Student, Faculty, and Staff Approval of University Smoke/Tobacco-Free Policies: An Analysis of Campus Newspaper Articles

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ABSTRACT

OBJECTIVE: To provide a nontraditional source of data to university policymakers regarding student, faculty, and staff approval of university smoke/tobacco-free policies, as published through campus newspaper articles.

METHODS: From January to April 2016, a total of 2523 articles were retrieved concerning campus smoking/tobacco at 4-year, public universities. Of these, 54 articles met the inclusion factors, which described 30 surveys about campus approval of tobacco-free policies and 24 surveys about smoke-free policies.

RESULTS: In all, the surveys included more than 130,000 respondents. With the exception of 4 surveys, all reported that the most of the respondents approved a tobacco/smoke-free campus policy.

CONCLUSIONS: Although the study had several limitations, the findings provide a synthesis from a nontraditional data source that is consistent with findings from the peer-reviewed literature, in which most of the students, faculty, and staff on university campuses approve of smoke/tobacco-free campus policies.

KEYWORDS: University, smoking, tobacco, policy, opinion

Introduction

Tobacco use is a major health problem in the United States. Firsthand and secondhand smoke (SHS) are associated with negative health issues, including several types of cancer, respiratory problems, cardiovascular disease, and reproductive health issues.¹ Smoking is the leading cause of preventable death, killing an estimated 480,000 Americans each year.¹ It is also estimated that tobacco use costs US $130 billion in direct medical costs and US $150 billion in productivity loss every year.¹ Moreover, smokeless tobacco use is also harmful to health and associated with oral lesions, gum disease, tooth decay, and cancer of the mouth, esophagus, and pancreas.²

Tobacco use is also an important health issue on university campuses. The National College Health Assessment reports that the nation’s university students are current users of several types of tobacco, including cigarettes (9.7%), e-cigarettes (4.9%), hookah (water pipes) (4.6%), cigars, little cigars or cloves (4.4%), and smokeless tobacco (2.5%).³ In addition, quantitative⁴ and qualitative⁵ research findings suggest that SHS exposure is a problem at universities without stringent tobacco policies. For instance, in one study, 45% of students report that SHS is difficult to avoid while outdoors on campus.⁶ Similarly, in a separate study, 77% of students report being bothered by outdoor SHS on campus.⁷ To address tobacco use, public health experts recommend the implementation of smoke-free policies as an evidence-based strategy. The Surgeon General,¹¹ Community Guide to Preventive Services,¹² American Lung Association,¹³ and the American College Health Association¹⁴ recognize empirical research findings that indicate tobacco-free policies are effective in reducing both firsthand and secondhand exposure to tobacco. As such, these organizations recommend that communities strive to implement comprehensive tobacco control policies.

Fortunately, there is a growing trend among colleges and universities in the United States to become smoke-free or tobacco-free. According to Americans for Nonsmokers’ Rights, there were only 446 smoke-free campuses in 2010, whereas in 2016, there were more than 1400.¹⁵ In the process of becoming a smoke-free or tobacco-free university, an essential step is to assess the campus community’s attitudes toward a comprehensive policy. The US Department of Health and Human Services’ Tobacco-Free College Campus Initiative,¹⁶ Americans for Nonsmokers’ Rights,¹⁷ and public health departments¹⁸,¹⁹ strongly suggest surveying students, faculty, and staff to gauge the community’s overall opinion of a smoke-free (ie, prohibition of smokable tobacco products) or a...
tobacco-free (ie, prohibition of smokable and smokeless tobacco products) campus. Survey results can demonstrate to policymakers the support of the campus for such a policy.

Although a number of peer-reviewed publications report campus opinion of tobacco policies, the findings have not been completely consistent. Several studies indicate that the most of the students, faculty, staff, and administrators approve of a transition to a smoke-free or tobacco-free campus. For example, Lupton and Townsend conducted a systematic review of 19 articles from both peer-reviewed and gray literature from the United States and the United Kingdom, finding that 58% of students and 68% of faculty supported smoke-free campus policies. However, 2 studies suggest that only a minority support comprehensive policies. For instance, Thompson et al show that only 32% of more than 14 000 students sampled from 30 different colleges in Idaho, Oregon, and Washington are in favor of prohibiting smoking outdoors. In addition, the study by Loukas et al of a convenience sample of 1118 students (from a population of 39 020 students attending 5 colleges in Texas) had a much lower level of support for prohibiting smoking outdoors as compared with indoors. In other words, although most of the community members supported a smoke-free or tobacco-free campus, a couple of studies found less support for banning outdoor use.

