

# Attitudes towards smoking policies and tobacco control measures in relation to smoking status and smoking behaviour

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**Background:** To examine support for various smoking policies and tobacco control measures among lifetime smokers in a country with weak anti-smoking legislation and an underdeveloped anti-smoking climate. **Methods:** Current ( $n = 624$ ) and former smokers ( $n = 131$ ) from a general population survey filled in the 30-item Smoking Policy Index (SPI). Structural equation modelling was used to confirm the SPI factorial structure and to test whether smoking status and smoking behaviour variables were related to the six dimensions of the SPI. **Results:** The dimension with the highest support was *penalties* for sales to minors. *Sanctions* against smokers had the lowest support. Current smokers compared with former smokers showed lower support on the *taxes/fees*, *public education*, and *environmental restrictions* dimensions while controlling for gender, age, and social status. Within current smokers, unfavourable smoking behaviours were associated with lower support. **Conclusion:** Even in a country with poor tobacco control conditions, lifetime smokers including smokers with highly unfavourable smoking behaviours strongly support smoking policies and tobacco control measures concerning *penalties* and *advertising/promotion*. These measures should be used to promote anti-smoking legislation, and strict law enforcement of these measures is expected to be accepted by all smokers. For measures that are not supported by all lifetime smokers, interventions may be useful to increase acceptability. A limitation of the present study is the absence of never-smokers as a comparison group.

**Keywords:** anti-smoking legislation, smoking policy index, support

Smoking policies and tobacco control measures have been shown to reduce tobacco consumption and lung cancer incidence.<sup>1–4</sup> A crucial prerequisite for the beneficial effects may be support for such measures, particularly among smokers.

Previous studies consistently have found that never-smokers and former smokers are more supportive of smoking policies and tobacco control measures than current smokers.<sup>5–8</sup> However, little is known about associations with smoking behaviours, within smokers. Investigations of attitudes towards smoking policies and tobacco control measures should focus especially on smokers, since they will be affected most directly by anti-smoking legislation. These investigations may determine whether there are aspects of anti-smoking legislation that are supported by smokers, or whether specific interventions are needed to increase support for anti-smoking legislation among smokers.

Keller *et al.*<sup>9</sup> reported that among smokers, support for some tobacco control measures was positively associated with the number of 24-h quit attempts, and support for environmental restrictions on smoking was negatively associated with the number of days smoked per month, the severity of nicotine dependence, the number of friends who smoked, and the number of family members who smoked. Limitations included using a convenience sample with a low number of current and former smokers. Cohen *et al.*<sup>10</sup> found increases in attitudes favourable to tobacco control and increases in support for tobacco control measures with increasing readiness to quit smoking. A limitation of this study was that it relied on single

items for assessing tobacco control attitudes and support. Analysing single items presents many drawbacks, e.g. comparisons across studies may be impossible and items are often not reliable.<sup>6</sup> For assessing smoking policy attitudes, a psychometrically sound instrument is now available, i.e. the Smoking Policy Inventory.<sup>5,6</sup>

The present study was conducted in Germany, which is considered a country with weak anti-smoking legislation. For example, Germany voted against the European Court directive 2003/33/EC to limit direct and indirect advertising and sponsorship of tobacco products. Although it became effective, Germany continues to defy the ban on tobacco advertising. Only partial restrictions apply to the distribution of tobacco products and they are not sufficient to prevent sales to minors.<sup>11,12</sup> As a consequence of a revision of the national workplace legislation dated October 2002, smoking bans have to be introduced in workplaces and offices. But there are no restrictions on smoking in restaurants and bars, only partial, voluntary restrictions on smoking in public transport and in public places such as education facilities, government facilities, theatres, and cinemas, and only some local restrictions on smoking in health care facilities.<sup>11,12</sup> In contrast, other countries such as Ireland, Italy, and Norway recently introduced smoking bans in bars and restaurants.<sup>13</sup> Many states of the United States have prohibited or virtually prohibited smoking in all public places and workplaces, including bars, restaurants, and entertainment facilities.<sup>14</sup> Even compared to other European countries, Germany has an underdeveloped anti-smoking climate.<sup>15</sup>

The purpose of the present study is to investigate attitudes towards smoking policies and tobacco control measures among current and former smokers and how they relate to smoking behaviour. An instrument will be employed whose psychometric properties have been established in American, Australian, and some European samples. The validity in a new culture will be assessed. Since the study is conducted in Germany, it may contribute to our understanding concerning the

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appropriateness and feasibility of smoking policies and tobacco control measures under unfavourable conditions.

