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Raising the Legal Age of Tobacco Sales:

Policy Support and Trust in Government, 2014–2015, U.S.

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Abstract

Introduction—IOM has called for an increase in the minimum age of tobacco product sales. It is not clear what age increase would garner the greatest public support, or whether trust in the U.S. government predicts policy support.

Methods—The data for these analyses are from a nationally representative telephone sample of U.S. adults (N=4,880) conducted from September 2014 to May 2015. The authors assessed whether support varied by the proposed minimum age of tobacco sales using a survey experiment (i.e., random assignment to the 19-, 20-, or 21-year age minimum condition), and, in cross-sectional analyses, whether smoking status, individual demographics, state-level politics, and general trust in the government predicted policy support. Analyses were conducted from May to December 2015.

Results—Odds of support for raising the minimum sales age to 21 years trended higher than support for raising to age 20 or 19 years (AOR=1.22, 95% CI=0.97, 1.53, p=0.09). There was majority support for raising the age of sales for cigarettes in all regions of the U.S. (66.3%, 95% CI=64.0, 68.6). Race, age, and trust in government were significant predictors of support.

Conclusions—Raising the age of tobacco sales is broadly supported by the public. An age 21 years tobacco sales policy trends toward garnering more support than a policy at age 19 or 20

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years. Trust in government may be an important consideration in understanding policy support beyond demographics.

Introduction

Preventing initiation of tobacco use through reductions in youth access to tobacco products remains a public health goal that has not been fully realized.[1,2] This is in part because youth frequently acquire tobacco products from young adults instead of directly from tobacco retailers.[3] According to a 2015 IOM report, raising the legal age of tobacco product sale from 18 to 21 years would reduce youths' ability to acquire cigarettes from slightly older peers and improve health, with greatest reductions in access among youth younger than 18 years.[4] An age 21 years policy is particularly critical for protecting youth aged 15–17 years, as this group is at highest risk of initiating tobacco use.[4] With only 135 localities and one state (Hawaii) having increased minimum age of tobacco sales to the recommended age of 21 years,[5] there has been only limited adoption of this IOM-recommended policy change.

Despite limited policy adoption, approximately two thirds of U.S. adults appear to support increasing the minimum age of tobacco sales.[6–8] Previous research has found that highest support comes from smokers older than age 21 years who started smoking before age 21 years, and the lowest levels of support come among smokers younger than age 21 years.[7] Policymakers could choose to raise the minimum age of sale to age 19, 20, 21 years, or higher. No previous research has examined policy support by age of the proposed policy. Little research has examined factors that may influence policy adoption, such as individual demographics, trust in government, and political context. To better understand policy support and potential adoption, the authors sought to examine: (1) if there are differences in support for policy change by minimum age of legal sale (19, 20, or 21 years) through a randomized survey experiment; (2) predictors of policy support at the individual and state level; and (3) the role of trust in government for policy support and adoption.

Methods

A nationally representative English- and Spanish-language phone survey of adults (aged ≥18 years) living in the U.S., which included landline and cell phone frames, representing approximately 98% of total households, was conducted from September 2014 to May 2015. The study oversampled low-income respondents, individuals living in higher tobacco use regions, and young adults (MHB and colleagues, unpublished observations, 2015). The final sample (N=5,014) represents a weighted response rate of 42%, which is comparable to other national studies.[9,10] For the purposes of these analyses, cases where the respondent either refused to answer (n=1) or reported that they did not know or had no opinion (n=133) for the age policy question were dropped from the sample, yielding a sample size of 4,880 for these analyses.

Participants were asked to indicate their support for raising *the age of purchase for tobacco products in all states to [age]*, randomized to hear one of three ages (19, 20, or 21 years). Response options were *yes* or *no*. Participants received a check for $30 or $40 for landline and cell phone calls, respectively.

