Support for smoke-free policies in the Cyprus hospitality industry

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Abstract:	Objectives: The present study used attitudinal and behavioural indicators to measure support for smoke-free policies among employers and employees in the hospitality industry in Cyprus. Methods: A representative sample of 600 participants (95% response rate) completed anonymous structured questionnaires on demographic variables, smoking status, exposure to second-hand smoke at work and related health beliefs, social norms, and smoke-free policy support. Results: Participants were predominantly males (68.3%), with a mean age of 40 years (SD = 12.69), and 39.7% were employers/owners of the hospitality venue. Analysis of variance showed that employers and smokers were less supportive of smoke-free policies, as compared to employees and non-smokers. Linear regression models showed that attitudes towards smoke-free policy were predicted by smoking status, SHS exposure and related health beliefs, and social norm variables. Logistic regression analysis showed that willingness to confront a policy violator was predicted by SHS exposure, perceived prevalence of smoker clients, and smoke-free policy attitudes. Conclusions: SHS exposure and related health beliefs, and normative factors should be targeted by interventions aiming to promote policy support in the hospitality industry in Cyprus.

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Introduction

Tobacco use is the single most important cause of preventable death in developed and developing countries, accounting for about 5.4 million deaths annually. Unless preventive action is taken, the death toll of tobacco use is expected to almost double within the next 15 years (Mathers and Loncar 2006; WHO 2009). Non-smokers exposed to second-hand smoke (SHS) are also at risk for smoking-related disease and mortality (Laumbach and Kipen, 2014). A recent analysis of the global burden of disease showed that SHS exposure was amongst the leading 3 causes of death in the world (Lim et al. 2013). Another study found that SHS exposure accounted for 10.9 million lost disability-adjusted-life-years (DALYs) in both children and adults (Öberg et al. 2011). Scientific evidence is also accumulating about the toxicity and health compromising effects of exposure to third-hand smoke (THS). THS comprises residual pollutants that remain on surfaces and/or dust even in the absence of active smoking, and are re-emitted in the air, or react with other compounds to produce secondary environmental pollutants (Hang et al. 2013; Matt et al. 2011). Smoke-free policies in public settings are effective ways to de-normalize tobacco use, reduce smoking among current smokers, and protect non-smokers from passive exposure to SHS and THS (Borland et al. 2006; Callinan et al. 2010; Matt et al. 2011).

Culture plays an important role in smoke-free policy implementation. Relevant research from Greece – a European country with comparably high smoking rates and lower support for smoke-free policies in public places – attests to that (Lazuras et al. 2009). In particular, Tamvakas and Amos (2011) showed that young people aged 14-16 years old in Greece viewed tobacco use and exposure to SHS as a normal part of their culture. Importantly, the "right" to smoke in public places was seen as more fundamental and important than the right for smoke-free air, and smoke-free policies were viewed as meaningless and unfeasible. Accordingly, compared to UK smokers, Greek smokers were more likely to actively oppose smoke-free policies, offered a wide range of self-justifying arguments for opposing smoke-free policies, viewed smoke-free policies as "racism" against smokers, and adopted a "libertarian" view with regards to protecting smokers' rights to smoke (Louka et al. 2006). More recent studies have shown that the majority of Greek non-smokers, although bothered by exposure to SHS at work, were less likely to ask smoking colleagues not to smoke – even if smoking at work constituted a policy violation (Sivri et al. 2013).

Findings from Greece could potentially inform research in similar cultural settings where smoking is still seen as a normative behaviour and smoke-free policies are opposed or not fully implemented. In this respect, Cyprus shares a similar cultural setting with Greece, has one of the highest prevalence rates of adult smoking in Europe, and exposure to SHS at home and in public settings is common (Karekla et al. 2009). Although a strict smoke-free legislation for public places was introduced in January of 2010 in Cyprus, a recent report on the progress of tobacco control policies in European countries (Joosens and Raw, 2013) showed that Cyprus moved "downwards" by eight places in the rank on the Tobacco Control Scale. Specifically, as of January 2014 Cyprus had a very low average score, which was equal to that of Greece, for smoke-free policy implementation in hospitality venues, such as bars and restaurants.

The present study used attitudinal and behavioural indicators to measure support for smoke-free policies among employers and employees in the hospitality industry in Cyprus. The hospitality industry in Cyprus was selected as a target of the current study because the tobacco industry has often targeted this business

sector in order to foster opposition against smoke-free policies (Gonzalez and Glantz 2013), and because both employers and employees in hospitality venues can regulate the implementation of smoke-free policies (e.g., through the use/removal of tobacco signage, ashtrays etc.), and discourage policy violators (e.g., by confronting smokers who smoke in non-designated areas). Two important indicators of policy support were evaluated. The first indicator reflected employers and employees' attitudes towards smoke-free policies, that is, the expected benefits and losses from the implementation of smoke-free policies in hospitality venues. The second indicator included participants' willingness to confront smoke-free policy violations by smokers.

Methods

Participants/Design

A representative sample of 600 participants (95% response rate) including both owners/employers and employees were recruited from hospitality venues (i.e., restaurants, café/bars, and hotels) across all districts of Cyprus. Details about the sample distribution by each district are presented in Table 2. A multistage, random selection process was used for sample selection, which was broken down by district according to the actual population distribution. At the first stage, 600 hospitality venues were randomly selected. We ensured that the selected venues were in operation before 2010 so that we could get valid data about changes in smoke-free policy. At the second stage, one respondent per venue was selected. The manager of the venue was requested to complete the survey, and where the manager was not available an employee who had been working there before 2010 was asked to complete the survey. Participants were predominantly males (68.3%), with a mean age of 40 years (*SD* = 12.69), and 39.7% were employers/owners of the hospitality venue. The survey lasted for 3 months. Data collection was based on structured face-to-face interviews. Following ethical standards in behavioural research, all participants were informed about the aims and purposes of the study and their participation rights (i.e., anonymity and confidentiality of the data, voluntary participation, and the right to withdraw from the study without consequences). The study was approved by the Cyprus National Ethics Committee.