Granted, an abundance of peer-reviewed literature exists regarding campus approval of tobacco policies; however, there has yet to be a synthesis of this topic from nontraditional data sources, specifically, campus newspapers. Given the potential for publication bias in peer-reviewed literature, public health professionals value additional, supplemental data from nonacademic sources. Because several experts recommend that advocates publicize poll data of tobacco policy approval via student-run campus newspapers, the purpose of our study was to further examine this issue by reviewing survey findings published within campus newspapers. Even though news media are subject to several limitations, previous research has used the news as an adjunct source of data for traditional research methods.

This study attempted to answer several research questions. First, considering there are more than 1000 smoke-free universities in the United States, and because public health experts recommend gathering and publicizing poll data of tobacco policy approval via student-run campus newspapers, it could be assumed that there would be a plethora of newspaper publications regarding such polls, however, no one has yet investigated this issue. As such, this study will answer the question: How often are approval surveys published in online campus newspapers?

Second, although it is recommended that members of university campuses advocate for change by conducting opinion surveys, the methodology of such recommendations is vague, at best. It is important to understand how opinion polls on campus are actually implemented. Therefore, this study will answer the questions: Who tends to conduct tobacco policy approval surveys? What research methods are used?

Finally, this study will serve to provide a synthesis from a nontraditional data source (ie, university newspapers) to answer the question: What percent of campus communities discussed in the articles approve of smoke-free or tobacco-free policies?

Methods

Prior to conducting the study, the Institutional Review Board at Liberty University determined that the study was exempt because all articles retrieved for the review were freely available online and did not include any identifying information of participants regarding survey results.

During January through April 2016, the government’s National Center for Education Statistics’ “College Navigator” Web site (http://nces.ed.gov/collegenavigator/) was used to locate universities. College Navigator gives users the option to filter institutions of higher education based on state location, public or private status, and length of degree options (eg, 4-year degree, 2-year degree). College Navigator was filtered to select universities throughout the entire United States that are public and offer 4-year degrees. Universities that are private or only offer 2-year degrees were excluded from the study after an initial search found only a small number of student newspapers from these institutions. Moreover, public, 4-year universities tend to have larger enrollments, which would provide larger sample sizes for surveys regarding campus approval of tobacco policies. We also excluded universities that did not have a physical campus (ie, online universities) and thus need no further study for a campus tobacco policy.

Each university name was copied and pasted into an electronic document. The Internet was then used to search for each university’s online student-operated newspaper. Universities were excluded from the study if they did not have a student newspaper or if the student newspaper was only available in print form due to the difficulty of obtaining and searching through archived print newspapers.

The search pane of each student newspaper was searched using a combination of the following terms: smoke, smoking, tobacco, policy, ban, survey, and vote. The term “vote” was included because student voting regarding a referendum also acts to gauge campus approval of tobacco policies. Each resulting article was copied and pasted into an electronic document and searched for a description of any survey or vote that was conducted regarding the campus community’s approval of a new tobacco policy.

Articles were excluded if they were regarding smoke-free or tobacco-free policies but did not include information about campus surveys about tobacco policy approval. In addition, articles were excluded if the sample size of the survey was not specified or if the article was regarding tobacco policies other than comprehensive policies (eg, designated smoking areas, only prohibiting smoking a certain distance from building entrances). If an article cited multiple surveys conducted on campus, each survey was included in the study.
The articles were analyzed to determine the type of tobacco policy, who conducted the survey, the survey’s methods, sample size, and percent of the sample’s approval. Newspaper articles that reported Likert-based categories of percentage approval (eg, strongly approve, somewhat approve) were collapsed into a single percentage. Finally, to provide context of each survey, the universities’ Web sites were also explored to determine the student enrollment as well as the smoking policy that was in place during the time of the survey.

Results
We located 510 online student newspapers from the 707 four-year universities in the United States. There were a total of 2523 articles retrieved concerning smoking or tobacco on campus. Of these, 51 articles met the inclusion factors, which described 30 surveys about campus approval of tobacco-free policies (Table 1) and 24 surveys about smoke-free policies (Table 2). Three articles described multiple surveys. The articles were published from 2007 to 2015. In all, the surveys included more than 130,000 respondents.

Surveys and votes were conducted most often by a form of student government (n = 19, 35%) or a university-sanctioned tobacco/smoke-free task force/coalition/committee (n = 14, 26%). Others who conducted surveys included service or academic departments within a university (eg, Safety Council, Department of Health Promotion), student-based public health clubs, students who conducted the survey as part of a project for a class, college health/wellness centers, faculty senate/committee, lone faculty members, college presidents, and “the university” in general.

