Social contexts in adolescent smoking: does school policy matter?

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Abstract

According to an ecological perspective in psychology and in line with social cognitive theory, smoking behaviour is determined by different social contexts (for example, peers, family and school) providing adolescents with important role models. This paper investigates the effects of personal characteristics as well as family, peer and school context variables on youth smoking behaviour. We hypothesize that school smoking policy variables predict adolescents’ smoking in addition to other context variables. Data were obtained from a self-report survey administered to 3364 students in 40 secondary schools in Bavaria, Germany. For both younger (10–15 years) and older (16–21 years) students, strong associations were found between smoking behaviour and (i) smoking best friends and friends in general, (ii) other substance use and (iii) school performance. In the younger age group, the non-existence of smoking bans for students was associated with an increased risk of being smoker. For the older students, a positive association was found between the presence of smoking teachers on school grounds and smoking behaviour. Results are discussed considering methodological aspects and public health concerns.

Introduction

Cigarette smoking is a substantial threat to the current and future health of young people. Especially, the age at which the first use of tobacco occurs is crucial, because early initiation of smoking as well as early experimentation increases the likelihood of eventual habitual smoking and adult tobacco dependence [1]. Additionally, adolescents who begin smoking at an early age are at high risk for developing long-term serious health consequences [2].

Despite these well-known health hazards and several years of national and local prevention efforts, the prevalence of youth tobacco use in Germany remains high. One out of ten adolescents has smoked his/her first cigarette before the age of 12; the average is between 13 and 14 years [3]. Taken together, 35% of all 9th and 10th graders in Germany reported to having smoked daily within the last month, with no gender differences. However, more boys (13%) than girls (10%) were heavy smokers with >10 cigarettes a day [4]. Thus, German adolescents hold a leading rank in international comparisons. The Health Behaviour in School-Aged Children study, conducted in 35 countries, showed that 13- and 15-year old Germans rank second (behind Greenland) with regard to daily smoking [5].

Identifying the factors determining adolescent smoking behaviour is of great scientific interest in order to understand and ultimately prevent substance use. Social contexts are recognized as important influences on individual behaviour [6]. From an ecological perspective, we seek to understand adolescent behaviour in the context of individual, family, peer and environmental influences [7–9].
According to this approach, social settings (for example, family, peer and school contexts) represent crucial microsystems that may interact with individual factors to influence adolescent behaviour.

One possible way in which these social contexts influence youth smoking behaviour is by providing role models and by setting social norms concerning smoking. Social cognitive theory suggests that behaviour depends greatly on actual and anticipated consequences [10]. Accordingly, the probability of smoking is likely to increase if adolescents anticipate that smoking will result in generally positive outcomes. This anticipation is developed through personal experiences and vicarious observations of important role models in the social environment. Consequently, it may be difficult for adolescents to resist smoking if they perceive that this is a popular and socially desirable behaviour.

Individual characteristics and risk factors for smoking have been examined in numerous national and international studies. Although the majority of research has been conducted in the United States, there are some German studies as well. The results show that the strongest individual predictors of current and later smoking include prior tobacco use [11, 12]; experiences with alcohol and illicit drugs [13, 14]; low personal income [13, 15]; low school connectedness [16]; poor school performance [11, 17] and the belief that there is a high prevalence of smokers among adolescents [18].

Peer and family contexts have also been studied extensively [13]. Smoking of peers has consistently been shown to be associated with adolescent smoking uptake [19, 20] and maintenance [12, 21]. Much research has demonstrated that smoking parents and/or siblings are crucial factors with respect to teen smoking initiation and transition [20, 22–24], though the effects seem to be smaller than those of smoking peers. Moreover, the expectations and communications of parents about smoking as well as anti-smoking socialization have been linked to smoking among adolescents [25–27].

