Non-compliance with university tobacco-free policies: A qualitative exploration

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ABSTRACT

INTRODUCTION Though university smoke-free and tobacco-free campus policies have been proliferating across the US, compliance and enforcement remain challenges. This study examined perceptions and behaviors of employees and students who used tobacco products on tobacco-free campuses, to better understand policy non-compliance.

METHODS Students (n=56) and employees (n=20) from two tobacco-free 4-year public universities in Southern California who self-reported using tobacco products on campus participated in focus groups, stratified by university and student or employee (faculty and staff) status, to discuss attitudes toward campus tobacco policies and on-campus smoking. Focus group discussions were transcribed and analyzed after structured coding and subcoding.

RESULTS Participants were generally aware that smoking and vaping were not allowed on campus, though few could correctly identify their campus as tobacco-free. Attitudes toward the policy varied by subgroup and by campus, with students and employees at different universities expressing varying levels of support. Non-compliance was a unique interaction of individual, institutional, and interpersonal factors including a desire to smoke or vape to reduce stress, lack of formal enforcement or penalty for violating the policy, and efforts to smoke or vape in ways that reduce harm to others as a way of rationalizing non-compliance.

CONCLUSIONS Attitudes toward university tobacco-free policies are campus- and constituency-specific, with similarities in individual, institutional, and interpersonal factors underlying non-compliance. Interventions to increase compliance should address individual, institutional, and interpersonal influences on non-compliance through efforts tailored to specific campus constituencies based on their particular knowledge and attitudes towards tobacco-free policies.

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INTRODUCTION

The number of colleges and universities with smoke-free or tobacco-free campus policies in the US has been increasing[1-4]. The most recent estimate of the proportion of US post-secondary institutions with smoke-free or tobacco-free campus policies found that 16.7%, or 823 institutions, were 100% smoke-free or tobacco-free in 2017[4]. As of July 2021, the Americans for Nonsmokers' Rights Foundation estimated that there were at least 2542 completely smoke-free campus sites, including 2104 that were completely tobacco-free[5]. Studies assessing and evaluating compliance with campus smoke-free and tobacco-free policies, however, have lagged behind proliferation of these policies at institutions

of higher education. Compliance-related perceptions and behaviors among faculty and staff in particular are not well understood.

Existing evidence suggests that smoke-free and tobacco-free campus policies are well received by the general campus community[6,7], and norms shift to greater disapproval of tobacco use on campus[7]. Further, smoking rates appear to decline after the implementation of smoke-free and tobacco-free campus policies[8,9], though e-cigarette use may increase after smoking restrictions are implemented[9,10]. Comparison of policies across universities suggests that stronger policies are associated with reduced secondhand smoke exposure, smoking behavior, and reporting seeing others smoking[11,12].

Though smoke-free and tobacco-free university policies appear to be supported by campus community members and are associated with declines in smoking, policy compliance remains a challenge[13-15]. Studies at individual universities suggest that high rates of exposure to secondhand smoke remain even after smoke-free and tobacco-free policies are enacted[16-18], with lack of enforcement frequently cited as potential reason for non-compliance[13,19,20]. Braverman et al.[21] found that policy violation is positively associated with past month use of cigarettes and other tobacco, and living on campus, and negatively associated with policy support, age, and absence of smoking urges. Another study suggested that the constructs of the Theory of Planned Behavior – attitude, subjective norms, and behavioral control – were associated with intention to comply[22]. A qualitative study in Australia found that student and non-student smokers on campus held reasons for smoking that included defiance against a policy. These included viewing the policy as impinging on personal choice, reluctance to leave campus, the need to smoke, not knowing the boundaries of the policy, and smoking without detection[23]. Another study found that knowledge of university smoking policy was low and that non-compliant smokers chose their locations to smoke based on convenience[20].

