

Changes in smoking behavior among college students following implementation of a strict campus smoking policy in Taiwan

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Abstract

Objectives To understand the perception and responses among college students to a strict campus smoking policy which was in accordance with a national law requiring complete prohibition indoors and permission to smoke in designated outdoor smoking areas only.

Methods This study was conducted in the third to sixth month after the implementation of the revised Tobacco Hazard Prevention Act in Taiwan. In-depth interviews were conducted with 22 smokers who were second and third year students of a college in Taiwan. Thematic analysis was used to categorize ideas into concept themes.

Results In interviews, most smokers revealed some modification in their smoking behavior and attitude: they sensed that smoking was unwelcome, reduced smoking in campus, thought about quitting, and tried to avoid exposing roommates in the dormitory. The reasons cited by the students for behavior change were grouped into four major themes: a changed smoking experience, change in social norm, the respect for law, and concern for others' health.

Conclusions Implementation of a strict smoking policy in college prompted smokers to markedly reduce smoking in campus.

Keywords Smoking behavior · Campus smoking policy · College student · Tobacco hazard prevention art

Introduction

While smoking rates have steadily declined among secondary school students and adults in the recent years, smoking among young adults and college students has either stayed unchanged or even increased in several countries (Baska et al. 2007; Hammond 2005; Lantz 2003; Smith and Leggat 2007). College years have been characterized as a period of increased risk to smoking initiation as well as progressing from intermittent or social smoking to more regular patterns of use (Moran et al. 2004; Nichter et al. 2006; Tamim et al. 2003). In Taiwan, the smoking rates increased from 24.1 to 30.6% in males and from 3.8 to 5.7% in females among young adults entering and graduating from college (Wen et al. 2005). Young adults aged 18–24 years are also the target of marketing by the tobacco industry (Sepe and Glantz 2002). Therefore, identifying the effective ways to induce behavior modification in this group is of special interest.

The “Tobacco Hazards Prevention Act” (THPA) was enforced in Taiwan in 1997. A revised version, in part referencing to the WHO Framework Convention on Tobacco Control, was implemented in January 2009. The revision included major modifications; most prominently, the introduction of graphic warning on cigarette packs and a more stringent smoke-free policy. Smoking is essentially banned in all indoor public places and workplaces shared by three or more persons, with a few exceptions such as some entertainment businesses. According to THPA article 15, smoking is totally prohibited in schools (up to high

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school) and “indoor areas of universities and colleges”. Article 16 states that “smoking in the outdoor areas of universities and colleges...is prohibited except in the designated smoking areas”. Offenders would be punishable by fines of 60–300 US dollars (Article 31). During the 6 months prior to implementation, the government repeatedly announced the regulations and penalties through various media, and the policy was well publicized.

Studies of smoke-free policy focused more on the effects in workplaces, restaurant, pubs and bars (Hopkins et al. 2010). Policy support could be predicted by demographic characteristics, attitudes toward the policy, exposure to and annoyance by passive smoking, and beliefs about the hazards of passive smoking (Borland et al. 2006; Fong et al. 2006; Rohrbach et al. 2002). However, the studies on the effect of smoking policy in college campus are rare (Murphy-Hoefer et al. 2005). The interventions studied generally had a positive influence on student behavior, including reducing tobacco use and increasing quit attempts (Etter et al. 1999). Studies suggested that modification of normative values toward smoking was important in explaining the compliance with smoke-free policies (Lazuras et al. 2009; Riou Franca et al. 2009). Smokers and non-smokers often had different expectations of the social and physical environments of public places, and they need to re-negotiate smoking behaviors in public space (Heim et al. 2009). Not many studies have looked into how smokers govern their own smoking behavior in light of the changing social norm and the reasons of their behavioral change (Poland 2000). The perception and responses among college students to smoking policies were less studied, and even less so in Asian countries.

