Attitudes towards smokefree campus policies in New Zealand

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Abstract

Aim This study examines the level of support for a completely smokefree campus policy and other smokefree policy initiatives amongst staff and students at a New Zealand University.

Methods Attitudes to smoking on campus, smokefree campus policies, implementation and enforcement of smokefree policies were assessed using an online survey of 332 staff and 268 students; giving a response rate of 51% from staff and 41% from students.

Results Most participants had never smoked, or were past smokers; few reported being current smokers. Participants agreed that exposure to second-hand smoke is harmful, disliked being exposed to second-hand smoke on campus, and felt the university should promote a healthy work and study environment. Results indicated strong support for smokefree policies, and participants made several recommendations regarding smokefree policies. Most disagreed that compliance with a smokefree policy should be voluntary, but felt that campus security should warn people who breach the policy.

Conclusions These results provide a sound basis for university administrators to implement smokefree policies. While around half of the tertiary education institutions in New Zealand already have a completely smokefree campus policy, greater adoption of this policy by tertiary education institutions would foster realisation of the government’s goal that New Zealand become a smokefree nation by 2025.

A potential barrier preventing tertiary education institutions working towards a smokefree campus is a perceived risk of opposition from staff and students. Our study found strong support for smokefree campus policies; these findings should encourage other universities, polytechnics and other tertiary education providers to adopt full campus smokefree policies.

Education institutions provide an ideal setting for tobacco control initiatives. In 2010, approximately 506,000 students were enrolled in tertiary education in New Zealand (NZ), and around 28,000 full-time equivalent staff were employed by tertiary education institutions.¹

Data on the prevalence of smoking amongst university students is relatively scarce. A 2002 survey suggested that 10% of university students in NZ were daily smokers, whilst a further 10% smoked occasionally.² Preliminary findings from new research found that the rate of daily smoking among tertiary students in NZ has dropped to
3%, while occasional smoking has increased to 14%. No data on smoking among university staff members could be found.

Despite the relatively low prevalence of smoking amongst tertiary students, there are several reasons why tobacco control strategies should be a focus within the tertiary education sector.

Firstly, for young people the time spent attending tertiary education is a period of transition when behaviours such as smoking become established. This is also a time when experimentation may shift to nicotine addiction. For example, a recent Australian study found that older tertiary students (i.e. aged 20-25 years) were nearly twice as likely to be current smokers compared to younger students (i.e. 17 -19 year olds). Equally important though, this transitional period is also a time where many young people who already smoke may decide to quit.

Secondly, it has been argued that tobacco control strategies in tertiary education are important to maintain the decline in smoking.

Lastly, evidence suggests that people who work in environments with greater restrictions on smoking have a lower smoking prevalence and consume less tobacco, than individuals who work in environments with fewer smoking restrictions. This evidence suggests smokefree environments encourage smokers to reduce their tobacco consumption or to quit smoking. Smokefree tertiary institutions will likely bring important benefits to staff as well as students.

Six years ago, almost half of the tertiary education institutions in NZ (45%) had a policy prohibiting smoking in all outdoor campus areas. While this is encouraging, wider adoption of smokefree campus policies may denormalise smoking and help achieve New Zealand’s goal of becoming a smokefree nation by 2025.

Little is known about the enabling factors affecting the development of smokefree policies at tertiary education institutions in NZ, or the challenges associated with implementing these policies. One likely enabling factor is a high level of support for a smokefree policy amongst the staff and students. In the US, research at colleges has shown that students and staff generally support policies restricting smoking. However, students are less supportive of campus-wide smoking bans.

There are currently no data regarding the level of support for smokefree policies at tertiary education institutions in NZ. Student and staff opposition may be a perceived barrier deterring wider adoption of comprehensive smokefree policies. This study aimed to examine the level of support for a total smokefree campus policy and other smokefree policy initiatives, amongst NZ university staff and students.

**Methods**

**Sample**

The study sample consisted of 650 staff and 650 students based at the Dunedin campus of the University of Otago. Participants were randomly selected from the Human Resources and student enrolment databases, respectively. An equal sample size was used to enable comparisons between students and staff members.
A sample size of 650 was chosen to allow for non-response and retain sufficient power to detect differences between staff and student responses. The University of Otago is the third largest of eight universities in NZ.