The most common survey methods included sending a survey (or opening a survey on a Web site) electronically to the entire campus (n = 18, 33%) and opening the policy to be voted on by the entire campus (n = 6, 11%). Other methods included sending the survey to a random sample of the population and recruiting a convenience sample to complete the survey. It is important to note that the methods of 24 (44%) surveys were not specified in the articles.

The universities included in the study had a variety of tobacco policies in place during the time of their campus surveys/votes. Specifically, 19 universities prohibited smoking at building entrances, ranging from 10 to 50 ft (M = 22.22, SD = 9.74, Mdn = 25), with 1 policy vaguely prohibiting smoking “near” building entrances. There were 15 universities that prohibited smoking around building perimeters, ranging from 20 to 50 ft away from buildings (M = 29.67, SD = 10.77, Mdn = 25). Of the universities in the study, 14 prohibited smoking on the entire campus, with the exception of designated smoking areas. There were 5 universities that did not prohibit smoking outdoors and 1 university that had adopted, but not yet implemented, a policy that prohibited smoking on the entire campus.

With the exception of 4 surveys, all reported that most of the respondents approved of a tobacco/smoke-free campus policy. Not every article reported an exact sample size. There were 7 articles stating that surveys were “almost,” “roughly,” “nearly,” or “over” a certain sample size. Similarly, 2 articles simply stated that a “majority” of survey respondents had approved of a tobacco/smoke-free policy, without giving an exact percentage.

Discussion
The current analysis of campus newspaper articles included in this study signals that most of the campus community members (eg, students, faculty, staff) who participated in the surveys or campus votes approved of comprehensive tobacco-free and smoke-free policies, regardless of the type of policy in place at the time of the survey. Granted, a large number of articles in the review did not report the sampling methods used in the surveys; however, the surveys that used random sampling or included the entire campus population had similar findings. In other words, even though the survey methods varied across studies, the overall finding of majority approval was consistent. These findings provide a synthesis from a nontraditional data source that reflects the peer-reviewed literature, in which most people would prefer a tobacco/smoke-free campus.20–27

It is noteworthy that there were universities with a relatively low percentage of approval for a tobacco/smoke-free campus. This may indicate either low interest in the topic or low support for tobacco- and smoke-free initiatives in these communities. However, the low approval may have been from the limitations of the surveys. At the University of Arkansas, the survey was administered to only students who lived on campus, which did not capture the opinion of those who lived off campus, or faculty/staff members of the community. Moreover, at the time of the survey, a tobacco-free policy had been recently adopted, but not yet implemented, which may have caused an increase in negative opinion during the transition between policies.44

At the Missouri University of Science and Technology, although only 46% approved, even less disapproved (43%) of a more stringent policy.44 Also, at the University of Idaho, 2 surveys were conducted, resulting in a majority and minority approval rating. The survey with the higher approval rating was considered the more scientifically rigorous of the 2 studies by the university’s Director of Health and Wellness.76

A number of campuses whose student government and/or task force conducted a survey suggest that the student body considered tobacco use as an important issue. According to the Tobacco-Free College Campus Initiative, a student government and tobacco-free task force should play a major role in assessing how many people on campus approve of a tobacco-free policy.16 The findings in this review suggest that those who advocate for a tobacco/smoke-free policy on their campus should consider collaborating with student government and/or campus tobacco task force.

Given the potential of publicizing survey findings through a campus newspaper, this study indicates possible areas of improvement. First, although the analysis of campus newspapers retrieved more than 50 articles, it was expected that more
## Table 1. Campus survey methods and approval of a tobacco-free campus.