Measures

A battery of anonymous structured questionnaires was used for data collection. Preliminary pilot testing was conducted in order to evaluate the overall survey and identify any deficiencies and/or practical problems with survey completion. The pilot study was administered to a small sample (n=30) of target group participants (employers and employees) from cafeterias and bars, restaurants and hotels over all five districts of Cyprus. Following their comments and feedback, relevant revisions and linguistic adjustments were made for better comprehension of survey items and response options. The questionnaire variables are presented in Table 1.

Smoking status was measured with a single question "*Do you smoke*" followed by four distinct response options "*No, I have never smoked*", "*No, but I am a former smoker*", "*Yes, I smoke, but not every day*", and "*Yes, I smoke at least once a day*". Former smokers were asked to indicate the year they quit smoking, and occasional smokers (i.e., those who reported smoking but not on a daily basis) were further asked to indicate how many days per week they smoked, and how many cigarettes/cigars they smoked on those days. For reasons of further analyses, we collapsed response categories and created a binary variable comprising current non-smokers (i.e., never and former smokers), and current smokers (i.e., occasional and daily smokers).

Job status was assessed with a single item asking participants to denote if they were owners or co-owners/employers/partners, permanent or temporary employees. Educational status was also assessed with a

single item asking participants to select their highest academic achievement among several different response options.

Exposure to SHS at work was assessed with a single item asking participants to report if they were exposed to the smoke of others during the week prior to the survey on a five-point scale (not at all, a little, moderately, a lot, very much). Higher scores reflected greater SHS exposure at the workplace.

Health beliefs about SHS exposure were also assessed with the mean of three items reflecting three different health risks of SHS exposure (respiratory problems, lung cancer, and cardiovascular disease). A stem proposition describing the term of SHS exposure was used, and respondents were asked to indicate the likelihood that SHS exposure could lead to the stated health risks. Responses were coded on a five-point Likert scale (1 = definitely not, 5 = definitely yes), and higher scores reflected greater perceived health risks from SHS exposure (Cronbach's $\alpha = 0.93$).

Changes in policy implementation were assessed with two items. The first item referred to the tobacco control policy in the venue before the introduction of the smoke-free legislation, and the second item was about the tobacco control policy in the venue after the introduction of the smoke-free legislation in Cyprus in October of 2010. It is noteworthy that the smoke-free policy included exceptions since it allowed smoking in outdoors areas of public buildings, therefore, giving the opportunity to cafeterias, bars, restaurants and hotels to create smoking designated areas in their outdoor premises. The outdoor smoking designated areas in many occasions were adjacent to the indoor areas, thereby allowing smoke to enter into the indoor environment. For this reason, we had included specific questions in our study questionnaire in order to address the above issue as evaluate whether the policy of each venue participating in the study survey was 100% prohibitive or had loopholes, which could allow smokers or employees to circumvent the spirit of the new law. Responses in both items were categorical and included four options: "*smoking is prohibited in all indoor areas*" denoting a complete ban on smoking indoors; "*smoking is allowed in certain indoor area"* denoting partial ban, "*smoking is allowed only in outdoor areas/sitting places*" denoting a total ban on indoor smoking but no restriction for smoking in outdoor areas of the venue; finally, "*smoking is allowed in all areas, both indoors and outdoors*" denoted no smoking restriction in the hospitality venue.

Attitudes towards smoke-free policies in hospitality venues were assessed with a 12-item questionnaire, comprising both negative and positive outcome expectancies. Negative outcome expectancies reflected concerns about the negative financial impact of smoke-free policies in the hospitality industry and the rights of smokers, whereas positive outcome expectancies reflected on the health of the public (i.e., protecting clients and employees from SHS exposure), and financial benefits (i.e., reduced costs for cleaning and repairing damage caused by burning cigarettes) of smoke-free policies. Response options were coded on a typical 5-point Likert scale, 1 = strongly disagree to 5 = strongly agree, and the internal consistency reliability (Cronbach's $\alpha = 0.81$).

Willingness to confront smoke-free policy violators was assessed with a single-itemed implementation intention hypothetical scenario. Implementation intentions are considered a proximal predictor of actual behaviour (see Gollwitzer and Sheeran 2006 for a meta-analysis), and can be seen as a direct context-specific behavioural tendency. Implementation intention measures include an "if" situation, followed by specific "then" response. In this study, the "if" part reflected a situation whereby a smoker client smoked in a smoke-free area (non-designated for smoking), and the "then" part included four hypothetical options: a) ask the client politely to put out the cigarette and not light another one, b) call the police, c) do nothing, and d) other (open-ended

response option). For reasons of further analysis we collapsed response options and created a new binary variable (1= would take action against the policy violation, and 2 = I would remain passive/not take any action against the policy violation).

Social norms concerning the smoke-free policy were assessed with 5 items. However, each item reflected different dimensions of social norms, thus, the items could not be averaged in a single mean score. More specifically, two items assessed descriptive norms, namely, the perceived prevalence of clients who were smoking, and the perceived prevalence of smokers in Cyprus. Responses were coded on an open-ended format (from 0 – 100%). Accordingly, three items assessed social norms concerning policy implementation: frequency of regulatory control by the respective authorities, frequency of clients who complained about the smoke-free policy of the venue, and frequency of non-smoker clients complaining about smoke-free policy violations.

Results

Demographic characteristics and smoking status

Almost half of the respondents (48.4%, n = 293) had a university degree either at an undergraduate or postgraduate level, about 39% (n = 294) completed secondary education, and 2.2% (n = 13) had completed only primary education. A large percentage 36.7% (n = 220) reported that they never smoked, 19% (n = 114) were former smokers, 9.2% (n = 55) were occasional smokers, and 35.2% (n = 211) were daily smokers. Analysis of frequencies with Pearson's chi-square showed that there were no differences in smoking status by educational level and job status, but there were statistically significant gender differences (χ^2 = 10.37, p = .001), with more males being current smokers.