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To examine the possible role of sociopolitical factors related to policy support, the authors assessed the proportion of the state that voted Republican in the last presidential election and measured trust in government using a modified item from Gallup: *How much trust do you have in the Federal government? Would you say… A great deal, a fair amount, not very much, none at all, or no opinion?*[11]

Statistical Analysis

Analysis was conducted from May to December 2015. As no difference in odds of support between the policy at age 19 years and at age 20 years was identified, these two conditions were combined and used as the comparison group for the age 21 years condition. The weighted logistic regression models employed survey weights and accounted for sample stratification using SAS, version 9.3. Owing to a small amount of sporadic missingness of data, the Markov Chain Monte Carlo multiple imputation method with 100 imputations using the PROC MI statement was employed. Imputation did not change the pattern or significance of the weighted results; weighted regression results with imputation are reported in the text. The University of North Carolina Office of Human Subjects Research reviewed and approved the study protocol (#13-2779).

Results

Table 1 shows the characteristics of the phone survey sample stratified by support for raising the age of the policy. The survey experiment found a trend toward higher odds of support for raising the minimum age of tobacco sales for a policy at age 21 years than for a policy at age 20 or 19 years (AOR=1.23, 95% CI=0.99, 1.54). A majority of U.S. residents support a policy to raise the minimum age of sale in all regions of the country (Table 2).

The role of nine predictors of policy support was examined controlling for the age condition presented to the respondent (Table 3). Gender and race/ethnicity emerged as significant predictors of policy support. Being older than age 21 years versus age 18–20 years was also a significant predictor (AOR=2.58, 95% CI=1.78, 3.73).

State proportions voting Republican versus Democrat in the last presidential election was not associated with policy support (AOR=1.89, 95% CI=0.56, 6.38); however, trust in government was significantly associated with policy support (AOR=1.17, 95% CI=1.07, 1.28).

Discussion

Reducing youth access to tobacco and protecting youth at highest risk of tobacco addiction is of great national importance.[4] It is clear that raising the minimum age of tobacco sales, as one strategy for reducing youth access, is widely supported by the U.S. public. This research shows that majority support exists across all regions of the U.S. and for all demographic groups, including current smokers, results that bolster recent survey findings.[6–8] State policymakers should be further aware that raising the age of tobacco sales to 19 or 20 years, although seemingly less controversial, may garner the same, or possibly less, public support than raising the age of tobacco sale to 21 years.

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Congress recently directed the U.S. Food and Drug Administration (FDA) to conduct research on the public health implications of raising the minimum age for tobacco sales.[12] The FDA-sponsored IOM report concluded that raising the minimum age of tobacco sales to 21 years would lead to substantially lower rates of tobacco initiation than raising the minimum age of tobacco sales to 19 years.[4] Raising the legal age of tobacco product sales from 18 to 21 years would also lower healthcare costs and productivity expenditures.[4]

The level of policy support across the country identified in this survey suggests tobacco control efforts to raise the minimum age of sales to 21 years will gain increasing traction. Support may even occur in regions where one might assume the public would be less amenable to government intervention. For instance, support for raising the sales age is strong regardless of whether the respondent lives in more Republican vs. Democratic leaning states.

Policy support for raising the minimum age of sales was associated with demographic characteristics. Consistent with previous literature, women, non-white adults, Latinos, and non-smokers were more supportive of this government policy.[7,8] Although some sociodemographic markers of increased likelihood of tobacco use also predicted lower odds of support for the policy (i.e., being a smoker, young adult, male, white), other groups (i.e., lesbian, gay, and bisexual identity) at high risk of tobacco use did not express lower odds of support.

An important new finding from this survey involves the associations between trust in government and policy support for raising the minimum age of sales. National surveys report record lows in the public's general trust in government, with only 19% of the public trusting the federal government to do the right thing.[13] Although trust in the federal government has been dropping since the late 1950s, trust in individual government agencies remains, in fact, quite high. This includes trust in the Centers for Disease Control and Prevention (75%), FDA (65%), the National Aeronautics and Space Administration (73%), and the Department of Defense (72%).[13] One explanation for the positive association between support for increasing the minimum age of tobacco sales and trust in the government may be views of whether the policy will be implemented in a fair and effective manner. Trust in general government measures may not adequately capture confidence in how well government works.[14] Supporters of public policy to raise the minimum age of tobacco sales may hold a belief that the political system works well to protect youth. Linking a proposed minimum age tobacco policy explicitly to a specific state or federal agency may strengthen policy diffusion efforts. Further investigation of this hypothesis is needed.