| UNIVERSITY                        | POLICY AND ENROLLMENT DURING TIME OF SURVEY                                                                 | SURVEY METHODS                                                                 | N          | APPROVAL, % |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------|-------------|
| Central Michigan University       | In 2013, smoking was prohibited 25-ft from building entrances; Enrollment = 19 634                         | The university conducted the survey<sup>a</sup>                               | N = 4700 campus members | 70          |
| Eastern Illinois University       | In 2013, smoking was prohibited 15-ft from building entrances; Enrollment = 9475                             | The Eastern Illinois University Tobacco Coalition sent the survey to all students and faculty to determine opinions of smoking | N = 1386 students and faculty | 58          |
| Emporia State University          | In 2014, smoking was prohibited 30-ft from building entrances; Enrollment = 6114                            | The Student Government sent the survey to all students and faculty to explore opinions about a potential policy | N = 1300 students and faculty | 70          |
| Fort Hays State University        | In 2015, tobacco products were prohibited on campus except for designated parking lots; Enrollment = 11 889 | The Tobacco Policy Task Force sent the survey to all students in several series to gauge opinions as part of a grant-funded effort to obtain a tobacco-free campus | N = 970 students | 56          |
| Missouri Southern State University| In 2014, tobacco products were prohibited on the entire campus except for designated outdoor areas; Enrollment = 5613 | A vote was open to the entire student body after the Student Senate drafted an initial policy. | N = 560 students | 72          |
| Northern Michigan University      | In 2013, tobacco products were prohibited 30-ft from buildings; Enrollment = 8918                           | The university’s President assigned research groups to conduct a survey, which was administered online to the entire campus community for 1 wk. | N = 3208 students, faculty, and staff | 60          |
| Ohio University—Main Campus       | In 2013, tobacco products were prohibited 25-ft from building entrances; Enrollment = 38 857              | The university’s Tobacco Task Force sent the survey to all students and faculty in response to the Ohio Board of Regents recommendation that public universities consider implementing a tobacco ban | N = 2000 students and faculty | 65          |
| University of Alaska Anchorage    | In 2014, smoking was prohibited 50-ft from buildings; Enrollment = 18 649                                 | The entire student body was invited to vote on a tobacco-free referendum       | N = 1347 students | 51.6        |
| University of Alaska Fairbanks    | In 2013, smoking was prohibited 50-ft from building entrances; Enrollment = 9101                            | The Student Government conducted the survey<sup>a</sup>                         | N = 141 students | 52          |
| University of Arkansas            | In 2007, a tobacco ban was adopted by the university but did not yet implement it; Enrollment = 18 648    | The student-run Residents Interhall Congress sent the survey via e-mail to every student living on campus | N = 1428 students | 42          |
| University of California—San Diego| In 2010, smoking was prohibited on campus except for designated parking lots; Enrollment = 29 899          | The university’s Office of Student Wellness sent the survey to a random sample of students | N = 505 students | 67          |
| University of Central Missouri    | In 2011, smoking was prohibited on campus except for designated smoking areas; Enrollment = 11 637       | The university’s Tobacco Policy Committee conducted the survey<sup>a</sup>       | N = 1983 campus members | >50         |
| University of Cincinnati          | In 2011, smoking was prohibited 25-ft from buildings; Enrollment = 42 421                                | The survey was conducted by a smoking policy task force formed by the university’s President. The survey was available online to all students, faculty, and staff for 3 wk | N = 2530 students, faculty, and staff | 58.6        |
| University of Colorado Boulder    | In 2012, smoking was prohibited inside buildings but permitted anywhere on university grounds; Enrollment = 57 692 | A senator from the Student Government conducted the survey<sup>a</sup>           | N = 358 students | 54.6        |
| University of Delaware            | In 2012, smoking was prohibited near building entrances; Enrollment = 21 856                              | The Student Government conducted the survey<sup>a</sup>                         | N = 2202 students | 72          |
University of Illinois at Springfield\textsuperscript{50}  
In 2013, smoking was prohibited on campus except for designated smoking areas; Enrollment = 5137  
The university’s Survey Research Office conducted the survey\textsuperscript{a}  
$N = 910$ students, faculty, and staff  
38.3

University of Massachusetts Amherst\textsuperscript{51}  
In 2011, smoking was prohibited 20-ft from buildings; Enrollment = 7428  
The Campus and Community Coalition to Reduce High Risk Drinking sent the survey to a random sample of students  
$N = -2000$ students  
56

University of Nebraska at Kearney\textsuperscript{52}  
In 2014, smoking was prohibited smoking 10-ft from building entrances; Enrollment = 7900  
The Peer Health Education Club e-mailed the survey to all registered students  
$N = 2091$ students  
66

University of Nevada—Las Vegas\textsuperscript{53}  
In 2012, smoking was prohibited inside buildings but permitted anywhere on university grounds; Enrollment = 27389  
The Tobacco Free UNLV e-mailed the survey to all students  
$N = 2525$ students  
75

University of Nevada—Las Vegas\textsuperscript{53}  
In 2010, smoking was prohibited inside buildings but permitted anywhere on university grounds; Enrollment = 28203  
The Tobacco Free UNLV e-mailed the survey to all students  
$N = -4000$ students  
74

University of South Carolina Beaufort\textsuperscript{54}  
In 2014, smoking was prohibited 25-ft from building entrances; Enrollment = 1400  
The university conducted the survey\textsuperscript{a}  
$N = 550$ students and faculty  
66.5