Existing studies, however, have been conducted at single universities and either among students only or did not distinguishing between students and other campus constituents such as employees (e.g. faculty

and staff). Hence, it is unclear how compliance with university tobacco-free policies may differ between universities or different campus constituencies. This study builds on earlier findings by examining non-compliance among students and employees of two large, urban universities in the US, to further identify and characterize patterns in non-compliance by university and student or employee status.

METHODS
Data collection
In Fall 2019, college students and non-student university employees who self-reported use of tobacco products on-campus were recruited from two four-year public universities in California to participate in focus group discussions on compliance with university tobacco-free policies. University 1 has been smoke-free since Fall 2013 and tobacco-free since Fall 2017. In Spring 2018, 6.1% of students at University 1 reported using a cigarette in the last 30 days and 6.8% reported using an e-cigarette in the last 30 days[24]. University 2 has been tobacco-free since Fall 2013. In Spring 2019, 4.9% of students at University 2 reported using a cigarette in the last 30 days and 7.4% reported using an e-cigarette in the last 30 days[25]. Two marketing firms managed recruitment of participants and project logistics for focus groups. Inclusion criteria for both students and staff for the study were: 1) aged ≥18 years; 2) student or employee at one of the two universities; and 3) self-reported use of a tobacco product on university property. Eleven in-person focus groups held at off-campus facilities (7 with students, 4 with employees) were conducted from October 2019 through February 2020. COVID-19 restrictions on in-person gatherings at both universities in March 2020 required a modification to study recruitment and data collection for focus groups held after this date. Online recruitment of study participants from University 1 was conducted by a university-based research center for two online focus groups that were held in October 2020, one with university employees and one with students.

Informed consent and a questionnaire including demographic, past and current tobacco product use, knowledge of the university smoking policy, on-campus tobacco use, and social media use information were completed by each participant

prior to participating in the focus groups. Groups had an average of 5.85 participants (range: 1–9), with an average of 7 participants for student groups (range: 2–9) and 4 for employees (range: 1–9). Focus groups averaged 69.3 minutes (range: 33–85 minutes), with an average of 76.8 minutes for students (range: 64–85 minutes) and 57.4 minutes for employees (range: 33–77 minutes). Focus groups were facilitated by the first author and followed a semi-structured protocol. Ten questions, each with numerous probes, constituted the semi-structured focus group discussion guide and covered topics including tobacco use initiation and transitions (example: 'What kinds of tobacco products do you use?' and 'Can you tell me more about when and how you use them?'), knowledge of and attitudes toward campus smoking policy (example: 'Can you tell me what your understanding is about what the smoking policy is on campus?' and 'How do you feel about your campus smoking policy?'), campus tobacco use behavior (example: 'When you smoke or vape or chew on campus, what are your considerations of when, where, and how to do so?'), policy enforcement (example: 'Has anyone ever approached you about using tobacco on campus?' and 'Can you tell me what happened?'), and engagement with tobacco content on social media (example: 'Do you ever talk or post about tobacco on social media?' and 'Can you give me an example?'). Students who completed the focus group were given a $125 incentive for participation; employees received $200 for their participation. Focus group recordings were transcribed for analysis.

Data analysis

Focus group transcripts were reviewed for accuracy by research assistants then imported into and analyzed using ATLAS.ti 8 qualitative data analysis software[26]. The first author developed an initial coding scheme based on the focus group discussion protocol and emergent themes from a close reading of a subset of two transcripts. Two research assistants coded a subset of focus group transcripts using the initial coding scheme and added new codes as needed. The analysis team met to review and finalize the coding scheme. An iterative process of coding, assessing intercoder agreement, and resolving differences in coding was repeated until a Krippendorff's $\alpha=0.862$

was reached. Research assistants then coded all focus group data. The first author created subcodes for each code, which was reviewed by research assistants for appropriateness with iterative coding used to achieve a consensus on subcoding.

A general inductive analysis approach was utilized to analyze the data[27]. The first author extracted data for codes with a larger number of data quotations and iteratively analyzed for common themes. Thematic summaries for each focus group were also created for key codes providing context for individual quotations. Patterns within themes and relationships between themes were identified and organized into a broad framework to assess research questions key to the aims of this study.