While individual factors as well as the role of family and peers in adolescent smoking have been studied widely, the impact of the school environment has been neglected for a long time. It is only recently that the influence of school characteristics on the smoking behaviour of students has begun to gain attention [28]. One of the most important controllable aspects of the school environment is the school’s smoking policy [29]. However, evidence on the effectiveness of the implementation of such policies has been equivocal. Although some researchers have found that smoking policies are related to smoking rates [30, 31], others did not find any association [32, 33]. A recent review of the literature [28] concludes that school policies banning smoking and consistently enforcing this through punishment reduce tobacco use by students. Other aspects of smoking policy do not seem to affect smoking behaviour. There is an ongoing debate on what exactly constitutes an effective school policy. Especially, zero-tolerance (no use) approaches [34] are contrasted with harm-reduction (least harm) approaches [35]. As empirical support for the effectiveness of either one of these orientations is limited, an evidence-based recommendation is hardly possible. Moreover, research on school smoking policies is limited because most studies focus on only few predictors neglecting other important variables from different social contexts.

Rather than concentrating on isolated variables influencing adolescent smoking behaviour, the present study examines different social contexts simultaneously. In addition to personal characteristics as well as family and peer context variables, we assess the additional effects of school context variables. Consistent with earlier research, we hypothesize (i) that there is a strong association between adolescents’ smoking and personal, family and peer risk factors. Furthermore, we hypothesize that (ii) indicators of school smoking policy and policy enforcement predict the smoking behaviour of adolescents.

Methods

Sample and procedure
The results presented here refer to baseline data obtained from a 1-year follow-up survey administered in schools in Bavaria (Germany). One part of this survey is the evaluation of a Bavarian project
run by the ministries of education and health that aims at assisting schools in becoming completely smoke-free. Thus, all 27 eligible schools were included in the study sample (project schools). In addition, 21 schools were randomly selected and asked to participate in the survey (non-project schools). These schools were drawn from the entire population of schools in Bavaria (based on the school database provided by the ministry of education) and matched to project schools by degree of urbanisation and type of school. Five project schools dropped out later; two of them because they participated in a preceding pilot study and were not willing to take the additional effort; the others indicated administrative problems at the end of the school year. Three non-project schools finally withdrew because of organizational problems. At each participating school, a random sample of classes was selected according to the overall number of classes. Parents and students were informed in writing that the survey was voluntary and that all data were kept anonymous. None of the parents refused their consent. Student response rate was 90.3%. Thus, a total of 40 schools and 3364 students participated in the survey. The sampling strategy is displayed in Fig. 1. Information was collected by means of a self-completed questionnaire administered in the classroom. Completed questionnaires from each class were put in a large envelope that was sealed by a student in front of the class.

**Measures**

**Outcome variable**

Smoking was assessed by asking, ‘How many times have you smoked a cigarette in the last 30 days’? This question is similar to those commonly asked in national substance use surveys [3, 4]. Students were classified as a current smoker if they reported smoking on any of the previous 30 days. Self-reports could not be validated because of logistical and financial constraints. Moreover, there is substantial evidence indicating that self-reports produce reliable and valid estimates of substance use when procedures to ensure confidentiality are employed, as in this study [36].

**Predictors**

*Individual characteristics.* Lifetime alcohol and cannabis use were assessed using questions adapted from the European School Survey Project on Alcohol and Other Drugs [4]. Answers were dichotomized differentiating those who reported any substance use (coded = 1) from never users (coded = 0). A sum score of school attachment was included that derived from five single items previously used [37]. This score was median split to create two groups (0 = high school attachment and 1 = low school attachment). Academic achievement was assessed by asking the students to indicate their school marks of the last semester. In Germany, marks range from 1 to 6 with 1 representing the best achievement. We measured perceived smoking prevalence/social norms with a single item that asked students to estimate the percentage of smokers among adolescents of their own age. Personal income of the students was operationalized as the amount of pocket money per week.

*Family and peer factors.* We assessed parental education by two questions regarding the highest school graduate of both mother and father. Answers were dichotomized (0 = some high school or college graduate and 1 = less than high school).
Parental and sibling smoking were coded as three dichotomous variables (0 = no and 1 = yes) based on questions about the smoking behaviour of the father, the mother and the siblings. As a measure of parents’ attitudes regarding their offspring’s smoking, we included the question, ‘Have your parents ever expressed the wish that you should not smoke’? Answers were coded as 0 = yes and 1 = no. Friends’ smoking behaviour was assessed for the best friend (0 = no and 1 = yes) and for friends in general (0 = less than 50% smoke and 1 = at least 50% smoke).