In this study, we investigated the effects of a nationwide smoking policy in a college campus. Although top university students are regarded as elites, college students with a lower entrance ranking have characteristics of the general young adult population. However, college students are a unique population because many of them are in relatively early stages of smoking, and they are situated in educational institutions which are expected to cultivate reasoning ability and socially acceptable behaviors. We used a qualitative design to investigate the perceptions of smoking regulation among smokers and their reasons for behavior modification following the implementation of a strict campus smoking policy.

Methods

Study population

The study was carried out in a recently established university with a history of 9 years in southern Taiwan, with

more than 3,200 full-time students in the 4-year program. The university ranked the 95th percentile in the national college entrance examination, and compared to more elite colleges, the courses in this school placed more emphasis on vocational training than on the academic disciplines.

According to an unpublished survey conducted in June 2009 in this college by the authors, 17.0% of students were current smokers; the prevalence was 26.0% in male and 4.2% in female students. The prevalence was relatively high. According to a recent national survey, the smoking rate was 12.7% among male college students (ranged from 3.8 to 28.7% in different colleges), and 1.9% among female student (ranged from 0.7 to 9.7%) (Taiwan International Medical Alliance 2010). Around 90% of students, both among smokers and non-smokers, were aware of the new THPA, including the regulation that smoking in the college was permitted only in designated outdoor areas.

According to the revised THPA, five designated outdoor smoking areas were set up, while smoking was prohibited elsewhere in the campus. An inspection team supervised by the Office of Student Affairs and Military Training Officers is the main enforcement authority within the campus. Offenders who smoke outside the smoking area may be marked by demerits, but, in practice only 11 offenders were penalized by a few hours of in-campus services in the semester following the implementation of the revised THPA. The Tainan County Health Authority inspected the campus approximately once per month, and nine students were fined for violation (\$60–300) in one semester.

Design

The qualitative approach used field observations and in-depth interviews to understand how students perceived the campus smoking policy, and how they responded to the new regulations. This study was approved by the Academic Research and Development Committee of Taiwan Shoufu University.

Field observations

One of the investigators (SHC) is a faculty member of the college. The observation on student smoking behavior was conducted almost daily from August 2008 to June 2009, the sixth month after the implementation of the new law. The areas observed included the balconies of different buildings, the corridors outside the classrooms, open stairways, other open areas on campus, as well as the designated outdoor smoking areas. The observer also communicated with students and members of the Office of Student Affairs to confirm the observation.

Interviews

One-to-one in-depth interviews with 22 sophomore or third-year undergraduate students who smoked were conducted between March and June 2009. All the interviews were conducted by one of the authors (SHC). Six students were recruited by personal contact through the interviewer, and six students were recruited through other staff members from different departments, and the remaining 10 participants were recruited by snow-ball sampling. The participants came from six different departments, and none of them was from the same department of the investigator. A very few female smokers would smoke in campus, so this study focused on male students. Informed consent for interview and audio recording were obtained prior to each interview. The interviews were conducted in a comfortable room within the campus, after the assurance of privacy and confidentiality. The interview was based on a semi-structured scheme and typically lasted for about an hour. The interviews focused on the participants' perception of the regulations, their smoking behavior or attitude changes following the new smoking policy, and the reasons for change. The guiding questions included: "Let us talk about your smoking." "How do you think about the new tobacco control law?" "How do you feel about the new smoking policy on campus?" "Have you changed smoking behavior after the new policy?" "Why did you make the change?" The interviews were recorded and transcribed verbatim. Thematic analysis was then applied: relevant contents of participants were identified, coded, categorized and grouped into concept themes. The process was cross-checked by the researchers: the preliminary results were repeatedly discussed between the researchers, compared with the literature, and the concept themes were condensed. All the analyses were performed based upon transcripts in Mandarin; selected quotes were translated into English by the authors.