## Methods

### Subjects

Data were collected as part of a randomized controlled smoking intervention trial in northeast Germany. The intervention was not expected to influence smoking policy attitudes. Subjects were recruited from a representative general population survey ('Study of Health in Pomerania'),<sup>16</sup> conducted from October 1997 to October 2000. The sample included subjects aged 20–79 years, stratified by 5-year strata and gender, in three cities of 20 000–55 000 inhabitants and 29 surrounding communities in Western Pomerania, which is a rural area with the lowest population density in Germany. Subjects identified as current smokers in this survey ( $N = 1315$ , rate of current smokers 30.5%) were eligible for the smoking intervention study, which started in April 2002. Attrition between the general population survey and the smoking intervention study was due to subjects never returning the questionnaire ( $n = 306$ ; 23.3%), unknown addresses ( $n = 46$ ; 3.5%), refusals to participate ( $n = 16$ ; 1.2%), deaths ( $n = 20$ ; 1.5%), and illness ( $n = 10$ ; 0.8%). A total of 917 subjects (69.7%, recruitment efficacy<sup>17</sup> was 74.0%) completed the baseline assessment of the smoking intervention study, and 760 subjects (82.9%, recruitment efficacy was 85.6%) completed the 6-month follow-up assessment.

Smoking policy attitudes were assessed at 6 months and this information is used for the present study. Attrition between baseline and the 6-month follow-up was due to subjects never returning the questionnaire ( $n = 121$ ; 13.2%), unknown addresses ( $n = 24$ ; 2.6%), refusals to participate ( $n = 8$ ; 0.9%),

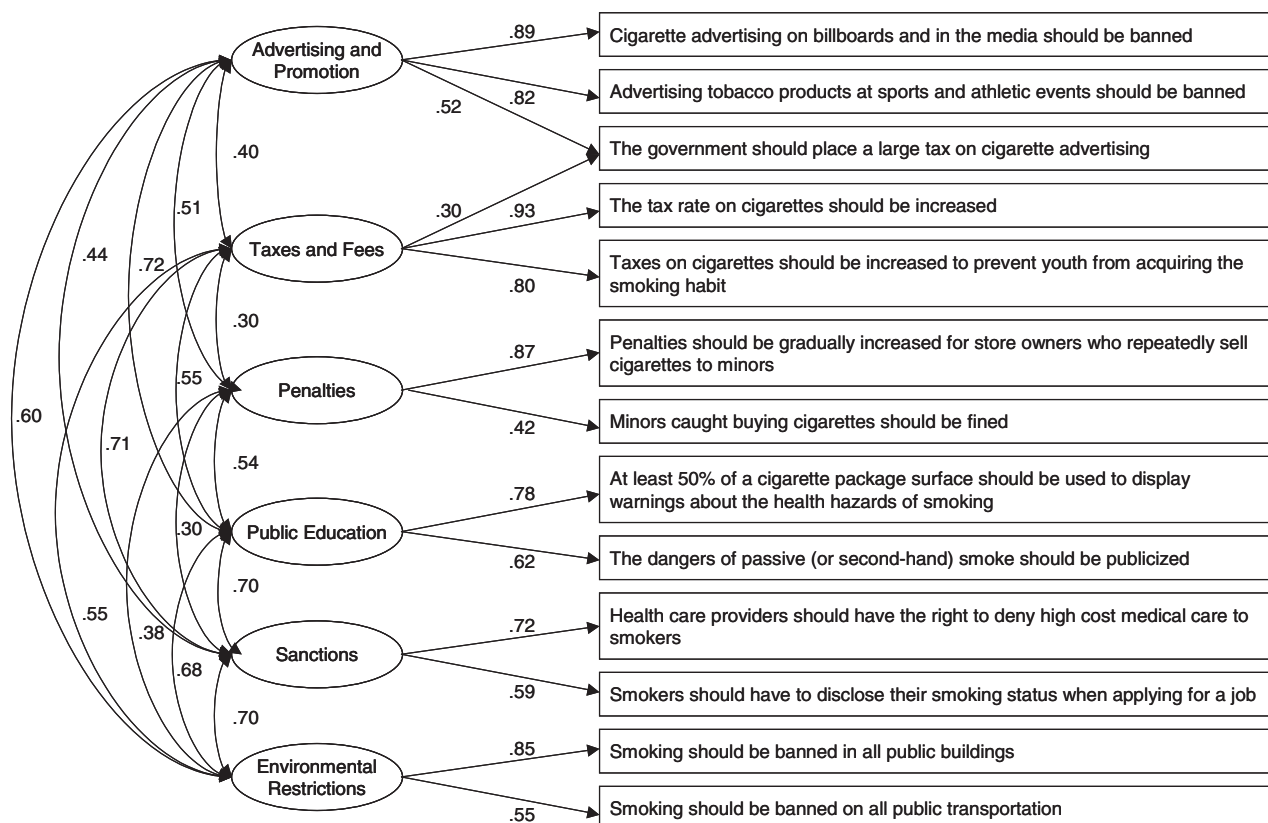
deaths ( $n = 2$ ; 0.2%), and illness ( $n = 2$ ; 0.2%). At the 6-month follow-up, the sample included 624 (82.1%) current smokers, 131 (17.2%) former smokers, and 5 (0.7%) subjects whose smoking status could not be assessed due to missing values. The sample was 56.6% male, ranged in age between 23 and 81 years with a mean age of 46.2 years ( $SD = 14.1$ ), and 79.3% were married or living with a partner. The majority, 79.3% had finished a secondary school education, 18.5% had finished a university preparatory school education, 1.1% had a differing level of school education, and 1.1% had not finished their school education.