The university employs 3750 full-time equivalent (FTE) staff members, and has around 19,500 students. The University of Otago Dunedin campus has a partial smokefree policy. This includes a mix of legislative and internal regulation which restricts smoking in any building or vehicle, and within a 6m radius of any building.

All Dunedin-based students enrolled at the university were eligible to participate in the survey. Groups of staff identified by the Human Resource Division as unlikely to spend a significant amount of time on campus were excluded; these groups included staff employed in hospitals and schools.

Ethical approval to conduct the study was granted by the Ethics Committee within the Department of Preventive and Social Medicine at the University of Otago.

Survey development

Research literature on smokefree policies in tertiary institutions was consulted to inform the general content of the survey. The online survey was administered using Qualtrics survey software (www.qualtrics.com).

Items were a combination of multiple choice, sliding scale and free-text questions. The initial survey was pre-tested with non-participating university staff (n=5) and students (n=5). These people were invited to complete the survey and then asked questions regarding the length, format, language, terminology, flow and suitability of the survey.

Minor adjustments were made to the format and wording of the final survey, for example, colour was added to the survey text, a ‘back’ button allowing participants to change their answers, and a question assessing support for a partially smokefree campus policy was removed. The final survey included 18 questions, some of which included sub-questions, and took the participants an average of 12 minutes to complete. Participants could skip questions they chose not to answer.

Survey measures

Attitudes to smoking on campus—Using a 4-point scale (strongly agree-strongly disagree), respondents were asked to rate: the extent to which they believed exposure to second-hand smoke (SHS) was harmful; their level of concern about being exposed to SHS on campus; about smoking amongst staff and students, and whether they believed the university should promote a healthy work and study environment.

These questions were modified from those used in previous research in the US. Questions relating to banning tobacco marketing on campus were omitted since these prohibitions are already in place in NZ. Other questions were re-worded slightly to render them more personal to the participant (e.g. “Exposure to second-hand smoke is harmful to me”). The term “smokefree” was used whereas much of the US literature refers to tobacco-free campuses, given the higher prevalence of smokeless tobacco product use in the US.

Attitudes to smokefree campus policies—A probability scale based loosely on the Juster Scale was used to measure attitudes to smokefree campus policies. The Juster Scale was originally designed to predict future purchasing behaviour through an 11 point scale, but has also been used in social research to estimate support for policy interventions and non-commercial behaviour, including projected cessation following the introduction of plain packaging and responses to retail policies. Probability scales such as this focus on aggregate behaviour rather than individual estimates. The key benefit of these scales is that they allow for population level measures to be estimated.

Respondents were asked to indicate their support for the following university policies: i) a completely smokefree campus (i.e. no smoking on any university grounds), ii) not having tobacco products available for purchase on campus, and iii) not accepting research funding from the tobacco industry for research or other purposes. They were also asked to rate the likelihood of various outcomes if a smokefree campus policy was introduced. Overall mean scores were calculated to estimate support for the measures tested.
Implementation and enforcement strategies—Respondents reviewed smokefree implementation strategies and indicated those they believed would be effective. They also indicated the extent to which they agreed or disagreed with a range of potential enforcement strategies using the 4-point scale described above (strongly agree-strongly disagree). Response options were developed based on previous research in the US. Respondents could also outline any suggestions regarding the implementation and enforcement of a smokefree policy, and could note any concerns they had about a completely smokefree campus policy.

Smoking status and smoking behaviour—Respondents were asked ‘Which of the following best describes your use of cigarettes’, with the following response options: ‘Never smoked cigarettes at all, or never smoked regularly’, ‘Do not smoke now but used to smoke regularly, 1+ cigarettes a day’, ‘Occasionally smoke, on average, less than 1 cigarette per day’, and ‘Currently smoke cigarettes regularly, 1+ per day’.

Among young adults, non-daily smoking is common, and includes social smoking, where smoking occurs only or mainly in social situations. To identify established and social smokers, current smokers were asked to indicate whether they tended to smoke alone, with others, or equally alone and with others.

Research has also shown that self-identified social smokers may be a high risk group of young people and pose challenges for cessation, therefore, current smokers were asked about quitting smoking. Specifically, they indicated whether they had made a quit attempt in the past 12 months, and their chances of quitting smoking during the next 6 months using the same 11-point scale described above. They were also asked which university smoking cessation services they would be likely to use, with the list of response options replicated from a study of student health centres at American colleges.

