Tobacco to 21

The majority of adults support raising the age of sale for tobacco to 21 (70.5%). This majority support persisted across smoking status, geographic region, race, sex, education, and age – including adults aged 18-20 (see Table 2). Among the 457 smokers in the sample, there was majority support across all age groups of smoking initiation, however, the highest level of support (67%) was reported by the 100 (22%) of smokers who initiated smoking between the ages of 18 and 20. In multivariable analyses, support was found to be higher among never smokers, females, African-Americans, and older adults (see Table 3). Support was also higher among adults agreeing that it is important that adolescents and young adults never experiment with tobacco, that people could become addicted to nicotine even after smoking just a few cigarettes, and even one dose of nicotine or smoking one cigarettes can change brain chemistry.

DISCUSSION

In this study we demonstrated strong majority support across every demographic category, including those age 18-20 who would be directly impacted by this regulation. Notably support was found among smokers themselves, who often regret that they ever began smoking. Policy makers interested in enacting regulations to raise the age of sale for tobacco can use these data to protect public health with the firm knowledge of majority support for their actions. Our data suggest that increasing public awareness about the addictive potential of even just a few cigarettes and denormalizing tobacco experimentation as part of growing up may further bolster support for increasing the tobacco sales age to 21.

Despite strong public support for this initiative, there remain objections from tobacco retailers and the tobacco industry. Most of these industry objections lack credibility on close scrutiny. One widely promulgated argument involves immediate loss of revenue, lost sales tax revenue for states and municipalities, and job loss. However, the short term costs are likely to be quite small, as tobacco sales to people between the ages of 18 and 20 only account for 2% of all tobacco sales. Although sales would decrease over time as the overall prevalence of adult tobacco use declined, businesses would have ample time to address a gradual change to their tobacco business. Concerns about enforcement and associated costs are also raised. However, current FDA policy requires retailers to check the ID of anyone attempting to purchase tobacco who appears to be under the age of 27. Raising the minimum age for sales of tobacco to be consistent with alcohol could actually reduce the retailer's burden. In many states, driver's licenses for those under 21 look different than for those over 21. One frequently expressed objection to raising the age of sale of tobacco involves violation of the Equal Protection Clause of the U.S. Constitution for young adults old enough to vote and provide military service. Legal challenges, however, are unlikely to be successful. U.S. courts have generally supported age restrictions which protect public health. Furthermore, legal precedents abound for age restrictions for young adults. The sale of alcohol, participation in casino gambling in most states, purchase of recreational marijuana in the states where it is legal, and application for a license to carry a handgun are each restricted to adults 21 years of age and older.

This study has at least two limitations. First, our dual frame methodology is designed to reduce the potential for sample bias associated with either RDD or internet panel samples alone, but we still can't eliminate the potential for noncoverage bias. Also, the use of the internet panel raises some concern about the representativeness of the sample. However, several studies demonstrate that this probability-based panel can produce results similar to well-designed RDD surveys and our use of this dual frame methodology produced estimates for current smoking that did not differ from those of several large, government surveys of U.S. adults. Second, these data are self-report, and we could not verify that responses concerning age and cigarette smoking were not misrepresented.

CONCLUSIONS

This national study demonstrates broad public support for raising the sales age of tobacco to 21 and supports increased dissemination of Tobacco 21 initiatives at the state and local levels. The majority of adults support raising the age of sale for tobacco to 21 – including adults aged 18-20. Reducing youth access to tobacco will put fewer youth at risk for life-long nicotine dependence partly because the developing brain appears to be especially susceptible to rapid addiction.

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