### Measures

#### Smoking policy attitudes

Attitudes towards smoking policies and tobacco control measures were assessed with the Keller *et al.*<sup>9</sup> German translation of the 30-item Smoking Policy Index (SPI), which was developed from the Smoking Policy Inventory.<sup>5,6</sup> The original Smoking Policy Inventory contained five dimensions with seven items each, but a re-analysis of the initial item pool revealed six dimensions with five items each for the SPI: *advertising/promotion* (e.g. banning tobacco ads); *taxes/fees* (e.g. increasing tobacco taxes); *penalties* (e.g. fines for sales to minors); *public education* (e.g. posting health warnings); *sanctions* (e.g. refusing medical care to smokers); and *environmental restrictions* (e.g. banning smoking in public places; see also figure 1 for additional examples). Subjects were asked to assess their agreement on a five-point rating scale from (1) I don't agree at all, to (5) I agree completely.

A shortened version of the SPI with four items for each dimension, yielding 24-items, is also available.<sup>18</sup> Extensive



**Figure 1** Measurement model for the Smoking Policy Index in the total sample of current and former smokers. Circles denote latent variables, squares denote measured variables. Only the two measured variables with the highest and the lowest factor loadings for each SPI scale and the cross-loading item are shown. S-B  $\chi^2(389) = 931.53$ , RCFI = 0.96, RMSEA = 0.05

scale development work has been conducted for the Smoking Policy Inventory, the 30-item SPI, and the 24-item SPI.<sup>5,6,18</sup> Excellent psychometric properties with respect to reliability, internal and external validity have been documented. A hierarchical factor structure has consistently been found. The scores were shown to discriminate between population groups defined by smoking status or demographic variables, providing evidence for the construct validity of the instrument.

### Smoking status

Current smoking status of the lifetime smokers was assessed with the question 'Are you currently a smoker?' Subjects answering 'Yes, I smoke daily' or 'Yes, I smoke occasionally' were classified as current smokers, and subjects answering 'No, I don't smoke' were classified as former smokers.

### Smoking behaviour variables

For current smokers, we assessed the number of cigarettes smoked per day and the number of quit attempts in the last year. The severity of nicotine dependence was assessed using the Fagerström Test for Nicotine Dependence (FTND).<sup>19</sup> It comprises six items stressing physical aspects of nicotine dependence: time to first cigarette in the morning ('within 5 min' 3 points, 'within half an hour' 2 points, 'within 1 h' 1 point, 'after more than 1 h' 0 points), difficulty to refrain from smoking where forbidden ('yes' 1 point, 'no' 0 points), which cigarette would you hate most to give up ('first one in the morning' 1 point, 'other' 0 points), smoking more in the morning than the rest of the day ('yes' 1 point, 'no' 0 points), smoking when ill and in bed ('yes' 1 point, 'no' 0 points), and number of cigarettes smoked per day. Since we used the number of cigarettes smoked per day as a separate smoking behaviour variable, only the remaining five items were included to compose the FTND, yielding a sum score between 0 (low dependence) and 7 (high dependence). Smoking intensity was measured with the question 'Indicate on a scale between 0 and 100 the intensity of your smoking'.<sup>20</sup>

Additionally, we used smoking behaviour variables measured in the baseline assessment of the smoking intervention study. Questions included the age at initiation of smoking, the number of other smokers living in the household, and whether or not the partner smokes.