RESULTS
Knowledge
A total of 76 individuals participated in the study, 20 were non-student employees and 56 were students (Table 1). Though participants knew they were violating the campus smoking policy, only 11.8% correctly identified the campus smoking policy as being tobacco-free on the questionnaire, with most (78.9%) identifying their campus as smoke-free. Signage around campus was by far the most common way student participants found out about the campus smoking policy on both campuses. For example, at University 1 a participant recalled 'I didn't even know that it was a smoke-free campus until one day, I just passed by and I saw that big old sign saying *smoke-free*'. A couple students on both campuses recalled hearing this information in new student orientation, student outreach groups, and, at University 2, from resident assistants. Employees at both universities reported receiving emails when the policy was first rolled out. At University 2, messages about the policy change were also sent through the university intranet.

Attitude
Attitudes toward campus tobacco-free policies were variable across groups. Students at University 2 supported the effort to reduce smoking and vaping on campus, even if they themselves were non-compliant. One student suggested that 'I think it's a good implement, like good that the policy is in place' while another suggested that 'I can't be mad at it'. This was also true of employees at University 1 who

cast the policy as 'a good thing as an educational institution to implement' to promote 'healthy lifestyles on campus for young people developing'. In contrast, University 1 students and University 2 employees were more likely to have negative attitudes toward the campus smoking policy. University 1 students used the language of unfairness to describe the policy for multiple reasons. For example, one student said: 'we get 10-minute breaks in between a three-hour class and I'm not going to have all the time to walk out to the street, come back. I don't think it's fair'. Other reasons the policy was viewed as unfair was because students paid tuition and they had to be on campus for

Table 1. Sample characteristics (N=76)

	University 1 (n=30)		University 2 (n=46)	
	Students	*Employees*	*Students*	*Employees*
Gender				
Male	11	3	23	7
Female	12	3	9	7
Other	1	0	0	0
Average age (years)	22.3	44.4	21.5	45.2
Ethnicity				
White	4	6	9	9
Black	1	0	1	0
Asian	4	0	15	3
Hispanic	2	0	3	2
Middle Eastern/ North African	9	0	0	0
Two or more	4	0	4	0
Correctly identify smoking policy	1	3	2	3
Product ever used on campus				
Cigarette only	2	3	2	3
E-cigarette only	7	2	15	1
ATP only	1	1	0	1
2 products	9	0	9	8
3+ products	5	0	5	1

ATP: alternative tobacco product; cigar, cigarillo, chewing tobacco, waterpipe, bidi, or kretek.

a long time without smoking. University 2 employees opposed the policy as being too restrictive, suggesting people should be able to smoke outdoors 'on the sidewalk', 'in the forest', or in parking lots because 'it's not like you're in an enclosed room, you're outside'.

Non-compliance

Non-compliance was a result of the interplay of three factors for students and employees at both universities: the desire to smoke, lack of policy enforcement, and an individual smoker's efforts to reduce risk of others' secondhand smoke or aerosol exposure. Stress was the main driver of tobacco use on campus for both students and employees. For students, schoolwork was the main source of stress whereas for employees it was working conditions. Students, for example, 'need something to try to like help me with my stress and [smoking] does help me with my stress'. For example, another student said 'Sometimes during finals... I'll be studying with my friends and everyone's stressed out ... there is at least three or four people with devices and people will just hit them'.

Smoking and vaping were not only for stress relief but also the opportunity to separate from a stressful situation to gather oneself before returning and continuing to be productive. One student said: 'sometimes I feel overwhelmed. And [smoking] just gives me that time to just go and be by myself and just kind of ponder what I need to do'; and an employee suggested that he vapes to 'decompress for a second ... step back from a stressful situation'. Students also cited the use of cigarettes and vapes as a source of stimulation to study, to get through a boring class, or stay awake in class after a long day.