Limitations

This study has a number of limitations. First, individual political beliefs were not directly assessed; rather, the contextual role of political voting at the state level was analyzed. Second, other unmeasured variables that may influence policy support, such as media, could influence stated outcomes. Third, the variable of trust in government does not directly assess state or local trust in government. As many age 21 years policies are implemented at local or state levels, future research should directly assess the role of trust in government at the local and regional levels. Fourth, policy support for raising the minimum age of sale above 21 years was not assessed; future research should do so.

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Conclusions

Raising the minimum age of tobacco sales is a popular policy option, supported by a majority of adults in all regions of the country. Support is likely the same or higher for an age 21 years policy than for a policy at age 19 or 20 years. Previous research suggests that an age 21 years policy would have a negligible impact on tobacco retailers[15] but a substantial positive impact on youth smoking.[4] States and localities may choose new legislation to raise the minimum age of tobacco sales to age 21 years, and Federal laws could also change to set this as a new national age of sale. Both this work and previous research suggest that federal legislative action to raise the minimum age of tobacco sales would be well received by the public.[8] Although most states have a minimum requirement for tobacco sales as age 18 years, four states have a minimum age of sale of 19 years, one state has a minimum age of 21 years, and several municipalities have raised the minimum age to 21 years.[4,5] Changes in state age of sales laws are likely to incrementally advance unless Congress votes to raise the minimum age nationally or grants the FDA the authority to enact such change.[4,12]

Future research should examine how correlates of support, such as trust in government, may influence policy outcomes. Most smokers wish to quit,[16] and regret at having started smoking is a nearly universal experience for adult smokers.[17] Policymakers should be aware that linking policy changes to trusted government agencies may facilitate adoption of policies that reduce tobacco use.

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Table 1

Weighted Demographic Characteristics Stratified by Support for Higher Age of Tobacco Sales, 2014–2015, Unweighted N=4,880

	Unweighted	Sample characteristics		Policy support	
	N	%	95% CI	%	95% CI
Total	4,880	100%		66.3%	64.0–68.6
Gender					
Male	2,326	48.9%	46.3–51.5	61.4%	58.1–64.7
Female	2,553	51.1%	48.5–53.7	70.9%	67.8–74.1
Age category					
18–20	317	6.4%	5.3–7.4	46.1%	37.7–54.5
21+	4,546	93.6%	92.6–94.7	67.5%	65.2–69.9
Race					
White	3,379	68.2%	65.8–70.6	61.8%	58.8–64.7
Black or African American	950	18.4%	16.3–20.4	77.6%	73.0–82.2
American Indian or Alaska Native	129	1.9%	1.2–2.6	71.9%	57.3–86.5
Asian	102	2.4%	1.8–3.0	72.0%	59.6–84.3
Pacific Islander	21	0.8%	0.3–1.3	79.6%	60.4–98.7
Other or unknown	267	8.4%	6.9–9.9	70.9%	63.5–78.3
Ethnicity					
Latino/Hispanic	424	14.3%	12.5–16.2	75.9%	70.5–81.2
Non-Latino/Hispanic	4,442	85.7%	83.8–87.5	64.8%	62.3–67.3
Education					
<High school (HS)	512	11.2%	9.1–13.2	76.7%	69.9–83.7
G12 or GED, HS diploma	1,199	31.3%	28.7–33.9	68.6%	63.9–73.3
Some college	1,012	21.1%	19.1–23.1	63.4%	58.7–68.2
Associate’s degree	483	10.6%	9.0–12.1	63.9%	56.4–71.4
Bachelor’s degree	1,031	15.6%	14.2–17.1	58.4%	53.9–62.8
Graduate or professional degree	627	10.2%	9.1–11.3	66.7%	61.8–71.6
Household Poverty					
Above federal poverty level	3,936	79.2%	77.1–81.3	64.2%	61.6–66.9
Below federal poverty level	745	13.1%	11.4–14.8	76.5%	71.3–81.7