### Demographic variables

Demographic variables have been established to influence smoking, thus they were considered potential confounders for the relationships between smoking policy attitudes and smoking behaviour. We assessed gender, age, and social status. Social status represented a composite index based on recommendations by Helmert *et al.*,<sup>21</sup> comprising the following variables: educational level, occupational status, and household-adjusted per capita net income. This index was used because it adequately represents social class and socioeconomic status in Germany and accounts for diverse educational and occupational careers that can occur in the German society. All demographic variables, except age, were measured in the baseline assessment of the smoking intervention study.

### Analyses

We applied structural equation modelling with latent variables using the EQS 6 software for Windows.<sup>22</sup> The analyses involved the following step approach: first, we performed confirmatory factor analyses for current and former smokers separately to check for consistency of the SPI factorial structure with the previous findings by Laforge *et al.*,<sup>5,18</sup> Velicer *et al.*,<sup>6</sup> and Keller *et al.*<sup>9</sup> Second, in a latent mean multiple group analysis we tested

for differences between current and former smokers in attitudes towards smoking policies and tobacco control measures. Third, within current smokers we analysed whether smoking behaviour variables were related to smoking policies and tobacco control measures. All analyses for associations with smoking status and smoking behaviour variables were controlled for gender, age, and social status.

Each step used maximum likelihood estimation and employed a variety of indices to evaluate model fit, including the Satorra-Bentler  $\chi^2$ -test statistic (S-B  $\chi^2$ ),<sup>23</sup> the adjusted robust comparative fit index (RCFI),<sup>23</sup> and the root-mean-square error of approximation (RMSEA).<sup>24</sup> The S-B  $\chi^2$  is preferable to maximum-likelihood  $\chi^2$ -test statistics when the data are multivariately kurtose, as was the case in the present study. The RCFI compares the improvement of fit of the hypothesized model to a model of independence among the measured variables while adjusting for sample size and normality. It ranges from 0 to 1 with values >0.95 indicating good model fit. The RMSEA evaluates model fit based on the size of the residuals. Values of <0.06 indicate a relatively good fit between the hypothesized model and the observed data.

## Results

### Preliminary analyses

Since the data were collected as part of a smoking cessation intervention study, preliminary analyses were conducted to ensure that the results were not confounded by study group membership. Using *t*-tests, there were no significant differences between intervention and control condition for the six SPI scales as well as for the SPI sum score (all  $P > 0.05$ ).

### SPI factorial structure

Five alternative models were tested for current and former smokers that represented competing explanations for the data structure. The *null model* proposed that all observed variables were unrelated. It was not considered a serious model, but provided a baseline by which to assess the other models. The *single factor model* assumed that the instrument measured one general construct, i.e. smoking policy attitude. The *six uncorrelated factors model* suggested that the six SPI dimensions were independent from each other. The *six correlated factors model* suggested that the six SPI dimensions are interrelated. Finally, the *hierarchical model* consisted of the six SPI dimensions as first-order factors and general smoking policy attitude as second-order factor.

For current and former smokers, fit indices for all five models were not optimal (table 1). The Lagrange multiplier test was inspected to determine if any supplementary paths were needed for model fit improvement.<sup>25</sup> One item (the government should place a large tax on cigarette advertising) was found to cross-load on two dimensions, i.e. *advertising/promotion* and *taxes/fees* in both the current and former smokers sample. Adding the cross-loading path greatly improved model fit [current smokers:  $\Delta\chi^2_{\text{robust}}(\Delta\text{df}) = -192.17(1)$ ,  $P < 0.001$ ; former smokers:  $\Delta\chi^2_{\text{robust}}(\Delta\text{df}) = 39.58(1)$ ,  $P < 0.001$ ], with the model for current smokers approaching the desirable criteria for good model fit (table 1). The internal consistencies for the six SPI scales were between 0.79 and 0.92 in the current smokers, and between 0.79 and 0.89 in the former smokers.