Changes in smoke-free policy implementation in hospitality venues

In Nicosia, 68.4% (n = 80) public venues allowed smoking in all areas of the venue prior to the introduction of the law, but this rate was decreased to 8.9% (n = 11) after the law was introduced in 2010. Accordingly, 43.5% (n = 91) hospitality and tourist venues in Limassol allowed smoking everywhere before 2010, but only 4.6% (n = 10) did so after the law was passed. In Larnaca, almost half of the visited venues (48.2% or n = 53) allowed smoking everywhere before the smoke-free law, but this rate was reduced to 2.6% (n = 3) when the study took place. Perhaps the largest decrease was observed in Paphos where 67.4% (n = 60) venues used to allow smoking everywhere, but only 1.1% (only one venue) allowed smoking after 2010. Lastly, venues that allowed smoking everywhere in the Famagusta district were reduced from 30.9% (n = 17) to 3.6% (only two venues) after the smoke-free law was passed. Collectively, these findings show that the introduction of the smoke-free law in Cyprus was followed by significant reductions in public smoking in hospitality and tourist venues.

Attitudes towards smoke-free policies

Univariate analysis of variance was used to assess the main and interaction effects of job status (employers vs. employees) and current smoking status (smoker vs. non-smoker) on attitudes towards the smoke-free policy in hospitality venues. The results showed that the main effects of smoking status and job status were statistically significant, but there was no significant interaction between these two variables. Current smokers (M = 2.88, SD = 0.64) were significantly less supportive of the smoke-free policy compared to non-smokers (M = 3.37, SD = 0.64, F = 85.04, p < .001, partial η^2 = .125). Accordingly, owners/employers (M = 2.98, SD = 0.68) were less supportive of smoke-free policies, as compared to employees (M = 3.27, SD = 0.66, F = 28.72, p < .001, partial η^2 = .046).

Linear regression was used to assess the predictors of attitudes towards smoke-free policies. Predictor variables included job status (employers vs. employees), educational level, smoking status (current smoker vs. non-smoker), exposure to SHS at work/in the venue, health beliefs about SHS exposure, and the normative variables (perceived prevalence of smoking clients and of smokers in Cyprus, frequency of regulatory control from inspection authorities, complaints from smokers against policy implementation, and complaints from non-smokers for policy violations). Unstandardized regression coefficients (B) with 95% confidence intervals (CIs) indicated the regression coefficient for each predictor (i.e., how much the dependent variable will change if the predictor changed by one unit), and standardized beta coefficients (β) indicated the relative strength of each predictor variable in the model. The regression model predicted 39.1% (Adjusted R^2) of the variance in attitudes towards smoke-free policies. More positive attitudes towards smoke-free policies were associated with being an employee (vs. employer), being a non-smoker (vs. smoker), being less frequently exposed to SHS at work and perceiving greater health risk from SHS exposure, having less control from regulatory authorities, fewer complaints from smokers against the smoke-free policy, more complaints from non-smoking clients for policy violations, and believing that smokers clients are the minority – yet, the near-zero value in the regression coefficient (B) suggests that this variable may have a non-significant effect on policy attitudes. The findings from the regression analysis are summarized in Table 3.

Willingness to confront smoke-free policy violations

When asked how they would react to a smoking client who violated the smoke-free policy in their venue, the majority of respondents (88.5% or n = 510) said that they would take action, instead of remaining passive. Logistic regression analysis was used to assess the predictors of willingness to confront smokers who violated the smoke-free policy. The same set of predictor variables that was used in the linear regression models was employed again. In addition, we included attitudes towards smoke-free policies as a predictor variable. The findings showed that the overall model was statistically significant (Omnibus $\chi^2 = 52.07$, df = 11, $p < .001$, Nagelkerke $R^2 = 16.3\%$), but only three parameters significantly predicted willingness to confront smoke-free policy violations: being less frequently exposed to SHS at work (OR = 0.78, 95% CI = 0.62 to 0.99), perceiving fewer smoking clients (OR = 0.96, 95% CI = 0.95 to 0.98), and holding more positive attitudes towards smoke-free policies (OR = 1.77, 95% CI = 1.09 to 2.87).

Discussion

The present study assessed attitudinal and behavioural indicators of smoke-free policy support among hospitality industry professionals in Cyprus. The results showed that, overall, there were significant improvements in smoke-free policy implementation, with the vast majority (>90%) of the visited venues prohibiting smoking in indoor areas after the smoke-free law was passed in 2010. This is in line with research showing that once hospitality venues become smoke-free, staff and clients gradually adjust to this change and support the smoke-free policy (Borland et al. 2006; Li et al. 2010). However, smokers and employers/owners were less supportive as compared to non-smokers and employees toward the smoke-free policy in hospitality venues. This finding could be explained in terms of the expected costs of the smoke-free policy to both smokers and employers. Smokers may display greater opposition because the policy will directly impact their own smoking – thus, smokers (employers and employees) will not have the opportunity to smoke in their workplace anymore (Lazuras et al. 2009; Macy et al. 2013; Poland et al. 2000). Accordingly, employers may appear less supportive than employees because of the anticipated impact of smoke-free policies on financial turnover rates.

Despite mounting evidence showing that smoke-free policies do not lead to financial losses, there are still concerns among the hospitality industry, and in some this is the result of the tobacco industry interference (Apollonio and Bero 2007; Gonzalez and Glantz 2013; Ritch and Begay 2001). Future research in Cyprus may explore whether owners' concerns about the financial losses from smoke-free policies stem from ignorance of the empirical evidence, or from the strategic involvement of the tobacco industry.