Respondents also provided demographic information, including age, gender and ethnicity.

Procedure—In October 2012, students received an email from the Student Services Division inviting them to participate in an online survey about smoking and smokefree initiatives at the University. The email contained an electronic link to the survey, and offered the chance to win an iPad as an incentive. For staff, the survey link was disseminated using Qualtrics online software and the chance to win a book voucher was offered as an incentive. Respondents were informed that survey data would be completely anonymous.

Ten days after the initial email, a reminder email was sent to encourage non-responders to complete the survey; a second reminder was sent ten days after the first.

Data analysis—Descriptive statistics are provided for all variables, including both sample characteristics and key measures. The standard test for assessing the difference between two proportions was used to compare responses from staff and students.

Differences between staff and student responses on the Juster scale were examined using a two-sample t-test. All statistical analyses were performed using Stata 10.1. All significance tests were two-sided, with p<0.05 considered statistically significant. Responses to open ended questions were analysed to identify key themes.

Results

Response—One-half (n=332) of staff participated in the survey giving a response rate of 51%, and 268 students completed the survey; a response rate of 41%. Table 1 contains details of respondents’ characteristics and compares these with the total staff population at the university and student sample population.

Overall, the sample was representative of staff and students at the university. There was a higher proportion of female participants, which was representative of the staff population at the university and the student sample population.

In terms of ethnicity, the sample was also representative with the exception that there were a slightly higher proportion of Maori participants in the student sample. The student and staff population smoking rate was unknown and could not be compared with our sample.
Table 1. Characteristics of student and staff sample and population

<table>
<thead>
<tr>
<th>Variables</th>
<th>Staff sample (n=332)</th>
<th>Staff sample population (n=4710)</th>
<th>Student sample (n=268)</th>
<th>Student sample population (n=650)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>132</td>
<td>42.0</td>
<td>1928</td>
<td>40.9</td>
</tr>
<tr>
<td>Female</td>
<td>182</td>
<td>58.0</td>
<td>2782</td>
<td>59.1</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (years)</td>
<td>45.4</td>
<td>43.3</td>
<td>22.8</td>
<td>23.0</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NZ European</td>
<td>253</td>
<td>76.9</td>
<td>2450</td>
<td>77.4</td>
</tr>
<tr>
<td>Maori</td>
<td>15</td>
<td>4.6</td>
<td>77</td>
<td>2.4</td>
</tr>
<tr>
<td>Pacific</td>
<td>1</td>
<td>0.3</td>
<td>20</td>
<td>0.6</td>
</tr>
<tr>
<td>Chinese</td>
<td>8</td>
<td>2.4</td>
<td>43</td>
<td>1.4</td>
</tr>
<tr>
<td>Other***</td>
<td>52</td>
<td>15.8</td>
<td>576</td>
<td>18.2</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff/staff only</td>
<td>283</td>
<td>89.8</td>
<td>230</td>
<td>92.7</td>
</tr>
<tr>
<td>Staff and student</td>
<td>32</td>
<td>10.2</td>
<td>18</td>
<td>7.3</td>
</tr>
<tr>
<td>Academic</td>
<td>128</td>
<td>40.9</td>
<td>1707</td>
<td>36.2</td>
</tr>
<tr>
<td>General</td>
<td>185</td>
<td>59.1</td>
<td>3003</td>
<td>63.8</td>
</tr>
<tr>
<td><strong>Division</strong>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commerce</td>
<td>23</td>
<td>7.5</td>
<td>207</td>
<td>4.4</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>116</td>
<td>38.0</td>
<td>1458</td>
<td>31.0</td>
</tr>
<tr>
<td>Humanities</td>
<td>35</td>
<td>11.5</td>
<td>570</td>
<td>12.1</td>
</tr>
<tr>
<td>Sciences</td>
<td>57</td>
<td>18.7</td>
<td>758</td>
<td>16.1</td>
</tr>
<tr>
<td>Human Resources</td>
<td>4</td>
<td>1.3</td>
<td>115</td>
<td>2.4</td>
</tr>
<tr>
<td>Operations</td>
<td>39</td>
<td>12.8</td>
<td>975</td>
<td>20.7</td>
</tr>
<tr>
<td>Research</td>
<td>7</td>
<td>2.3</td>
<td>70</td>
<td>1.5</td>
</tr>
<tr>
<td>Academic</td>
<td>24</td>
<td>7.9</td>
<td>557</td>
<td>11.8</td>
</tr>
<tr>
<td>International student</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

* Significant difference between sample and population (p<0.05)
** Multiple answer (up to three ethnicities). For staff, casual staff excluded; information available for 67% of staff (n=3166)
***i.e. African, Korean, Indian, Latin American, Middle Eastern, Other Asian, Other European
**** May belong to more than one division
The numbers in the table may not add to N as questions could be skipped.