We tested for invariance of the measurement model across current and former smokers. Overall model fit in both samples simultaneously was S-B  $\chi^2(778) = 1394.90$ , RCFI = 0.95, RMSEA = 0.03. A model with factor loadings constrained to be equal was not significantly different from the unconstrained model when partial measurement invariance was employed<sup>26</sup> [ $\Delta\chi^2_{\text{robust}}(\Delta\text{df}) = 23.61(22)$  n.s.]. A model with the factor

**Table 1** Fit indices for five SPI measurement models in current and former smokers (see text for description of the different measurement models)

	Current smokers (n = 624)	Former smokers (n = 131)
Null model	S-B $\chi^2(435) = 11\,024.73$	$\chi^2(435) = 2259.97$
Single factor model	S-B $\chi^2(405) = 4419.74$	S-B $\chi^2(405) = 1109.20$
	RCFI = 0.62	RCFI = 0.61
	RMSEA = 0.13	RMSEA = 0.12
Six uncorrelated factors model	S-B $\chi^2(405) = 2390.89$	S-B $\chi^2(405) = 799.95$
	RCFI = 0.81	RCFI = 0.78
	RMSEA = 0.09	RMSEA = 0.09
Six correlated factors model	S-B $\chi^2(390) = 1055.13$	S-B $\chi^2(390) = 540.43$
	RCFI = 0.94	RCFI = 0.92
	RMSEA = 0.06	RMSEA = 0.06
Hierarchical model	S-B $\chi^2(399) = 1207.27$	S-B $\chi^2(399) = 573.43$
	RCFI = 0.92	RCFI = 0.90
	RMSEA = 0.06	RMSEA = 0.06
Six correlated factors model with one cross-loading item	S-B $\chi^2(389) = 875.64$	S-B $\chi^2(389) = 524.04$
	RCFI = 0.95	RCFI = 0.93
	RMSEA = 0.05	RMSEA = 0.05

loadings and the factor variances and covariances constrained to be equal was also not significantly different from the unconstrained model [ $\Delta\chi^2_{\text{robust}}(\Delta df) = 37.48(37)$  n.s.], thus ensuring equivalence of the measurement model for current and former smokers. Figure 1 depicts the final measurement model estimated in the total sample of current and former smokers, which is used in the following analyses of associations with smoking status and smoking behaviour [S-B  $\chi^2(389) = 931.53$ , RCFI = 0.96, RMSEA = 0.05].

### Associations with smoking status

The SPI scale with the highest support was *penalties*, with the lowest support was *sanctions*. When combining the two highest rating categories (4) and (5) across all five items of each SPI scale, 63.5% of the samples endorsed *penalties*, 53.6% *advertising/promotion*, 30.6% *public education*, 26.1% *environmental restrictions*, 19.6% *taxes/fees*, and 4.5% endorsed *sanctions*. When combining the two lowest rating categories (1) and (2) across all five items of each SPI scale, 6.2% of the samples opposed *penalties*, 14.7% *public education*, 15.8% *advertising/promotion*, 24.8% *environmental restrictions*, 49.2% *taxes/fees*, and 62.3% opposed *sanctions*.

Table 2 reports means and standard deviations of the six SPI scales for current and former smokers. The scores are presented for purpose of sample description; they were not used as measured variables, but as latent variables, in the analyses. In the latent mean multiple group analysis, current smokers compared with former smokers revealed significantly lower latent means in the *taxes/fees*, *public education*, and *environmental restrictions* scales while controlling for gender, age, and social status.

### Association with smoking behaviour

Table 3 presents information on smoking behaviour variables for the current smokers in our sample. To evaluate the associations with attitudes towards smoking policies and tobacco

control measures, seven different models were built. In each model, a smoking behaviour variable was conceptualized to predict the six SPI scales while controlling for gender, age, and social status. Smoking policies and tobacco control measures were negatively related to the number of cigarettes smoked per day, the severity of nicotine dependence, smoking intensity, positively related to the number of quit attempts in the last year and the age at initiation of smoking, and not significantly related to the number of other smokers living in the household, and having a smoking partner (table 4).