Participants suggested that the size of universities make regular enforcement impossible ('I just felt like there's no way they would catch me on such a big campus'). Study participants also suggested that even if they are caught using a prohibited product, there is no penalty that can be levied. This sentiment was particularly strong among students, who said 'what's really going to happen?' if they're caught smoking, or have thought 'how are you going to enforce [the policy]?'. Respondents also reported there was little actual enforcement of the campus tobacco-free policy. One employee suggested that 'I've never seen anyone do it and then get in trouble', a sentiment shared by students and employees at both universities.

Informal designated smoking areas established by smokers on both campuses, signaling to participants that universities do not take enforcement of policy seriously. As one student commented: 'the fact that [our university] knows that there are people smoking here and is not doing anything about it on a smoke-free campus just shows that they also don't really care'. Official enforcement entities – security guards, traffic enforcement, community service officers, or police officers – were only occasionally the source of enforcement. One employee remarked: '[Security] will either come over and smoke with me or I'll chat and be like "I don't want you to have to hear shit because of me so... [go] over on the [other] side so we don't have to talk to you".'

There was a near universal sentiment among study participants that when they would smoke or vape, they were conscious of being respectful of others. As one student reflected on vaping on campus: 'besides the policy itself, you don't want to be bothersome to other people. You have to be respectable'. Another student added: 'I'm going to [smoke]. But I'm going to do it in as respectful a way as possible'. This typically meant finding places outside and away from others to smoke, only smoking or vaping around other users, or asking the consent of others prior to using a prohibited product. For e-cigarettes, this also included 'zeroing' aerosol or exhaling into one's shirt if vaping indoors. Study participants commented that they were very cognizant that other people did not like secondhand smoke or aerosol and made efforts to be mindful of others' health and well-being. One employee described avoiding others while smoking or vaping as showing 'interpersonal courtesy'. Other factors for smoking and vaping away from others, or discreetly, included not wanting to be seen by others for concern over reputational harm (for employees), feeling the stigma associated with smoking, and not wanting to deal with people confronting them. One employee, for example, mentioned that he is 'so ashamed of smoking in front of others' while another said she does not smoke early in the day because 'there is this negative bias' associated with the smell of tobacco.

Perceptions of e-cigarettes compared to conventional cigarettes

Study participants made a clear distinction between conventional and e-cigarettes as it related to harm and thus relevance of tobacco-free policies. E-cigarettes were viewed as 'way more acceptable to the average population of the campus' because they are viewed as less harmful to others. In addition, e-cigarettes did not have the stigma of conventional cigarettes, in part because they 'don't seem to cling to you as much as like a tobacco smell' and the aerosol 'just dissipates'. One student said '[E-cigarettes] are just convenience'. Because of these factors, one employee suggested that e-cigarettes have 'changed the whole theory of smoke-free' and questions the very utility of clean air policies as they relate to vaping. These factors contributed to a feeling among participants that using e-cigarettes on campus was more accepted by non-users thus justifying their use on campus.

DISCUSSION

Though participants in the study reported learning about the university smoking policy through similar communication channels, attitudes toward the policy varied by university and constituency. Students at University 1 and employees at University 2 had negative attitudes toward the policy while students at University 2 and employees at University 1 had positive attitudes toward the policy. Regardless of attitude, however, the desire to smoke, lack of policy enforcement, and an individual smoker's efforts to reduce risk of others' secondhand smoke or aerosol exposure were key elements in non-compliance with tobacco-free policies for students and employees at both universities.

Variability in attitudes toward university tobacco-free policies found in this study highlight how university smoking policies can be differentially received by campus constituencies. Students and employees with negative attitudes articulated their position as impinging on personal rights to smoke whereas those in favor drew upon a broader conception of health and well-being. Though the reasons for these difference between campuses and constituencies could not be delineated in the present study, these results suggest that interventions to increase compliance may need to consider preexisting attitudes and beliefs which are campus- and constituency-specific. For example, most study participants learned of the university smoking policy through signage, a passive channel of communication that only states smoking and vaping

are prohibited and arguably has little impact on changing attitudes toward the policy.