Smoking among staff and students—Most staff and students had never smoked, or were former smokers who were now smokefree. Few staff (n=9) or students (n=5) reported being current daily smokers, or occasional smokers (Table 2).

Staff smokers tended to smoke alone whereas student smokers were more likely to smoke with others. Under one-half of the smokers had made a quit attempt in the past 12 months and around one-half of the sample anticipated making a quit attempt in the next 12 months.
Table 2. Smoking characteristics of the sample

<table>
<thead>
<tr>
<th>Variables</th>
<th>Staff N (332)</th>
<th>Students N (268)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current daily smoker</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Occasional smoker</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Never smoked</td>
<td>243</td>
<td>203</td>
</tr>
<tr>
<td>Past smoker</td>
<td>58</td>
<td>24</td>
</tr>
<tr>
<td>Individual and social smoking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoke alone</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Smoke with others</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Combination</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Quitting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attempt past 12 months</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Attempt next 12 months</td>
<td>3</td>
<td>18</td>
</tr>
</tbody>
</table>

Attitudes to smoking—Both staff and students agreed that exposure to SHS is harmful, disliked being exposed to SHS on campus, and felt that the university should promote a healthy work and study environment (Figure 1). Participants were moderately concerned about student smoking on campus, but on average, participants were not concerned about the level of staff smoking.

Attitudes to smokefree policies—The mean probability scores ranged from 7.2 to 8.9 (out of 10) showing a high level of support from staff and students for smokefree policies at the university (Table 3). Participants were asked to indicate their likely support for a completely smokefree campus, tobacco not being available for purchase on campus, and research funding from the tobacco industry on a probability scale ranging from 0 (no chance) to 10 (certain). The highest support was for tobacco to not be available for purchase on campus.

Table 3. Attitudes to smokefree policies and chances of a smokefree policy leading to certain outcomes

<table>
<thead>
<tr>
<th>Attitudes</th>
<th>Staff n=332</th>
<th>Students n=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support for policies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completely smokefree campus</td>
<td>8.0</td>
<td>7.7</td>
</tr>
<tr>
<td>Tobacco not available for purchase</td>
<td>8.9</td>
<td>8.5</td>
</tr>
<tr>
<td>No research funding from tobacco industry</td>
<td>8.2</td>
<td>7.2*</td>
</tr>
<tr>
<td>Chances smokefree policy would lead to...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced exposure to SHS</td>
<td>8.2</td>
<td>8.0</td>
</tr>
<tr>
<td>Reduce smoking on campus</td>
<td>7.9</td>
<td>7.6</td>
</tr>
<tr>
<td>Cleaner campus</td>
<td>7.7</td>
<td>7.2</td>
</tr>
<tr>
<td>Improved health</td>
<td>6.9</td>
<td>6.6</td>
</tr>
<tr>
<td>More quit attempts</td>
<td>5.9</td>
<td>5.3*</td>
</tr>
<tr>
<td>Easier recruitment of staff</td>
<td>3.5</td>
<td>4.2*</td>
</tr>
<tr>
<td>Higher student enrolment</td>
<td>3.3</td>
<td>4.0*</td>
</tr>
</tbody>
</table>

Mean probability scale values (where 0 = no chance and -10 = certain).
* Significant difference between staff and students (p<0.05).
Chances of policy leading to certain outcomes—Staff and students tended to agree that a smokefree policy would lead to reduced exposure to SHS on campus, reduced smoking on campus, a cleaner campus, and improved health of staff and students (Table 3). These scores ranged from 5.3 to 8.2 (out of 10).

Significantly more staff than students thought that more quit attempts would be made. However, neither staff nor students believed that a smokefree policy would lead to higher enrolment of students or easier recruitment and retention of staff.