### Discussion

Among the current and former smokers of our study, more than half endorse smoking policies and tobacco control measures concerning *penalties*, e.g. fines for sales to minors, and concerning *advertising/promotion*, e.g. banning tobacco ads. In contrast, about half of the sample opposes *taxes/fees*, e.g. increasing tobacco taxes, and *sanctions*, e.g. refusing medical care to smokers. Evidently, the lifetime smokers express strong support for measures that do not directly affect themselves, but rather affect tobacco companies, businesses selling tobacco products, and minors. Endorsement of measures designed to increase the financial burden of smokers and endorsement of measures implying major restrictions for smokers' health care, health and life insurances, and professional life is remarkably lower. These findings are not surprising and have been noted in previous studies.<sup>9</sup>

Confirming previous findings, our study revealed that current smokers are less supportive of smoking policies and tobacco control measures than former smokers.<sup>5,6,9</sup> Also, unfavourable smoking behaviours are associated with lower support.<sup>9</sup> Interestingly, the variables we identified as associated with low support are variables that are also associated with a lower likelihood of cessation and abstinence (e.g. smokers with a higher severity of nicotine dependence have a lower chance of future cessation and abstinence)<sup>27,28</sup> and higher smoking-attributable

**Table 2** Attitudes towards smoking policies and tobacco control measures in current and former smokers

	Mean/SD		Z-scores	
	Current smokers (n = 624)	Former smoker (n = 131)	Uncontrolled	Controlled for gender, age, social status
Advertising and promotion	3.69/1.33	3.90/1.19	-1.95 n.s.	-0.81 n.s.
Taxes and fees	2.34/1.22	3.31/1.21	-7.93***	-7.32***
Penalties	4.04/1.03	3.99/0.96	-0.19 n.s.	-1.89 n.s.
Public education	3.22/1.07	3.54/1.02	-3.14**	-2.06*
Sanctions	1.94/0.93	2.24/0.98	-2.79**	-0.81 n.s.
Environmental restrictions	2.97/1.15	3.33/1.10	-2.98**	-2.34*

Results of latent mean multiple group analysis

Notes: Means/SD are on a five-point scale with (1) I don't agree at all, to (5) I agree completely. The scores are presented for purpose of sample description; they were not used as measured variables, but as latent variables, in the analyses. Negative Z-scores indicate lower latent means for current smokers relative to former smokers. \*\*\* $P < 0.001$ , \*\* $P < 0.01$ , \* $P < 0.05$ , n.s. not significant

**Table 3** Smoking behaviour variables in current smokers (n = 624)

	Percentage or Mean/SD, Range
Number of cigarettes smoked per day	14.82/8.08, 1-60
Severity of nicotine dependence <sup>a</sup>	2.01/1.63, 0-7
Smoking intensity	56.42/25.27, 0-100
Number of other smokers living in the household	
0	52.5%
1	37.2%
≥2	10.3%
Smoking partner	40.9%
Number of quit attempts in the last year	
0	67.9%
1	11.2%
≥2	20.9%
Age at initiation of smoking	17.16/2.68, 9-25

a: FTND<sup>19</sup> without number of cigarettes smoked per day

morbidity and mortality (e.g. smokers with higher number of cigarettes smoked per day have higher morbidity and mortality risks).<sup>29</sup> Thus, smokers that most strongly disagree with smoking policies and tobacco control measures are also the ones that would benefit most from these measures.

Extending previous findings, our study identified aspects of anti-smoking legislation that are widely accepted among all lifetime smokers, regardless of smoking status and smoking behaviour variables. Measures to protect minors from smoking and measures to limit tobacco promotion are strongly supported. Although the study was conducted in Germany, a country with poor anti-smoking legislation and an underdeveloped anti-smoking climate, the findings reveal marked support for some measures, even in a country with unfavourable conditions. In Germany, laws covering these aspects of anti-smoking legislation already exist, but are not enforced comprehensively. Current measures concerning penalties are not sufficient

to prevent sales to minors,<sup>11,12</sup> but these measures would be supported. Policy-makers have been reluctant to take strict measures against advertising of tobacco products,<sup>11,12</sup> but these measures would also be supported. Thus, our findings suggest that strict law enforcement would be accepted by most smokers. This represents important information for politicians who may be apprehensive about promoting smoking policies and tobacco control measures. Our findings specifically suggest to use the *penalties* and the *advertising/promotion* dimensions for the first step in implementing anti-smoking legislation in Germany. Progressively more restrictive measures might be considered in the future once these initial policies are introduced.