University of Texas—Arlington\textsuperscript{55}  
In 2009, smoking and chewing tobacco was prohibited 50-ft from buildings; Enrollment = 28084  
The Tobacco-Free Campus Initiative Committee e-mailed the survey to the entire campus community  
$N = 3190$ students, faculty, and staff  
54

University of Toledo\textsuperscript{56}  
In 2014, smoking was prohibited on campus except for designated smoking areas; Enrollment = 20626  
The Student Government made the survey available to all students online  
$N = -5000$ students  
60

University of Wisconsin—Eau Claire\textsuperscript{57}  
In 2008, smoking was prohibited 25-ft from building entrances; Enrollment = 10889  
a “nursing and environmental health study” on campus conducted the survey\textsuperscript{a}  
$N = 3483$ students, faculty, and staff  
58

University of Wisconsin—River Falls\textsuperscript{58}  
In 2012, smoking was prohibited 25-ft from buildings; Enrollment = 6455  
The Student Government e-mailed the survey to all students  
$N = 695$ students  
70

University of Wisconsin—Whitewater\textsuperscript{59}  
In 2012, smoking was prohibited 25-ft from building entrances; Enrollment = 12034  
The Tobacco-free Campus Coalition conducted the survey\textsuperscript{a}  
$N = 1496$ students  
56

Utah State University\textsuperscript{60}  
In 2005, smoking was prohibited 25-ft from building entrances; Enrollment = 23107  
The Student Wellness Center conducted the survey\textsuperscript{a}  
$N = 1664$ students  
78

Western Kentucky University\textsuperscript{61}  
In 2010, smoking was prohibited on campus except for designated smoking areas; Enrollment = 20903  
The Co-Chair of the Faculty Welfare Committee Survey e-mailed the survey to the entire campus community  
$N = 3231$ students, faculty, and staff  
71

Western Michigan University\textsuperscript{62}  
In 2013, smoking was prohibited 25-ft from buildings; Enrollment = 24294  
A committee assigned to implement a tobacco-free policy conducted the survey\textsuperscript{a}  
$N = -4000$ students, faculty, and staff  
>50

Wichita State University\textsuperscript{63}  
In 2015, smoking was prohibited 10-ft from building entrances; Enrollment = 14495  
The student-led advocate group “Tobacco Free Wu & Me” sent the survey to a random sample of campus members  
$N = 557$ campus members  
65

\textsuperscript{a}Nonspecified survey methods.
Table 2. Campus survey methods and approval of a smoke-free campus.

| UNIVERSITY                                              | POLICY AND ENROLLMENT DURING TIME OF SURVEY                                                                 | SURVEY METHODS                                                                 | N               | APPROVAL, % |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------|-------------|
| Auburn University                                      | In 2011, smoking was prohibited inside buildings, but permitted anywhere on university grounds; Enrollment= 25,469 | Senators of the Student Government sent the survey to their respective colleges and various student organizations | N=3750 students  | 64          |
| Missouri University of Science and Technology           | In 2010, smoking was prohibited 15-ft from building entrances; Enrollment=6520                             | The Student Government conducted the survey                                    | N=1282 students  | 60.7        |
| Portland State University                              | In 2012, smoking was prohibited 10-ft from building entrances; Enrollment=23761                           | The Center for Student Health and Counseling conducted the survey               | N=4005 students, faculty, and staff | 55          |
| Purdue University—Calumet Campus                       | In 2008, smoking was prohibited 50-ft from building entrances; Enrollment=9300                            | Three nursing students conducted the survey                                    | N=1651 students and faculty | 61          |
| Radford University                                     | In 2012, smoking was prohibited 25-ft from buildings; Enrollment=9573                                     | The Student Government conducted the survey                                    | N=1600 students  | 51.4        |
| San Diego State University                            | In 2013, smoking was prohibited 25-ft from building entrances; Enrollment=33726                           | The Student Government e-mailed the survey to the entire student body            | N=1470 students  | 65          |
| University of California, Davis                        | In 2008, smoking was prohibited 25-ft from buildings; Enrollment=27718                                     | The university’s Student Research and Information department conducted the survey  | N=8686 students  | 74          |
| University of Central Arkansas                        | In 2007, smoking was prohibited 25-ft from buildings; Enrollment=12619                                      | The Student Government e-mailed the survey to all university e-mail accounts       | N=1822 students, faculty, and staff | 53          |
| University of Cincinnati                              | In 2011, smoking was prohibited 25-ft from building entrances; Enrollment=42421                           | The Student Government conducted the survey                                    | N=9030 students  | 66          |
| University of Florida                                  | In 2009, smoking was prohibited 50-ft from buildings; Enrollment=50944                                     | The Student Government opened a referendum for all students to vote              | N=10000 students | 64          |
| University of Idaho                                    | In 2012, smoking was prohibited 25-ft from building entrances; Enrollment=11707                           | The Student Government conducted the survey                                    | N=304 students   | 41          |
| University of Idaho                                    | In 2012, smoking was prohibited 25-ft from building entrances; Enrollment=11707                           | A group of students created the survey for a class project, which developed into the University of Idaho Tobacco Task Force | N=985 students   | 62          |
| University of Illinois at Chicago                      | In 2011, smoking was prohibited 25-ft from building entrances; Enrollment=27580                           | The Student Government placed the smoke-free policy on a voting ballot that was open to all students | N=10354 students | 69          |
| University of Mississippi                             | In 2011, smoking was prohibited 25-ft from building entrances; Enrollment=13951                           | The Department of Health Promotion conducted the survey on the university’s Web site, which was open to all students  | N=650 students   | 76          |
| University of New Mexico                               | In 2007, smoking was prohibited 25-ft from building entrances; Enrollment=32086                           | The Coalition for a UNM Smoke-Free Campus conducted the survey                 | N=154 students   | 52          |
Table 2. (Continued)