These results point to the need for additional comparative research among different college campus communities and their differential tobacco-free policy implementation, enforcement, and compliance activities, as well as assessing local or other contextual factors that may impact non-compliance attitudes or patterns. In turn, educational efforts to improve compliance should be on-going and consistent, and communication campaigns should include multiple channels and messages that address the attitudes, assumptions, and objections of their specific campus and different campus constituents. This includes articulating the rationale for the policy in clear terms. Targeted efforts may support compliance and strengthen perceptions of the salubrious institutional intent behind the policy. Equally as important is ensuring that cessation support services are more widely known and accessible, and broader programmatic efforts at addressing the root causes of smoking such as stress reduction and management.

University enforcement of smoking policies in the US varies from campus to campus with many public universities relying on community enforcement[28]. A community enforcement approach, however, can be difficult to implement because of discomfort in confronting violators, fear of conflict, feeling a lack of authority to enforce, and situational engagement[29-32]. While some have argued for enforcement with penalties[15], campus police may be hesitant to enforce university smoking policies[31]. Results from this study suggest that non-enforcement signals an implicit acceptance of smoking or vaping in spite of formal policy. Formal enforcement approaches may be constrained by focusing on law enforcement entities and the goal of total compliance. A future enforcement direction may be an alternative enforcement approach that does not attempt to identify and penalize every violator, but to engage in enough meaningful enforcement – such as regular and consistent patrolling with warnings or low-level penalties by institutional actors – to convey institutional commitment to the policy.

Finally, the growth of vaping among young adults marks a challenge to smoke-free and tobacco-

free policies in various settings. The perception of low or no risk from vaping, ease and discretion with which vaping can be done, and less stigma compared to conventional cigarettes, pose barriers to community acceptance of restrictions on vaping and enforcement. Hence, while both conventional e-cigarettes are often included in a single smoke-free or tobacco-free policy, they should be treated as separate products in policy implementation efforts. Studies have shown that colleges rarely communicate e-cigarette risk information or distinguish them in information about university tobacco-free campus policies[33], yet appropriately tailored messaging about e-cigarette risk may increase perceived harm from e-cigarette use and emissions[34]. For example, in relation to user perceptions in response to the 2019 outbreak of lung injury associated with the use of e-cigarette, or vaping, products (EVALI), which coincided with this period of data collection, a separate study published by the authors found that college respondents using e-cigarettes engaged in various cognitive processes and a range of risk rationalizations in order to justify continued use[35]. Hence, tailored policy rationale, outreach materials, and communication campaigns should be developed for each product type covered under a smoking policy to account for difference in risk perception and use patterns.

Limitations

Limitations to the study include the conduct of focus groups using different modalities (11 in-person and 2 on-line) and the variation in participants in focus groups as these may have resulted in different types of information from each group. Further, the results of the study are not generalizable to all universities because of the qualitative study design and convenience sample. In addition, the sample size from each university limits the generalizability of the study results to all policy violators at each university. Though not generalizable, the results of the study provide a framework for further inquiry into multilevel determinants of noncompliance with university tobacco-free policies. Additional research on non-compliance should be conducted at colleges and universities in other settings and among various campus constituents to identify campus-specific knowledge, attitudes, and behaviors.

CONCLUSIONS

Attitudes of campus smoking policy vary by campus and constituency, but there are similarities across campuses and groups in terms of the reasons for on-going non-compliance with campus tobacco-free policies. These include an instrumental motivation to smoke or vape on campus, the lack of enforcement and penalty of tobacco-free policies, and perceived adherence with the spirit of smoke-free policies acting as the main drivers of policy non-compliance among participants. Interventions to increase compliance should address individual, institutional, and social influences on non-compliance through efforts tailored to specific campus constituencies based on their particular knowledge and attitudes. These efforts should be on-going and consistent, utilizing multiple channels and modalities including multi-message communication campaigns, provision of cessation and stress management services, and targeted enforcement.

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