However, other aspects of tobacco control were not accepted among lifetime smokers. For some of these measures, specific interventions may be useful to increase acceptability. For example, informing smokers about the economic burden of smoking and the opportunity to use tobacco taxes to reduce this burden may be indicated to increase support for the dimension *taxes/fees*. Other measures, such as those covered by the dimension *sanctions*, might remain hard to promote, but might be more acceptable if the focus is on protecting non-smokers' health or preventing environmental smoke. Probably, these measures should only be considered after successful implementation of less restrictive measures.

In contrast to a previous study that used single items to assess tobacco control attitudes and support,<sup>10</sup> we employed a well-established instrument to assess six dimensions of smoking policies and tobacco control measures. Thus, our study has the advantage of presenting more reliable results. We are able to differentiate between dimensions that are supported and dimensions that are not supported. This is an important strength of our study. In our sample, the factorial structure differed slightly from the hierarchical factor structure found in previous studies.<sup>5,6,18</sup> We revealed a six-factor correlated structure, and we established a cross-loading item, which might be due to our specific strategy to analyse current and former smokers separately. We contribute to establishing the validity of the SPI in different samples, countries, and cultures by confirming the six core dimensions of smoking policies and tobacco control measures in German current and former smokers.

There is some confidence that our findings can be generalized to the total population of lifetime smokers in Germany, since our sample was drawn from a representative general population

**Table 4** Standardized regression coefficients from seven models with a smoking behaviour variable predicting attitudes towards smoking policies and tobacco control measures within current smokers, controlled for gender, age, and social status

	Smoking behaviour variable						
	Number of cigarettes smoked per day	Severity of nicotine dependence <sup>a</sup>	Smoking intensity	Number of other smokers living in the household	Smoking partner	Number of quit attempts in the last year	Age at initiation of smoking
Advertising and promotion	-0.09*	-0.11*	-0.09*	-0.04	0.07	0.09**	0.09*
Taxes and fees	-0.31***	-0.22***	-0.26***	-0.05	0.01	0.16*	0.15***
Penalties	-0.20***	-0.13**	-0.14**	0.03	0.06	0.06*	0.10*
Public education	-0.24***	-0.17***	-0.18**	-0.02	0.06	0.08*	0.18***
Sanctions	-0.26***	-0.20***	-0.23***	-0.03	0.10*	0.08	0.19***
Environmental restrictions	-0.31***	-0.23***	-0.26***	-0.04	0.08	0.10*	0.28***

\*\*\* $P < 0.001$ , \*\* $P < 0.01$ , \* $P < 0.05$

a: FTND<sup>19</sup> without number of cigarettes smoked per day

survey. Our sample included subjects who had been current smokers at the time of the general population survey. Former smokers were only included when they had quit smoking between the general population survey and the smoking intervention study, or over the course of the smoking intervention study. Thus, the sample only contains former smokers who at most quit 5 years ago, yielding an underrepresentation of former smokers. Also, the sample does not contain subjects who started smoking during the last 5 years. This compromises the representativeness of our sample and the generalizability of our findings. However, our sampling procedure ensures inclusion of a wide range of smoking behaviours among current and former smokers.

A major limitation of the current study is the absence of never-smokers as a comparison group. Since the data were collected in a smoking intervention study, all participants were either former or current smokers. The degree of agreement to smoking policies and tobacco control measures could have been confounded by the fact that all smokers were aware of being part of a smoking intervention study. Smokers may have been very attentive to the topic of smoking due to the comprehensive smoking assessments of the study. Thus, smokers may have been biased to respond more favourably toward smoking policies and tobacco control measures, thereby falsely inflating support. However, key findings of the present study remain, i.e. that some smoking policies are supported while others are not supported and that support decreases with more unfavourable smoking behaviours.

Taken together, the findings of this study provide evidence that even in a country with poor anti-smoking legislation and an underdeveloped anti-smoking climate, lifetime smokers including those with highly unfavourable smoking behaviours strongly support selected smoking policies and tobacco control measures.

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## Key points

- This study examined support for smoking policies and tobacco control measures among lifetime smokers in Germany.
- Penalties for sales to minors had the highest support, sanctions against smokers had the lowest support.
- Smoking status and smoking behaviour were associated with the extent of support.
- There are smoking policies and tobacco control measures that are supported by lifetime smokers. These should be used to promote anti-smoking legislation.

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