| UNIVERSITY                        | POLICY AND ENROLLMENT DURING TIME OF SURVEY                                                                                                                                                                                                 | SURVEY METHODS                                                                                                                                                                                                 | N                              | APPROVAL, % |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------|
| University of New Mexico79        | In 2006, smoking was prohibited except for designated smoking areas; Enrollment = 32,347                                                                                                                                                      | The Student Government conducted the surveya                                                                                                                                                               | N = 663 students                | 54        |
| University of North Florida80     | In 2011, smoking was prohibited 25-ft from buildings; Enrollment = 16,968                                                                                                                                                                  | The university’s Safety Council conducted the surveya                                                                                                                                                        | N = 4097 students, faculty, and staff | 67.8     |
| University of North Texas81       | In 2012, smoking was prohibited on campus except for designated smoking areas; Enrollment = 35,778                                                                                                                                         | The university’s Relations Communication and Marketing department conducted the surveya                                                                                                                                 | N = 835 students, faculty, and staff | 74        |
| University of Oregon82            | In 2010, smoking was prohibited 10-ft from building entrances; Enrollment = 21,135                                                                                                                                                        | The university’s Smoke-Free Task Force sent the survey to a random sample of students                                                                                                                   | N = 837 students                | 75        |
| University of Southern Mississippi83| In 2015, smoking was prohibited on campus except for designated smoking areas; Enrollment = 12,068                                                                                                                                       | The Student Government opened a referendum on a smoke-free policy in addition to the annual Student Government election ballot                                                                         | N = 1500 students               | 76        |
| Washington State University—Vancouver84 | In 2012, smoking was prohibited 25-ft from building entrances; Enrollment = 2980                                                                                                           | The Campus Smoking Committee conducted the surveya                                                                                                                                                           | N = >1000 students              | 70        |
| West Virginia University85        | In 2009, smoking was prohibited inside buildings, but permitted anywhere on university grounds; Enrollment = 31,952                                                                                                                         | The Tobacco-Free Mountaineers gave out surveys outside of classrooms and the student recreation center, which was after the Student Government voted in favor of a smoke-free policy and was sent to the university’s President for review | N = 500 students                | 68        |

*aNonspecified survey methods.

...smoking included."44 Other articles were framed from a public health perspective by emphasizing faculty and student quotes regarding the harms of tobacco. Third, the findings from this study suggest that campus newspapers can serve as an easily accessible, and searchable, nontraditional source of data for a variety of research topics. Although campus newspapers clearly do not have any advantage over traditional data sources in terms of validity, researchers may want to consider examining additional qualitative and quantitative information that might be available in campus newspapers.

This study had several limitations. First, it is important to emphasize the difference in methodologic rigor between surveys found in the peer-reviewed literature and in campus newspapers. Because university newspapers are not peer-reviewed, it should not be assumed that the surveys included in this study were of high-quality research design or accurate. Second, the search terms used to select potentially relevant newspaper articles, although identical across each institution, may not have retrieved all articles of campus surveys regarding tobacco control policies. Third, the analysis focuses on only a small number of campuses in the United States that were not selected randomly. Moreover, the campuses were only 4-year, public universities. As such, the study’s results cannot be generalized to...
institutions in other countries, 2-year institutions, private institutions, or even public universities. Finally, the articles tended to publish only the percent of campus approval, without noting the percent of people who held neutral or disapproving opinions. That information could have been helpful in judging against the percentages of approval.