Results

Observations

We made field observation in the university before and after the implementation of the smoking policy. Smoking used to be commonly seen in the buildings, particularly in the corridor outside classrooms. Immediately after the implementation of the smoking policy, there was a sharp reduction of smoking. Not all the smokers went to the smoking areas; dozens of students used to smoke in the corridors during the break, typically less than 10 students would appear in each outdoor smoking area. They often finished the smoking in a few minutes and left. Smoking in

places other than the designated smoking areas was very uncommon. Non-smoking students described that exposure to second-hand smoking in school markedly reduced.

New policy effects on smoking behavior

To understand how smokers perceived the effect of the new regulation and how they modified smoking behavior, we conducted interviews with 22 sophomores or senior male smokers. They aged between 20 and 24, with a smoking history of 1–10 years. Seven of them started smoking after entering college. They were all aware of the new policy, primarily through the media campaigns by the government and posters in campus. Only two out of the 22 said that their smoking was not affected by the new policy, and they claimed that nothing would have influenced their decision to smoke.

"Nothing matters. I would continue to smoke even if I will die early. The law does not totally prohibit smoking, but allows smoking in certain areas; therefore, there is no need to quit smoking." (student 2, junior, smoking history 8 years).

Others reported that they changed the place of smoking, or cut down on smoking while they were in school. Several said they went to the designated smoking area or the toilet to smoke. They claimed that compared with before, they shortened the time of smoking in these places. Others stated that campus was not the major place where they would smoke, and it was not a big problem not to smoke during the daytime. For many of them, smoking was not an absolute necessity, and they smoked only on some occasions such as friends gathering around or in case of boredom. Hence it was not difficult to cut down; some even stopped bringing cigarettes to school.

For many of these college students, there were plenty of occasions for socializing and entertainment. Some of the students said that they smoked primarily on social occasions, typically outside the school. They thought themselves as social smokers, and they believed that they had not been addicted and could quit any time they wanted.

"I am just like, well, how to put it... I would smoke or I would not. I usually smoke at night; normally, I don't smoke in school. Only when I hang out with friends, such as KTV, then I would smoke." (student 1, senior, smoking history 3 years).

Although these locations should be smoke-free, the smokers reported that no one really cared about the regulation because people were there to relax and enjoy. In Taiwan, KTV (Karaoke Television), in which people sing along with music videos in private rooms, is a common place for young adults to get together at leisure time. Smoking was also commonly associated with drinking in these occasions.

Eighteen of the twenty-two interviewees thought about quitting after the implementation of the policy, but only five of them actually took some action. For various reasons, such as not wanting to upset friends by repeatedly declining cigarette offers, none was successful in quitting.

Reasons for behavior changes

For 20 of the 22 smokers interviewed, some modifications of behavior were made. The interview revealed that there were several main reasons: a changed smoking experience, change in social norm, the respect for law, and concern for others' health.

A changed smoking experience

One major reason for change in behavior was that the policy made smoking troublesome, and spoiled the fun. Some said that they smoked in order to feel relaxed, or to feel more in control when they were under stress. The smoking policy made the experience of smoking different, and reduced the psychological reward of smoking.

"At the beginning it was for the reason of enjoying, because it was a feeling of freedom, and it was an enjoyable feeling. Just relaxing yourself, but now it's different." (student 12, junior, smoking history 8 years).

"I feel so annoyed to have to go to the smoking area, because by the time you got there, the desire to smoke had gone away. You would only feel others thinking: 'oh... it's so annoying', and it wasn't cool to smoke there (the designated smoking area), it's so boring." (student 1, senior, smoking history 3 years).

Change in social norm

Some said that the reason they started smoking was because it was awesome and cool, but now, smoking has become somewhat despised. They felt that there was a social atmosphere against smoking and felt that their rights were not respected. They stated that smoking had always been associated with negative impressions, and it got worse after smoking indoors was banned. Gathering outside the building to smoke was regarded as something wrong, it was anything but admirable.

"When I looked at seniors smoke, they seemed careless and cool. I became attracted and curious so I tried smoking. ... Now we complain all the time. Smoking is not respected anymore." (student 12, junior, smoking history 8 years).