Attitudes towards the smoke-free policy were positively associated with SHS exposure at work and related health beliefs. Employers and employees who were less exposed to SHS in their venue, and perceived greater health risks from SHS exposure were more supportive of the smoke-free policy. Alongside SHS exposure and beliefs, greater policy support was predicted by a range of social norm variables, including less control from regulatory authorities, fewer complaints from smokers against the smoke-free policy, and more complaints from non-smoking clients for policy violations. With respect to the willingness to confront smoke-free policy violators, the majority of hospitality industry professionals (employers and employees) would confront a smoker who violated the smoke-free policy in their venue. Smoking status and job status did not influence willingness to confront a smoker violator, but there was a strong positive association with policy attitudes. Additionally, reporting less exposure to SHS and believing that smokers represent a minority of clients were significant predictors of confrontation willingness. Taken together, these results suggest that SHS exposure and beliefs, as well as normative factors influence different facets of smoke-free policy support. Interventions to improve policy support in the hospitality industry should acknowledge the role of social dynamics, and accordingly target both smokers' negative reactions to policies (e.g., staff and owners could learn how to counter smokers' complaints), and non-smoking customers' reactions to policy violations (e.g., increasing assertiveness for smoke-free air). Past research has emphasized the importance of non-smokers assertiveness in regulating smoking in public places (e.g., Germain et al. 2007; Lazuras et al. 2012).

Interestingly, more frequent control from regulatory authorities was negatively related to policy support. This is an important finding because it suggests that the direct involvement of state authorities may run counter to the efforts to increase policy support among the hospitality industry professionals. One way to explain this finding is through intercultural values, such as power distance, a construct that describes how much cultures value hierarchical structures in the society and display respect for authority (Hofstede 2011). For instance, the culture in Cyprus may value more flat systems with less interference and control from authorities, and this may also influence the way smoke-free policies are perceived by hospitality professionals. Nevertheless, there is currently no data on the power distance index for Cyprus, so any related claims should be treated with caution. Perhaps one way to monitor the implementation of smoke-free policies in hospitality settings without the active interference of regulatory authorities (e.g., police or authorized personnel visiting hospitality venues) is to implement technological innovations, such as smart sensors, that will detect and record SHS instances without the active interference of regulatory authorities. Similar applications have been already proposed for the surveillance of smoke-free homes (Klepeis et al. 2013), and they could be potentially applied to the implementation of smoke-free policies in hospitality settings.

The study is not free of limitations. More specifically, a longitudinal design could be used to assess changes in the smoke-free policy implementation, and how changes in implementation corresponded to attitudes of employers and employees towards the smoke-free policy. For instance, relevant studies have shown that in the longer-term, smoker customers and professionals in the hospitality industry become more supportive of

smoke-free policies (Borland et al. 2006). However, a cross-sectional design was preferred over a time series design in the present study for two main reasons; namely, the increased financial costs and human resources involved in time series designs, and the rationale of the proposed project, which aimed at mapping attitudes and beliefs of study participants at the outset of the smoking ban in Cyprus.

In summary, our findings suggest that smoke-free policy support among hospitality professionals is strongly associated to SHS exposure and beliefs, and social norms. Interventions and campaigns to increase policy support in this target group should acknowledge the importance of smoke-free environments and their health implications, as well as the social dynamics that may shape policy implementation in hospitality venues. Emphasis should be placed on effectively managing the complaints of smoking clients, while at the same time empowering non-smoker customers to assert their rights for smoke-free air. Additionally, it is important that actions to promote smoke-free policies in the country emphasize the non-issue of supposed economic costs to employers. This will help in effectively countering front groups and related tobacco industry-sponsored activity against the implementation of smoke-free policies in restaurant/hospitality venues. Active interference by regulatory authorities may seem essential for policy-implementation, but it was negatively associated with policy support in our study. This finding warrants further consideration and research about the public views of regulatory authorities in similar cultures.

Ethical standard

The study complies with the current laws of the country in which it was performed.

Conflict of interest

The authors declare that they have no conflict of interest.

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Table 1.

Variables included in the questionnaire

Variable name	Number of items
Smoking status	1
Job status	1
Exposure to SHS at work	1
Health beliefs about SHS exposure	3
Changes in policy implementation	2
Attitudes towards smoke-free policies	12
Willingness to confront smoke-free policy violators	1
Descriptive social norms	2
Social norms about policy implementation	3

Table 2.

Distribution of study hospitality venues by Cyprus districts in 2012

Venues/Districts	Nicosia % (n)	Limassol % (n)	Larnaca % (n)	Paphos % (n)	Famagusta % (n)
Restaurants	44.4% (55)	56.4% (123)	60.5% (69)	49.4% (44)	20% (11)
Café/bars	36.3% (45)	32.6% (71)	31.6% (36)	25.8% (23)	20% (11)
Hotels	19.4% (24)	11% (24)	7.9% (9)	24.7% (22)	60% (33)
Total % (n)	20.7% (124)	36.3% (218)	19.0% (114)	14.8% (89)	9.2% (55)

Table 3

Predictors of attitudes towards smoke-free policies in hospitality venues in Cyprus, 2012

	B	β	95% CI for B
Job status	-.204	-.145*	-.294 to -.114
Educational level	.049	.060	-.003 to .101
Smoking status	-.319	-.230*	-.410 to -.227
Exposure to SHS	-.080	-.122*	-.124 to -.036
SHS health beliefs	.136	.198*	.091 to .180
Perceived prevalence of smokers in Cyprus	.000	.008	-.003 to .004
Perceived prevalence of smoker clients	-.006	-.186*	-.008 to .004
Frequency of control from regulatory authorities	-.071	-.101*	-.118 to -.024
Frequency of smokers complaining about the policy	-.137	-.285*	-.172 to -.103
Frequency of non-smokers complaining about policy violations	.088	.127*	.041 to .135

Note. *$p < .001$, except the effect for the frequency of control from regulatory authorities where $p = .003$; B indicates the regression coefficient for each predictor (i.e., how much the dependent variable will change if the predictor changed by one unit); β indicates the standardized beta coefficients (i.e., the relative strength of each predictor variable in the model).

Support for Smoke-free Policies ~~among Employers and Employees~~ in the Cyprus Hospitality Industry ~~in Cyprus~~

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Abstract

Objectives: The present study used attitudinal and behavioural indicators to measure support for smoke-free policies among employers and employees in the hospitality industry in Cyprus.

Methods: A representative sample of 600 participants (95% response rate) completed anonymous structured questionnaires on demographic variables, smoking status, exposure to second-hand smoke at work and related health beliefs, social norms, and smoke-free policy support.