Policy implementation—Both staff (78%) and students (73%) suggested the most effective way to create a smokefree campus would be through placing smokefree signage around the campus.

Significantly more staff (81%) than students (72%) felt an effective way to create a smokefree campus would be through raising awareness of smokefree policy in campus publications, websites and orientation materials.

Significantly more students (71%) than staff (56%) thought that introducing penalties for breaching the smokefree policy would be effective. Few staff (41%) or students (37%) thought that removing cigarette receptacles on campus would help make the campus smokefree. They also did not believe that recruiting smokefree advocates to ask smokers on campus to refrain from doing so, would help make the campus smokefree.

Policy enforcement—The majority of staff and students disagreed that compliance with a smokefree policy should be voluntary, felt that Campus Watch (university safety patrol) should warn people who breach campus smokefree policy, and reported that staff and students should be encouraged to ask people smoking in a smokefree area to stop (Figure 1).
Significantly more students than staff felt Campus Watch should fine people in breach of the smokefree policy. Significantly more staff than students would feel comfortable asking people smoking in a smokefree area to stop.

**Discussion**

This study found a high level of support among staff and students at a NZ university for smokefree policy initiatives on campus. Respondents saw the proposed smokefree policy as bringing many benefits. These views aligned with those from international studies, where evaluations of smokefree campus policies have found mainly positive outcomes in terms of behaviour, attitudes and beliefs.

In terms of behaviour, research has found there has been a decrease in smoking, increased quit attempts and thoughts about quitting, and a reduction in exposure.
to smoking. Campuses with completely smokefree policies have reduced cigarette butt litter more than have those campuses with limited or no restrictions.

In terms of attitudes, overall, students at smokefree campuses felt a smokefree environment was important and agreed with or increased their acceptance of the policy post-implementation. They also believed it had a positive impact on quality of life and learning and held positive beliefs about creation of a smokefree environment.

To our knowledge, this is the first study that has reported on the level of support for smokefree policy initiatives among both staff and students from a tertiary education institution. Research has tended to focus on the student population; few have ascertained the views of university employees.

Participants endorsed several publicity approaches, particularly smokefree signage. International evidence also supports a multi-component set of active and passive approaches.

Participants did not think that compliance with the smokefree policy should be voluntary. They believed that the policy should be enforced by campus security, with penalties in place for transgressors. These views are echoed by Fennell who advocates that university administrators demonstrate leadership by having violators of smokefree campus policies held to the same standard as those who violate other policies. However, Ballie et al. noted that penalties must be feasible and amenable to enforcement.

Some limitations to this research should be noted. The response rates were 51% and 41% for staff and students respectively; and there is some potential for non-response bias to affect the estimates reported. However, we note a recent survey with Australian university students reported a similar response rate. Nevertheless, where possible, we examined differences between responders and non-responders and found study participants did not differ significantly from the Dunedin based university population.

While the proportion of smokers in the sample is lower than the population smoking prevalence, this is likely to reflect the inverse relationship between smoking and education level. Further, recent research notes that daily smoking among NZ university students has decreased from 10% in 2002 to 3% in 2013. This is similar to the very low prevalence of smoking found in this current study, although our sample had fewer occasional smokers than reported by other recent studies of tertiary students.

The rate of smoking amongst staff could not be compared to external parameters as we are not aware of other data reporting smoking prevalence among tertiary education staff.

The low numbers of smokers precluded examination of perceptual differences between smokers and non-smokers. International research has found that non-smoking students have more favourable attitudes towards a smokefree campus than students who smoke, even though the latter group still support these policies. In some cases, however, smokers’ views differ significantly from non-smokers’ views.
The data were obtained from only one NZ university. However, it seems reasonable to expect they will be representative of other NZ universities that have similar demographic and smoking characteristics.

Prior to 2000, several US groups made recommendations for tobacco control policies for universities. Similar recommendations do not exist for NZ tertiary institutions. Half of New Zealand’s tertiary education institutions had a completely smokefree campus policy in 2006. Wider adoption of smokefree policies is required to support the government’s goal of becoming a smokefree nation by 2025.

Implementing smokefree campuses has strong support from the two key stakeholder groups: staff and students, with few perceived disadvantages. Given these findings, tertiary institutions should move quickly to adopt smokefree policies in the knowledge these reflect staff members’ and students’ views and are consistent with the government’s wider societal goals.

Competing interests: Nil.

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