



# Supportive of a smoke-free campus but opposed to a 100% tobacco-free campus: Identification of predictors among university students, faculty, and staff



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## ABSTRACT

Many universities are adopting campus tobacco policies, but little research has explored factors influencing the choice between the policy options of smoke-free versus 100% tobacco-free. Students, faculty, and staff at a U.S. state university participated in a web-based survey in 2013, approximately one year after adoption of a smoke-free policy. Respondents who expressed support for the policy were included in an analysis to examine their opinions regarding a 100% tobacco-free policy. The samples included 4138 students and 1582 faculty/staff. Bivariate analyses and multivariate logistic regression were used to identify predictors of opposition to a tobacco-free campus. Independent variables included strength of support for a smoke-free campus, past-month tobacco use (cigarettes, smokeless tobacco, e-cigarettes, non-cigarette combustible tobacco products), campus exposure to secondhand smoke, perceptions of tobacco-related behaviors and norms, and demographics. Of these supporters of a smoke-free campus, 14.3% of students and 10.2% of faculty/staff were opposed to a tobacco-free campus. In the multivariate analyses, in both samples, smokeless tobacco use predicted opposition while smoke-free policy support and female gender predicted support. In addition, among students, current or former cigarette smoking and non-cigarette combustible tobacco use predicted opposition; international student status and secondhand smoke exposure predicted support. Among faculty/staff, age over 55 predicted support. Future research should examine why current and former smokers might oppose policies restricting non-combustible tobacco products, even when they support smoke-free policies. In policy planning, campus administrators should communicate actual tobacco usage levels. International students who do not use tobacco may be a source of policy support.

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## 1. Introduction

Campus tobacco control policies are being adopted at a rapid pace by universities and colleges. For example, in October 2016 in the U.S., there were at least 1713 campuses with policies making them completely smoke-free. Of this number, 286 (16.7%) restricted only smoking, while 1427 (83.3%) restricted all forms of tobacco, making the campuses 100% tobacco-free (American Nonsmokers' Rights Foundation, 2016). Numerous reports indicate that campus tobacco policies have broad support from students, including campuses with and without such policies in place (Burns et al., 2013; Cooper et al., 2016; Rigotti et al., 2003; Seo et

al., 2011). There have been fewer studies published on the attitudes of university faculty and staff, but existing reports indicate strong support from those groups as well (Burns et al., 2013; Lupton and Townsend, 2015; Mamudu et al., 2012). Strong constituent support is key to the success of tobacco control policies in several respects, including influencing administrators to first adopt a new policy (Satterlund et al., 2011) as well as promoting compliance after adoption (Burns et al., 2014).

Campus tobacco control policies differ on numerous dimensions (Lee et al., 2010; Robertson and Marsh, 2015; Roday et al., 2015), of which probably the most significant is whether the campus is smoke-free or 100% tobacco-free. A comprehensive tobacco-free policy is more consistent with overall objectives of promoting health (American College Health Association, 2012), with respect to both tobacco users and the general community, but the arguments, justifications, and levels of local support for the two policy options will differ. In planning for a new tobacco policy, campus administrators and health personnel need to determine whether sufficient support exists, or can

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be built, for a comprehensive policy that has strong prospects for adoption, successful implementation, and compliance. On those campuses that already have a smoke-free policy, health professionals may be able to move toward a tobacco-free policy, with appropriate preparation and popular support. Thus, an important direction for research is how to distinguish support for a smoke-free policy from support for a comprehensive policy. However, research that directly addresses this issue has been scant.

This paper reports on a campus-wide survey of students, faculty and staff at a U.S. state university that had recently adopted a smoke-free (including e-cigarettes) campus policy. The survey, conducted toward the end of the policy's first academic year, found that support for a smoke-free campus was very high, while support for a tobacco-free campus was somewhat lower (Braverman et al., 2015). We sought to identify variables that distinguish between levels of support for the two kinds of policy, including, potentially, the use of cigarettes, smokeless tobacco, e-cigarettes and other tobacco products, exposure to secondhand smoke on campus, campus life factors, perceptions of the extent of policy support and tobacco use, demographics, and other variables.

## 2. Methods

### 2.1. Participants and procedure

In May 2013, the students, faculty and staff of Oregon State University were invited to complete a web-based survey about the recently enacted (September 2012) smoke-free campus policy. Complete responses were obtained from 5691 students and 2051 faculty/staff. Further details have been reported previously (Braverman et al., 2015). The present analyses include only those respondents (4138 students, 1582 faculty/staff) who reported that they support a smoke-free campus (see below under Measures).