Results: Participants were predominantly males (68.3%), with a mean age of 40 years (SD = 12.69), and 39.7% were employers/owners of the hospitality venue. Analysis of variance showed that employers and smokers were less supportive of smoke-free policies, as compared to employees and non-smokers. Linear regression models showed that attitudes towards smoke-free policy were predicted by smoking status, SHS exposure and related health beliefs, and social norm variables. Logistic regression analysis showed that willingness to confront a policy violator was predicted by SHS exposure, perceived prevalence of smoker clients, and smoke-free policy attitudes.

Conclusions: SHS exposure and related health beliefs, and normative factors should be targeted by interventions aiming to promote policy support in the hospitality industry in Cyprus.

Keywords: Smoke-free policies; hospitality industry; policy support; Cyprus

Support for Smoke-free Policies in the Cyprus Hospitality Industry~~Support for Smoke-free Policies among Employers and Employees in the Hospitality Industry in Cyprus~~

Introduction

Tobacco use is the single most important cause of preventable death in developed and developing countries, accounting for about 5.4 million deaths annually. Unless preventive action is taken, the death toll of tobacco use is expected to almost double within the next 15 years (Mathers and Loncar 2006; WHO 2009). Non-smokers exposed to second-hand smoke (SHS) are also at risk for smoking-related disease and mortality (Laumbach and Kipen, 2014). A recent analysis of the global burden of disease showed that SHS exposure was amongst the leading 3 causes of death in the world (Lim et al. 2013). Another study found that SHS exposure accounted for 10.9 million lost disability-adjusted-life-years (DALYs) in both children and adults (Öberg et al. 2011). Scientific evidence is also accumulating about the toxicity and health compromising effects of exposure to third-hand smoke (THS). THS comprises residual pollutants that remain on surfaces and/or dust even in the absence of active smoking, and are re-emitted in the air, or react with other compounds to produce secondary environmental pollutants (Hang et al. 2013; Matt et al. 2011). Smoke-free policies in public settings are effective ways to de-normalize tobacco use, reduce smoking among current smokers, and protect non-smokers from passive exposure to SHS and THS (Borland et al. 2006; Callinan et al. 2010; Matt et al. 2011).

Culture plays an important role in smoke-free policy implementation. Relevant research from Greece – a European country with comparably high smoking rates and lower support for smoke-free policies in public places – attests to that (Lazuras et al. 2009). In particular, Tamvakas and Amos (2011) showed that young people aged 14-16 years old in Greece viewed tobacco use and exposure to SHS as a normal part of their culture. Importantly, the "right" to smoke in public places was seen as more fundamental and important than the right for smoke-free air, and smoke-free policies were viewed as meaningless and unfeasible. Accordingly, compared to UK smokers, Greek smokers were more likely to actively oppose smoke-free policies, offered a wide range of self-justifying arguments for opposing smoke-free policies, viewed smoke-free policies as "racism" against smokers, and adopted a "libertarian" view with regards to protecting smokers' rights to smoke (Louka et al. 2006). More recent studies have shown that the majority of Greek non-smokers, although bothered by exposure to SHS at work, were less likely to ask smoking colleagues not to smoke – even if smoking at work constituted a policy violation (Sivri et al. 2013).

Findings from Greece could potentially inform research in similar cultural settings where smoking is still seen as a normative behaviour and smoke-free policies are opposed or not fully implemented. In this respect, Cyprus shares a similar cultural setting with Greece, has one of the highest prevalence rates of adult smoking in Europe, and exposure to SHS at home and in public settings is common (Karekla et al. 2009). Although a strict smoke-free legislation for public places was introduced in January of 2010 in Cyprus, a recent report on the progress of tobacco control policies in European countries (Joosens and Raw, 2013) showed that Cyprus moved "downwards" by eight places in the rank on the Tobacco Control Scale. Specifically, as of January 2014 Cyprus had a very low average score, which was equal to that of Greece, for smoke-free policy implementation in hospitality venues, such as bars and restaurants.

The present study used attitudinal and behavioural indicators to measure support for smoke-free policies among employers and employees in the hospitality industry in Cyprus. The hospitality industry in

Cyprus was selected as a target of the current study because the tobacco industry has often targeted this business sector in order to foster opposition against smoke-free policies (Gonzalez and Glantz 2013), and because both employers and employees in hospitality venues can regulate the implementation of smoke-free policies (e.g., through the use/removal of tobacco signage, ashtrays etc.), and discourage policy violators (e.g., by confronting smokers who smoke in non-designated areas). Two important indicators of policy support were evaluated. The first indicator reflected employers and employees' attitudes towards smoke-free policies, that is, the expected benefits and losses from the implementation of smoke-free policies in hospitality venues. The second indicator included participants' willingness to confront smoke-free policy violations by smokers.

Methods

Participants/Design

A representative sample of 600 participants (95% response rate) including both owners/employers and employees were recruited from hospitality venues (i.e., restaurants, café/bars, and hotels) across all districts of Cyprus. Details about the sample distribution by each district are presented in Table 2. A multistage, random selection process was used for sample selection, which was broken down by district according to the actual population distribution. At the first stage, 600 hospitality venues were randomly selected. We ensured that the selected venues were in operation before 2010 so that we could get valid data about changes in smoke-free policy. At the second stage, one respondent per venue was selected. The manager of the venue was requested to complete the survey, and where the manager was not available an employee who had been working there before 2010 was asked to complete the survey. Participants were predominantly males (68.3%), with a mean age of 40 years (*SD* = 12.69), and 39.7% were employers/owners of the hospitality venue. The survey lasted for 3 months. Data collection was based on structured face-to-face interviews. Following ethical standards in behavioural research, all participants were informed about the aims and purposes of the study and their participation rights (i.e., anonymity and confidentiality of the data, voluntary participation, and the right to withdraw from the study without consequences). The study was approved by the Cyprus National Ethics Committee.