Conclusions

The university campus is an educational environment as well as a workplace, where students, faculty, and staff spend many hours per day. In these functions, the campus is an important environment for protecting the health of students and employees and for role modeling of good health behavior. The results of this analysis of campus newspapers suggests that among those surveyed and among those who voted regarding policy change, with a few exceptions, there was attitudinal support in most of the students and employees for both tobacco-free and smoke-free policies.

Acknowledgements

The authors acknowledge student interns Emily Pless and Deryl Chin who assisted with data collection.

Author Contributions

CMS conceived and designed the experiments. CMS and BAG analyzed the data. CMS, ZK, BAG, and MPD wrote the first draft of the manuscript; contributed to the writing of the manuscript; agree with manuscript results and conclusions; jointly developed the structure and arguments for the paper; and made critical revisions and approved final version. All authors reviewed and approved the final manuscript.

Disclosures and Ethics

As a requirement of publication, authors have provided to the publisher signed confirmation of compliance with legal and ethical obligations including but not limited to the following: authorship and contributorship, conflicts of interest, privacy and confidentiality, and (where applicable) protection of human and animal research subjects. The authors have read and confirmed their agreement with the ICMJE authorship and contributorship, conflicts of interest, privacy and ethics publisher signed confirmation of compliance with legal and ethical obligations including but not limited to the following: authorship and contributorship, conflicts of interest, privacy and confidentiality, and (where applicable) protection of human and animal research subjects. The authors have read and confirmed their agreement with the ICMJE authorship and contributorship, conflicts of interest, privacy and ethics.

REFERENCES

1. US Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. Atlanta, GA: Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, Coordinating Center for Health Promotion, Centers for Disease Control and Prevention, US Department of Health and Human Services; 2014.
2. Centers for Disease Control and Prevention. Smokeless tobacco: health effects. http://www.cdc.gov/tobacco/data_statistics/fact_sheets/smokeless/health_effects/index.htm. Accessed July 2, 2016.
3. American College Health Association. American College Health Association-National College Health Assessment II: Undergraduate Students Reference Group Data Report Fall 2015. Hanover, MD: American College Health Association; 2016.
4. Fallin A, Roditis M, Glantz SA. Association of campus tobacco policies with secondhand smoke exposure, intention to smoke on campus, and attitudes about outdoor smoking restrictions. Am J Public Health. 2015;105:1098–1100.
5. Lechner WV, Meier E, Miller MB, Wiener JL, Fils-Aime Y. Changes in smoking prevalence, attitudes, and beliefs over 4 years following a campus-wide anti-tobacco intervention. Am J Card Health. 2012;60:595–597.
6. Mason M, Lust K, Saum J, Golden D, Kingsbury J, Radie M. Impact of smoke-/-tobacco-free policies on student tobacco-use rates at postsecondary institutions in Minnesota. Poster presentation at: American Public Health Association 142nd annual meeting & expo; November 16, 2014; New Orleans, LA.
7. Cho Y, DeVany SA. Understanding college students’ opinions on a smoking policy. Int J Consum Stud. 2010;34:398–399.
8. Seitz CM, Strack RW, Rice R, DuVall T, Moore E, Wyrick DL. Using the photo-voice method to advocate for change to a campus smoking policy. J Am Coll Health. 2012;60:537–540.
9. Mishra S, Thid EK, Gokaralokonda SB, Larrey G, Watkins C, Chahal M. Second-hand smoke in a university campus: attitudes and perceptions of faculty, staff and students. Int J Health Res. 2011;14:21–27.
10. Garg T, Fradkin N, Moskowski JM. Adoption of an outdoor residential hall smoking policy in a California public university: a case study. J Am Coll Health. 2011;59:769–771.
11. US Department of Health and Human Services. The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General. Atlanta, GA: Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, Coordinating Center for Health Promotion, Centers for Disease Control and Prevention, US Department of Health and Human Services; 2006.
12. Task Force on Community Preventive Services. Recommendations regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. Am J Prev Med. 2001;20:10–15.
13. American Lung Association. Smokefree environments. http://www.lung.org/or- our-initiatives/tobacco/smokefree-environments/. Accessed May 3, 2016.
14. American College Health Association. Position statement on tobacco on college and university campuses. J Am Coll Health. 2012;60:266–267.
15. American Nonsmokers’ Rights Foundation. Smokefree and tobacco-free U.S. and tribal colleges and universities. http://no-smoke.org/goingsmokefree. php?id=447. Accessed May 15, 2016.
16. Tobacco-Free College Campus Initiative. Create change: a student toolkit. http://tobaccofreecampus.org/wp-content/uploads/2016/12/fscci-student-toolkit1.pdf. Accessed March 22, 2015.
17. Americans for Nonsmokers’ Rights. Steps for enacting a smokefree college campus policy. http://no-smoke.org/document.php?id=270. Accessed November 27, 2017.
18. Public Health—Seattle and King County. Creating a tobacco-free campus: a policy guide. http://www.kingcounty.gov/depts/health/smoking/tobacco-vapor-/medias/depts/health/tobacco-vapor/documents/creating-a-tobacco-free-campus.aspx. Accessed January 26, 2016.
19. Sparks M, Bell RA, Sparke A, Sutin EL. Creating a Healthier Campus: A Comprehensive Manual for Implementing Tobacco-Free Policies. Winston-Salem, NC: Wake Forest School of Medicine; 2012. http://www.wakehealth.edu/uploaded-Files/User_Content/Research/Departments/Public_Health_Sciences/Tobacco_Free_Colleges/Tobacco-Free%20Manual_web7.pdf. Accessed January 26, 2016.
20. Braverman MT, Hoogesteger LA, Johnson JA. Predictors of support among students, faculty and staff for a smoke-free university campus. Prev Med. 2015;71:114–120.
21. Seo DC, Macy JT, Torabi MR, Middlestadt SE. The effect of a smoke-free campus policy on college students’ smoking behaviors and attitudes. Prev Med. 2011;53:347–352.
22. Bresnahan MP, Sacks R, Farley SM, Mandel-Ricci J, Patterson T, Lambers P. Going tobacco-free on 24 New York City university campuses: a public health agency’s partnership with a large urban public university system. J Am Coll Health. 2016;64:343–347.
23. Cooper TV, Cabrera JA, Hernandez N, Law J. A baseline assessment of attitudes toward tobacco-free campus policies in a U.S./Mexico border university. Addict Behav. 2016;60:223–227.
24. Gabriel JG, Mapayee JC. College student perceptions on smoke and tobacco-free policy. Paper presented at: American Public Health Association 142nd annual meeting & expo; November 15-19, 2014; New Orleans, LA.
25. Niemeier BS, Chapp CB, Henley WB. Improving tobacco-free advocacy on college campuses: a novel strategy to aid in the understanding of student perceptions about policy proposals. J Am Coll Health. 2014;62:498–505.
77. Ruff C. UI on board to eliminate smoking on campus. *The Daily Illini*. http://dailyillini.com/uncategorized/2012/10/18/ui-on-board-to-eliminate-smoking-on-campus/. Accessed October 18, 2012.