### 2.2. Measures

#### 2.2.1. Support for a smoke-free campus

Measured with the item: "Our campus should be 100% smoke-free." The item's response options ranged from 1 (strongly disagree) to 7 (strongly agree), but in this restricted sample, scores ranged from slight (5) to strong (7) support.

#### 2.2.2. Opposition to a tobacco-free campus

This was the dependent variable, measured with the item: "Our campus should be 100% **tobacco-free**, including smokeless tobacco products as well as cigarettes and other smoking products." Response options ranged from 1 (strongly disagree) to 7 (strongly agree). A dichotomous item was created with values 1 (oppose tobacco-free campus, options 1–3) or 0 (neutral or support tobacco-free campus, options 4–7).

#### 2.2.3. Tobacco use

Respondents were asked on how many of the last 30 days they had smoked cigarettes. Seven possible responses ranged from "0 days" to "Used daily." Respondents who answered 0 days were classified as nonsmokers, further divided into *never-smokers* or *quitters* based on results of a separate question. Respondents who answered between 1 and 19 days were classified as *intermittent smokers*, and 20 days or more as *regular smokers*. On three other questions, respondents were asked the number of days within the last 30 that they had used smokeless tobacco products, smoked e-cigarettes, and smoked "tobacco products other than standard cigarettes, such as cigars, pipes, hookahs, bidis, or clove cigarettes." Responses were coded into the categories of *nonusers* (0 days), *intermittent users* (1–19 days), and *regular users* (20 days or more).

#### 2.2.4. Exposure to secondhand smoke on campus

Two items asked whether the respondent had been exposed to secondhand smoke in the past two weeks "at an entrance to a campus building" and "elsewhere on campus." Seven original response categories were reduced to three (Not at all, once or twice, three times or more), and the two items were merged into a single variable that retained the higher response. An additional variable, coded with the same three categories, reflected whether the respondent had been exposed to secondhand smoke in the past two weeks "near the campus boundary, including just outside campus." Smoke exposure at the campus boundary was considered separately because of the possibility that this was a phenomenon exacerbated by the recent smoke-free policy (Braverman et al., 2015).

#### 2.2.5. Perceptions of smoking-related norms

All respondents estimated the percentages of students who supported the smoke-free campus policy, who smoked cigarettes, and who used non-cigarette tobacco products. In addition, faculty/staff provided those same estimates for faculty and staff on campus. Respondents specified individual percentages, which were changed to deciles (0–10%, 11–20%, etc.) for the analyses because respondents tended to choose percentages ending in 0 or 5.

#### 2.2.6. Demographics and campus life variables

Students reported their degree/class status, residence status (on-campus, off-campus), place of permanent residence (in-state, out-of-state U.S., or international student), and fraternity/sorority membership. Faculty/staff reported their age and professional position (academic tenure-line faculty, professional faculty [non-tenured teaching or research], or classified support staff). Gender was measured adding a third category ("Other," accompanied by a blank space for self-identification) to the standard male and female categories.

### 2.3. Analysis plan

Separate analyses were conducted for students and faculty/staff. First, within each sample, bivariate relationships were examined between the outcome variable (opposition to a comprehensive tobacco-free policy) and all other variables. Covariation with policy opposition was statistically tested using either chi-square (for nominal variables), gamma (ordinal variables), or independent groups t-tests (social norm perception variables, treated as interval).

Second, all variables that demonstrated a significant, or near-significant, association with the outcome variable were included in a multivariate binomial logistic regression model, using a liberal standard of  $p < 0.10$  for inclusion. It was expected that there would be strong negative association between tobacco-free opposition and the strength of support for the existing smoke-free policy; that variable was included in the model for control purposes rather than theoretical interest.

## 3. Results

Of these respondents, all of whom supported a smoke-free campus, 14.3% of students and 10.2% of faculty/staff were opposed to a stronger, 100% tobacco-free policy. In the student sample, 4.8% had smoked cigarettes within the past month, whereas 2.9% had used smokeless tobacco, 1.1% had used e-cigarettes, and 7.7% had smoked combustible tobacco products other than cigarettes (hereafter, *non-cigarette combustibles*). Altogether, 12.3% of the student respondents had used some form of tobacco product (including e-cigarettes), with 3.2% reporting use in more than one of the tobacco categories. In the faculty/staff sample, 1.2% of respondents had smoked cigarettes within the past month, while each of the other tobacco products was used by <1.0% of respondents—specifically, 0.8%, 0.3%, and 0.9% for smokeless tobacco, e-cigarettes, and non-cigarette combustibles, respectively. (It should be kept in mind that these do not represent prevalence figures for the

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