Measures

A battery of anonymous structured questionnaires was used for data collection. Preliminary pilot testing was conducted in order to evaluate the overall survey and identify any deficiencies and/or practical problems with survey completion. The pilot study was administered to a small sample (n=30) of target group participants (employers and employees) from cafeterias and bars, restaurants and hotels over all five districts of Cyprus. Following their comments and feedback, relevant revisions and linguistic adjustments were made for better comprehension of survey items and response options. The questionnaire variables are presented in Table 1.

Smoking status was measured with a single question "*Do you smoke*" followed by four distinct response options "*No, I have never smoked*", "*No, but I am a former smoker*", "*Yes, I smoke, but not every day*", and "*Yes, I smoke at least once a day*". Former smokers were asked to indicate the year they quit smoking, and occasional smokers (i.e., those who reported smoking but not on a daily basis) were further asked to indicate how many days per week they smoked, and how many cigarettes/cigars they smoked on those days. For reasons of further analyses, we collapsed response categories and created a binary variable comprising current non-smokers (i.e., never and former smokers), and current smokers (i.e., occasional and daily smokers).

Job status was assessed with a single item asking participants to denote if they were owners or co-owners/employers/partners, permanent or temporary employees. Educational status was also assessed with a single item asking participants to select their highest academic achievement among several different response options.

Exposure to SHS at work was assessed with a single item asking participants to report if they were exposed to the smoke of others during the week prior to the survey on a five-point scale (not at all, a little, moderately, a lot, very much). Higher scores reflected greater SHS exposure at the workplace.

Health beliefs about SHS exposure were also assessed with the mean of three items reflecting three different health risks of SHS exposure (respiratory problems, lung cancer, and cardiovascular disease). A stem proposition describing the term of SHS exposure was used, and respondents were asked to indicate the likelihood that SHS exposure could lead to the stated health risks. Responses were coded on a five-point Likert scale (1 = definitely not, 5 = definitely yes), and higher scores reflected greater perceived health risks from SHS exposure (Cronbach's $\alpha = 0.93$).

Changes in policy implementation were assessed with two items. The first item referred to the tobacco control policy in the venue before the introduction of the smoke-free legislation, and the second item was about the tobacco control policy in the venue after the introduction of the smoke-free legislation in Cyprus in October of 2010. It is noteworthy that the smoke-free policy included exceptions since it allowed smoking in outdoors areas of public buildings, therefore, giving the opportunity to cafeterias, bars, restaurants and hotels to create smoking designated areas in their outdoor premises. The outdoor smoking designated areas in many occasions were adjacent to the indoor areas, thereby allowing smoke to enter into the indoor environment. For this reason, we had included specific questions in our study questionnaire in order to address the above issue as evaluate whether the policy of each venue participating in the study survey was 100% prohibitive or had loopholes, which could allow smokers or employees to circumvent the spirit of the new law. Responses in both items were categorical and included four options: "*smoking is prohibited in all indoor areas*" denoting a complete ban on smoking indoors; "*smoking is allowed in certain indoor area"* denoting partial ban, "*smoking is allowed only in outdoor areas/sitting places*" denoting a total ban on indoor smoking but no restriction for smoking in outdoor areas of the venue; finally, "*smoking is allowed in all areas, both indoors and outdoors*" denoted no smoking restriction in the hospitality venue.

Attitudes towards smoke-free policies in hospitality venues were assessed with a 12-item questionnaire, comprising both negative and positive outcome expectancies. Negative outcome expectancies reflected concerns about the negative financial impact of smoke-free policies in the hospitality industry and the rights of smokers, whereas positive outcome expectancies reflected on the health of the public (i.e., protecting clients and employees from SHS exposure), and financial benefits (i.e., reduced costs for cleaning and repairing damage caused by burning cigarettes) of smoke-free policies. Response options were coded on a typical 5-point Likert scale, 1 = strongly disagree to 5 = strongly agree, and the internal consistency reliability (Cronbach's $\alpha = 0.81$).

Willingness to confront smoke-free policy violators was assessed with a single-itemed implementation intention hypothetical scenario. Implementation intentions are considered a proximal predictor of actual behaviour (see Gollwitzer and Sheeran 2006 for a meta-analysis), and can be seen as a direct context-specific behavioural tendency. Implementation intention measures include an "if" situation, followed by specific "then" response. In this study, the "if" part reflected a situation whereby a smoker client smoked in a smoke-free area

(non-designated for smoking), and the "then" part included four hypothetical options: a) ask the client politely to put out the cigarette and not light another one, b) call the police, c) do nothing, and d) other (open-ended response option). For reasons of further analysis we collapsed response options and created a new binary variable (1= would take action against the policy violation, and 2 = I would remain passive/not take any action against the policy violation).

Social norms concerning the smoke-free policy were assessed with 5 items. However, each item reflected different dimensions of social norms, thus, the items could not be averaged in a single mean score. More specifically, two items assessed descriptive norms, namely, the perceived prevalence of clients who were smoking, and the perceived prevalence of smokers in Cyprus. Responses were coded on an open-ended format (from 0 – 100%). Accordingly, three items assessed social norms concerning policy implementation: frequency of regulatory control by the respective authorities, frequency of clients who complained about the smoke-free policy of the venue, and frequency of non-smoker clients complaining about smoke-free policy violations.

Results

Demographic characteristics and smoking status

Almost half of the respondents (48.4%, n = 293) had a university degree either at an undergraduate or postgraduate level, about 39% (n = 294) completed secondary education, and 2.2% (n = 13) had completed only primary education. A large percentage 36.7% (n = 220) reported that they never smoked, 19% (n = 114) were former smokers, 9.2% (n = 55) were occasional smokers, and 35.2% (n = 211) were daily smokers. Analysis of frequencies with Pearson's chi-square showed that there were no differences in smoking status by educational level and job status, but there were statistically significant gender differences (χ^2 = 10.37, p = .001), with more males being current smokers.