78. Russell L. Discussing the smoking ban. *The DM Online*. September 27, 2012. http://thedmonline.com/discussing-the-smoking-ban/. Accessed April 27, 2016.

79. Ybarra M. UNM campaign to ban smoking loses spark. *The Gateway*. February 29, 2008. http://unothegateway.com/unm-campaign-to-ban-smoking-loses-spark/. Accessed March 1, 2016.

80. Leake D. UNF looks to smoke out tobacco use with voluntary measure. *UNF Spinnaker*. August 10, 2015. http://unfspinnaker.com/unf-looks-to-smoke-out-tobacco-use-with-voluntary-measure/. Accessed March 5, 2016.

81. Peyton B. More details on smoking ban released. *North Texas Daily*. May 24, 2012. http://ntdaily.com/more-details-on-smoking-ban-released/. Accessed April 8, 2016.

82. Daily Emerald. University of Oregon campus to be smoke free by 2012. *Daily Emerald*. November 17, 2010. https://www.dailyemerald.com/2010/11/17/university-of-oregon-campus-to-be-smoke-free-by-2012/. Accessed April 28, 2016.

83. Dutton A. Senate discusses smoke free legislation process. *The Student Printz*. March 25, 2015. http://www.studentprintz.com/senate-discusses-smoke-free-legislation-process/. Accessed February 14, 2016.

84. Meyer C. Student survey results favor non-smoking policy for WSU Vancouver campus. *The Vancougar*. December 3, 2012. http://thevancougar.com/archive/student-survey-results-favor-non-smoking-policy-for-wsu-vancouver-campus/. Accessed January 16, 2016.

85. Hoffman M. Students react to smoking ban proposal. *The Daily Athenaeum*. February 6, 2009. http://www.thedaonline.com/article_10246e18-a597-5b65-acbc-d54a2cf5b7a.html. Accessed April 16, 2016.