"It is possible that places which permit smoking will become fewer and fewer, and, then, the newspaper and the like keep on talking about banning smoking, so I feel that smoking is not respected." (student 10, junior, smoking history 4 years).

After implementation of the strict smoking policy, smokers felt that smoking was more stigmatized than before. Particularly, smoking in front of others felt like a bad thing to do. Furthermore, students who had working experiences expressed their concerns on their future career development. Because smoking was prohibited in workplaces, they felt that smoking would be a barrier in seeking employment.

Respect for law

Some students questioned the position of the government. They thought it contradictory for the government to allow importation and selling of cigarettes, while people could be penalized for smoking in some places. Despite this disagreement, they believed that the laws should be respected and followed. Therefore, they thought they had to abide by the law when they smoked.

"Because I would comply with the law, I would go to the smoking area even if I were alone. I agreed to go, and cut down smoking in other places; the reason for doing that is because I respect the law." (student 4, sophomore, smoking history 5 years).

The enforcement of the law by penalty was not a major concern. Since the health authority inspectors do not normally enter the campus, the enforcement action is executed by the school inspection team. However, most students believed that even if they violated the regulations, they would not be caught, identified, or penalized. Despite these beliefs, seldom did they intentionally offend the regulation.

Concern for others' health

The new smoking policy in campus did raise smokers' attention on health issues. Fourteen participants expressed the idea that they voluntarily accepted the health effects of smoking, but it was bad to "kill others indirectly." A common notion by the smokers was that "passive smoking caused more damage than active smoking," but this idea did not result in any action in the past. The prohibition of smoking in indoor places was the "official proof" of health effects of passive smoking. Official denouncement of passive smoking sent a clear message to smokers. Upon the implementation of the new policy, they took extra care, even in private places, to avoid harming others such as roommates or close friends. For example, they would smoke by the open window, or go to the balcony to smoke in the dormitory or apartment.

"I would say (to a friend who smokes) that we should not smoke in public places, I would tell him to go smoke in other locations, not in front of others. ... I would emphasize, well, the health of others, not my own, just the others." (student 13, sophomore, smoking history 1 year).

Discussion

The smoking policy in college campus was part of the new THPA, and the government had conducted mass media campaigns to promote indoor smoke-free policy for several months before its implementation in January 2009. The survey showed that the great majority of students were aware of the contents of the smoking policy, and we observed that the smoking behavior in campus was modified after the implementation of the policy. The modifications included cutting down on smoking in school, which appeared to be easier for social smokers, and changing the location of smoking to the designated areas or in toilets and other hideouts. Yet another modification was refraining from smoking in front of others, even in private spaces, for concerns of second-hand smoking on others' health. The interviews revealed the self-perceived reasons and justifications provided by the students to explain their behavior.

The study was conducted in the spring semester (February–June 2009), just after the enforcement of the revised THPA, and reflected the short-term changes in the attitude and behavior. Many students in this college graduated from vocational schools rather than traditional high schools, and had work experiences before they entered the college. For example, the male smoking rate in this college (26.0%) was higher than males from a top-ranking university (13.1%) in Taipei (Susan Shur-Fen et al. 2009). The career prospects, with a few exceptions, are not in the professional or managerial categories. Their pattern of tobacco use and attitudes toward smoking policies may reflect the middle class of the society.

The implementation of the policy caused significant behavior modification, particularly among students who identified themselves as social smokers. They felt that it was not difficult to cut down on smoking, and they preferred to smoke in social occasions. One obvious effect of the policy was that it reshaped the image associated with smoking. Several qualitative studies among college students showed that smoking was associated with the image of being fashionable, cool, confident, mature, or sophisticated (Grogan et al. 2009; Wakefield et al. 2009). Our study showed that smoking at designated areas was associated with negative feelings, which made smoking less pleasant. The physical surrounding also mattered, because the occasional staring of schoolmates made it more difficult to enjoy the cigarettes. This is consistent with the studies suggesting that the environmental constraints contributed to the reshaping of individual social cognitions and the social norms of unacceptability of public smoking (Ritchie et al. 2010).