Changes in smoke-free policy implementation in hospitality venues

In Nicosia, 68.4% (n = 80) public venues allowed smoking in all areas of the venue prior to the introduction of the law, but this rate was decreased to 8.9% (n = 11) after the law was introduced in 2010. Accordingly, 43.5% (n = 91) hospitality and tourist venues in Limassol allowed smoking everywhere before 2010, but only 4.6% (n = 10) did so after the law was passed. In Larnaca, almost half of the visited venues (48.2% or n = 53) allowed smoking everywhere before the smoke-free law, but this rate was reduced to 2.6% (n = 3) when the study took place. Perhaps the largest decrease was observed in Paphos where 67.4% (n = 60) venues used to allow smoking everywhere, but only 1.1% (only one venue) allowed smoking after 2010. Lastly, venues that allowed smoking everywhere in the Famagusta district were reduced from 30.9% (n = 17) to 3.6% (only two venues) after the smoke-free law was passed. Collectively, these findings show that the introduction of the smoke-free law in Cyprus was followed by significant reductions in public smoking in hospitality and tourist venues.

Attitudes towards smoke-free policies

Univariate analysis of variance was used to assess the main and interaction effects of job status (employers vs. employees) and current smoking status (smoker vs. non-smoker) on attitudes towards the smoke-free policy in hospitality venues. The results showed that the main effects of smoking status and job status were statistically significant, but there was no significant interaction between these two variables. Current smokers (M = 2.88, SD = 0.64) were significantly less supportive of the smoke-free policy compared to non-smokers (M = 3.37, SD = 0.64, F = 85.04, p < .001, partial η^2 = .125). Accordingly, owners/employers (M = 2.98, SD = 0.68)

were less supportive of smoke-free policies, as compared to employees (M = 3.27, SD = 0.66, F = 28.72, p < .001, partial η^2 = .046).

Linear regression was used to assess the predictors of attitudes towards smoke-free policies. Predictor variables included job status (employers vs. employees), educational level, smoking status (current smoker vs. non-smoker), exposure to SHS at work/in the venue, health beliefs about SHS exposure, and the normative variables (perceived prevalence of smoking clients and of smokers in Cyprus, frequency of regulatory control from inspection authorities, complaints from smokers against policy implementation, and complaints from non-smokers for policy violations). Unstandardized regression coefficients (B) with 95% confidence intervals (CIs) indicated the regression coefficient for each predictor (i.e., how much the dependent variable will change if the predictor changed by one unit), and standardized beta coefficients (β) indicated the relative strength of each predictor variable in the model. The regression model predicted 39.1% (Adjusted R^2) of the variance in attitudes towards smoke-free policies. More positive attitudes towards smoke-free policies were associated with being an employee (vs. employer), being a non-smoker (vs. smoker), being less frequently exposed to SHS at work and perceiving greater health risk from SHS exposure, having less control from regulatory authorities, fewer complaints from smokers against the smoke-free policy, more complaints from non-smoking clients for policy violations, and believing that smokers clients are the minority – yet, the near-zero value in the regression coefficient (B) suggests that this variable may have a non-significant effect on policy attitudes. The findings from the regression analysis are summarized in Table 3.

Willingness to confront smoke-free policy violations

When asked how they would react to a smoking client who violated the smoke-free policy in their venue, the majority of respondents (88.5% or n = 510) said that they would take action, instead of remaining passive. Logistic regression analysis was used to assess the predictors of willingness to confront smokers who violated the smoke-free policy. The same set of predictor variables that was used in the linear regression models was employed again. In addition, we included attitudes towards smoke-free policies as a predictor variable. The findings showed that the overall model was statistically significant (Omnibus χ^2 = 52.07, df = 11, p < .001, Nagelkerke R^2 = 16.3%), but only three parameters significantly predicted willingness to confront smoke-free policy violations: being less frequently exposed to SHS at work (OR = 0.78, 95% CI = 0.62 to 0.99), perceiving fewer smoking clients (OR = 0.96, 95% CI = 0.95 to 0.98), and holding more positive attitudes towards smoke-free policies (OR = 1.77, 95% CI = 1.09 to 2.87).

Discussion

The present study assessed attitudinal and behavioural indicators of smoke-free policy support among hospitality industry professionals in Cyprus. The results showed that, overall, there were significant improvements in smoke-free policy implementation, with the vast majority (>90%) of the visited venues prohibiting smoking in indoor areas after the smoke-free law was passed in 2010. This is in line with research showing that once hospitality venues become smoke-free, staff and clients gradually adjust to this change and support the smoke-free policy (Borland et al. 2006; Li et al. 2010). However, smokers and employers/owners were less supportive as compared to non-smokers and employees toward the smoke-free policy in hospitality venues. This finding could be explained in terms of the expected costs of the smoke-free policy to both smokers and employers. Smokers may display greater opposition because the policy will directly impact their own smoking – thus, smokers (employers and employees) will not have the opportunity to smoke in their workplace

anymore (Lazuras et al. 2009; Macy et al. 2013; Poland et al. 2000). Accordingly, employers may appear less supportive than employees because of the anticipated impact of smoke-free policies on financial turnover rates. Despite mounting evidence showing that smoke-free policies do not lead to financial losses, there are still concerns among the hospitality industry, and in some this is the result of the tobacco industry interference (Apollonio and Bero 2007; Gonzalez and Glantz 2013; Ritch and Begay 2001). Future research in Cyprus may explore whether owners' concerns about the financial losses from smoke-free policies stem from ignorance of the empirical evidence, or from the strategic involvement of the tobacco industry.

Attitudes towards the smoke-free policy were positively associated with SHS exposure at work and related health beliefs. Employers and employees who were less exposed to SHS in their venue, and perceived greater health risks from SHS exposure were more supportive of the smoke-free policy. Alongside SHS exposure and beliefs, greater policy support was predicted by a range of social norm variables, including less control from regulatory authorities, fewer complaints from smokers against the smoke-free policy, and more complaints from non-smoking clients for policy violations. With respect to the willingness to confront smoke-free policy violators, the majority of hospitality industry professionals (employers and employees) would confront a smoker who violated the smoke-free policy in their venue. Smoking status and job status did not influence willingness to confront a smoker violator, but there was a strong positive association with policy attitudes. Additionally, reporting less exposure to SHS and believing that smokers represent a minority of clients were significant predictors of confrontation willingness. Taken together, these results suggest that SHS exposure and beliefs, as well as normative factors influence different facets of smoke-free policy support. Interventions to improve policy support in the hospitality industry should acknowledge the role of social dynamics, and accordingly target both smokers' negative reactions to policies (e.g., staff and owners could learn how to counter smokers' complaints), and non-smoking customers' reactions to policy violations (e.g., increasing assertiveness for smoke-free air). Past research has emphasized the importance of non-smokers assertiveness in regulating smoking in public places (e.g., Germain et al. 2007; Lazuras et al. 2012).