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	Unweighted	Sample characteristics		Policy support	
	N	%	95% CI	%	95% CI
Refused or don't know	333	7.7%	6.3–9.1	69.7%	60.7–78.6
Sexual orientation					
Straight or heterosexual	4,601	94.2%	93.1–95.3	65.8%	63.5–68.2
Gay, lesbian, or bisexual	190	3.2%	2.6–3.9	66.2%	56.8–75.5
Other or refused	89	2.5%	1.6–3.5	81.8%	70.7–92.8
Current cigarette smoking					
Current smoker	1,124	18.0%	16.1–19.9	58.6%	53.2–64.0
Non-smoker	3,749	82.0%	80.1–83.9	68.0%	65.4–70.5

Note: Ns are unweighted and for a given category may not add to the total N due to sporadic missingness.

G12, Grade 12; GED, General Education Development

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Table 2

Support for Policy Change Raising the Minimum Purchase Age of Tobacco Products, 2014–2015, N=4,880

	Unweighted	Weighted	
	n	%	95% CI
U.S.: 50 states	4,880	66.3	(64.0–68.6)
New England: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	116	60.4	(46.9–74.0)
Middle Atlantic: New Jersey, New York, Pennsylvania	396	71.2	(65.2–77.2)
East North Central: Illinois, Indiana, Michigan, Ohio, Wisconsin	574	62.8	(55.9–69.6)
West North Central: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota	371	59.6	(49.9–69.4)
South Atlantic: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia	1,276	68.1	(63.5–72.6)
East South Central: Alabama, Kentucky, Mississippi, Tennessee	677	67.4	(61.1–73.7)
West South Central: Arkansas, Louisiana, Oklahoma, Texas	677	73.1	(67.0–79.3)
Mountain: Arizona, Colorado, Idaho, New Mexico, Montana, Utah, Nevada, Wyoming	298	62.8	(55.1–70.5)
Pacific: Alaska, California, Hawaii, Oregon, Washington	494	64.3	(58.3–70.3)

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Table 3

Predictors of Support for Increasing the Minimum Age of Tobacco Sales, U.S., 2014–2015, N=4,880

Variable	Unweighted AOR (95% CI)	Weighted AOR (95% CI)	Weighted and imputed AOR (95% CI)
Nonsmoker	**1.68 (1.45–1.93)**	**1.50 (1.15–1.95)**	**1.45 (1.12–1.88)**
Policy age condition 21 (ref. policy age 19 or 20)	**1.26 (1.11–1.44)**	1.22 (0.97–1.53)	1.23 (0.99–1.54)
Respondent age ≥21	**2.37 (1.86–3.01)**	**2.61 (1.80–3.78)**	**2.58 (1.79–3.73)**
Female	**1.63 (1.44–1.84)**	**1.51 (1.21–1.87)**	**1.53 (1.24–1.89)**
Non-white	**1.81 (1.57–2.09)**	**1.80 (1.41–2.29)**	**1.78 (1.40–2.26)**
Latino/Hispanic	**1.47 (1.15–1.87)**	**1.54 (1.10–2.16)**	**1.43 (1.03–1.99)**
Lesbian, gay, or bisexual	0.78 (0.57–1.07)	1.03 (0.66–1.59)	0.99 (0.63–1.56)
Proportion state of residence voted Republican in 2012 election	**2.75 (1.36–5.58)**	1.80 (0.52–6.21)	1.89 (0.56–6.38)
Trust in government	**1.08 (1.03–1.14)**	**1.15 (1.05–1.26)**	**1.17 (1.07–1.28)**

Note: Boldface indicates statistical significance ($p<0.05$).