Previous research among college students showed that half of students who smoked daily identified themselves as

social smokers, who seemed to have less nicotine dependence, and may represent a stage in the uptake of smoking (Moran et al. 2004). Other studies showed that college smokers often did not identify themselves as regular smokers (Levinson et al. 2007; Thompson et al. 2007). The smoking behavior of young smokers may be more susceptible to stringent smoking policies than adult smokers, thus suggesting that college years may be a critical period for policy intervention (Albers et al. 2004; Philpot et al. 1999).

The probability of being penalized for offending the non-smoking regulation in this college did not seem high enough to be an effective deterrent. Apart from the self-reported willingness to follow the law, one observation worth mentioning was the way the law affected young smokers: it was not only a standard of behavior; it also represented the stance of the authority. The fact that cigarettes are legal merchandise caused some confusion among the participants. They seemed to think that the government, by granting the legal status to tobacco products, was lending support to the position that smoking was reasonable. "If smoking was so bad, why wasn't it banned?" was a common remark during the interviews. Many felt that while the government warned about the dangers of tobacco use, it actually endorsed smoking. Proclaiming that it is illegal to smoke indoors, on the other hand, attached a tag of unlawfulness to cigarettes, and was perceived by some to prove that the government had withdrawn that endorsement.

The smoking policy regulated primarily on public spaces; although dormitories were technically located within campus, they were regarded as private space, and law enforcement by inspections was very unlikely. According to the participants, smokers changed their smoking behavior in dormitories and tried to avoid exposing their roommates to second-hand smoke. This was an unexpected effect, since it was possible for the behavior to go the other way—to smoke more self-indulgently in private spaces to compensate for their lost liberty in public areas. Participants said that banning indoor smoking prompted them to think more seriously about the hazard of passive smoking. Many students thought that second-hand smoking was more harmful than active smoking. This belief had existed among students, but was unable to bring about the courtesy to respect others until the implementation of the law. This aspect of the effect of law—through self-governing and efforts in 'consideration', could probably be explained by the sociological discourse of social control (Poland 2000). However, this consideration seemed to be limited. In KTVs and internet cafés, the smokers felt more comfortable in smoking, perhaps because in these places where smokers tended to gather, they presumed that others were in exposure to second-hand smoke voluntarily.

Some limitations of this study stem from its design. The participants of the in-depth interview were all male smokers, so we might have missed some gender-specific concerns. The characteristics of students in this college, particularly their experience of tobacco use and exposure to passive smoking, may be different from other universities with higher academic achievements. So the views in this study may reflect those of the middle-class, rather than the elites. The study was conducted in the first semester following the implementation of the smoking policy and may have captured the stage when smokers were under the greatest psychological stress related to smoking. We do not know how their perceptions and responses would change over time. What the authors observed, however, was that the smoking pattern in the school has largely remained the same at 18 months after the implementation, suggesting that social norm was established and maintained in campus. We were unable to observe smokers' behavior outside the campus, particularly in leisure facilities. Finally, different cultural background in each country may lead to different outcomes.

Conclusion

Our study shows that the implementation of smoke-free campus policy can reduce campus smoking among college students. The effects of the smoke-free policy included: (1) the policy, as part of a national law, has significant prohibitive effect in specified locations. The reason seemed to be that the college students were willing to respect and follow the law. (2) Smoking in designated areas was troublesome and smokers could hardly enjoy the time there. It also enhanced negative images of smoking. (3) Though the smoking ban was meant for public places, it led to behavior change even in private space, with notable exception in entertainment facilities. In summary, the strict campus smoking policy seemed to be a useful strategy to address the problem of youth smoking. *Ethic standards* this study was approved by the Academic Research and Development Committee of Taiwan Shoufu University. Informed consent for interview and audio recording was obtained prior to each interview.

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Conflict of interest None.

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