Interestingly, more frequent control from regulatory authorities was negatively related to policy support. This is an important finding because it suggests that the direct involvement of state authorities may run counter to the efforts to increase policy support among the hospitality industry professionals. One way to explain this finding is through intercultural values, such as power distance, a construct that describes how much cultures value hierarchical structures in the society and display respect for authority (Hofstede 2011). For instance, the culture in Cyprus may value more flat systems with less interference and control from authorities, and this may also influence the way smoke-free policies are perceived by hospitality professionals. Nevertheless, there is currently no data on the power distance index for Cyprus, so any related claims should be treated with caution. Perhaps one way to monitor the implementation of smoke-free policies in hospitality settings without the active interference of regulatory authorities (e.g., police or authorized personnel visiting hospitality venues) is to implement technological innovations, such as smart sensors, that will detect and record SHS instances without the active interference of regulatory authorities. Similar applications have been already proposed for the surveillance of smoke-free homes (Klepeis et al. 2013), and they could be potentially applied to the implementation of smoke-free policies in hospitality settings.

The study is not free of limitations. More specifically, a longitudinal design could be used to assess changes in the smoke-free policy implementation, and how changes in implementation corresponded to attitudes

of employers and employees towards the smoke-free policy. For instance, relevant studies have shown that in the longer-term, smoker customers and professionals in the hospitality industry become more supportive of smoke-free policies (Borland et al. 2006). However, a cross-sectional design was preferred over a time series design in the present study for two main reasons; namely, the increased financial costs and human resources involved in time series designs, and the rationale of the proposed project, which aimed at mapping attitudes and beliefs of study participants at the outset of the smoking ban in Cyprus.

In summary, our findings suggest that smoke-free policy support among hospitality professionals is strongly associated to SHS exposure and beliefs, and social norms. Interventions and campaigns to increase policy support in this target group should acknowledge the importance of smoke-free environments and their health implications, as well as the social dynamics that may shape policy implementation in hospitality venues. Emphasis should be placed on effectively managing the complaints of smoking clients, while at the same time empowering non-smoker customers to assert their rights for smoke-free air. Additionally, it is important that actions to promote smoke-free policies in the country emphasize the non-issue of supposed economic costs to employers. This will help in effectively countering front groups and related tobacco industry-sponsored activity against the implementation of smoke-free policies in restaurant/hospitality venues. Active interference by regulatory authorities may seem essential for policy-implementation, but it was negatively associated with policy support in our study. This finding warrants further consideration and research about the public views of regulatory authorities in similar cultures.

Ethical standard

The study complies with the current laws of the country in which it was performed.

Conflict of interest

The authors declare that they have no conflict of interest.

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Table 1.

Variables included in the questionnaire

Variable name	Number of items
Smoking status	1
Job status	1
Exposure to SHS at work	1
Health beliefs about SHS exposure	3
Changes in policy implementation	2
Attitudes towards smoke-free policies	12
Willingness to confront smoke-free policy violators	1
Descriptive social norms	2
Social norms about policy implementation	3

Table 2.

Distribution of study hospitality venues by Cyprus districts in 2012

Venues/Districts	Nicosia % (n)	Limassol % (n)	Larnaca % (n)	Paphos % (n)	Famagusta % (n)
Restaurants	44.4% (55)	56.4% (123)	60.5% (69)	49.4% (44)	20% (11)
Café/bars	36.3% (45)	32.6% (71)	31.6% (36)	25.8% (23)	20% (11)
Hotels	19.4% (24)	11% (24)	7.9% (9)	24.7% (22)	60% (33)
Total % (n)	20.7% (124)	36.3% (218)	19.0% (114)	14.8% (89)	9.2% (55)

Table 3

Predictors of attitudes towards smoke-free policies in hospitality venues in Cyprus, 2012

	B	β	95% CI for B
Job status	-.204	-.145*	-.294 to -.114
Educational level	.049	.060	-.003 to .101
Smoking status	-.319	-.230*	-.410 to -.227
Exposure to SHS	-.080	-.122*	-.124 to -.036
SHS health beliefs	.136	.198*	.091 to .180
Perceived prevalence of smokers in Cyprus	.000	.008	-.003 to .004
Perceived prevalence of smoker clients	-.006	-.186*	-.008 to .004
Frequency of control from regulatory authorities	-.071	-.101*	-.118 to -.024
Frequency of smokers complaining about the policy	-.137	-.285*	-.172 to -.103
Frequency of non-smokers complaining about policy violations	.088	.127*	.041 to .135

Note. *$p < .001$, except the effect for the frequency of control from regulatory authorities where $p = .003$; B indicates the regression coefficient for each predictor (i.e., how much the dependent variable will change if the predictor changed by one unit); β indicates the standardized beta coefficients (i.e., the relative strength of each predictor variable in the model).

Editor: Editorial Comments: The manuscript can now be accepted. However, the TITLE should be crisper and shorter - e.g. Support for Smoke-free Policies in the Cyprus Hospitality Industry.
And the title/legend to Table 3 is really not sufficient. It is a minimal standard of reader-friendliness to explain the key terms shown, namely B and beta as those are not universally defined in the same way by all scientists.

Response: We apologize for the minor errors. We have now revised the manuscript as appropriate by revising the title of the manuscript and updating the information provided in Table 3; however, due to the length of the notification about regression coefficients that was requested by the Editor, we included the relevant description as a note and not on the Table title/legend.