School variables. Four items were included that measured the perceived school smoking policy: ‘At our school, there exist rules regarding smoking for students’, ‘When students transgress rules on smoking, they get into trouble’, ‘At our school, smoking cessation is offered for students’ and ‘Students can participate in the process of decision making’. Answers to these questions were coded as 0 = yes and 1 = no. We also included a measure concerning the enforcement of smoking policies. Students were asked whether they notice teachers and other students smoking in the school building and on school grounds. These variables were also dichotomized (0 = no and 1 = yes).

Control variables

Three basic information items were included in all analyses as control variables: sex, whether the school belonged to the Bavarian project or to the additional random sample and school type. As the participation in the Bavarian project is voluntary, it was impossible to ensure that the project schools have been doing all the ministries of education and health were assisting them to do. In fact, the utilization of possible offers was very different between individual schools. Moreover, some non-project schools have already taken much effort in becoming smoke-free without external assistance. Hence, the sample group was included as a control variable. The German school system differentiates several types of secondary schools (for example, ‘Hauptschule’, ‘Realschule’, ‘Gymnasium’ or ‘Gesamtschule’) and it is assumed that the smoking prevalence differs between these different types [3, 4]. Schools from any type were included in our study.

Analyses

All multivariate analyses were conducted with the logistic regression procedure in STATA 8.0. Models were analysed using the Huber and White estimator of variance that produces robust standard errors (SEs) for correlated observations. This was required as students were sampled in clusters, with the school as the primary sampling unit. Consequently, individuals cannot be assumed to be independent, as those within the same school tend to be more alike than students generally (intraclass correlation). The presence of such clustering should result in higher SEs as compared with a similar non-clustered sample.

In the first set of analyses (Model 1), we estimated main effects of individual risk characteristics as well as peer and family context factors on the risk of cigarette smoking. The second set of analyses (Model 2) included also school context variables to examine the influence of schools’ smoking policy on smoking prevalence. Therefore, all dichotomized predictor variables were coded 0 and 1 with 1 indicating the existence of the specific risk factor. Analyses were conducted for younger and older students (i.e. 10–15 versus 16–21 years) separately. The results are presented as odds ratios (ORs) with 95% confidence intervals (CIs).

Results

Sample characteristics

Of the 3364 students participating in our survey, the majority (n = 2510, 74.6%) was between the age of 10 and 15 years; 843 (25.1%) were between 16 and 21 years old. The sample consisted of slightly more girls (54.4%) than boys (45.6%), a proportion almost identical within both age groups. There were more students from project schools than from non-project schools in both age groups.

The overall prevalence of recent (30 days) smoking was 18.6% among the younger and 40.6%...
among the older students. Smoking prevalence was significantly higher among students of the non-project school sample as compared with project schools ($P < .05$). Smoking behaviour also differed with regard to school type ($P < .05$). Both variables were controlled for in all subsequent analyses.

Descriptive statistics

Table I provides the descriptive statistics for all predictor variables in both age groups. Regarding schools’ smoking policies, most students agreed that there were rules on students’ smoking (60.0 versus 76.9%) and sanctions when these rules were transgressed (75.5 versus 70.8%). Fewer students reported about cessation offers (21.2 versus 15.4%) and possibilities to participate in decision making (25.3 versus 19.8%). Smoking teachers were noticed in the school building and on school grounds by ~20% of students. Between 60 and 76% of students noticed other adolescents smoking on school grounds.

Multivariate regression analyses

Results of all multivariate regression analyses are summarized in Table II. The first model tested the effects of both individual, family and peer factors on the risk of smoking for the two age groups separately. For 10- to 15-year old students, significant positive associations were found for the number of smoking friends (OR = 6.10, CI = 2.88–12.93), lifetime alcohol use (OR = 4.73, CI = 2.53–8.85), best friend’s smoking (OR = 4.32, CI = 2.54–7.35) and lifetime cannabis use (OR = 4.20, CI = 1.75–10.10). The variables included in this model accounted for 44% of the variance in the data. In the corresponding analysis for the older age group, the same positive associations were found for the number of smoking friends (OR = 3.23, CI = 1.70–6.16), best friend’s smoking (OR = 4.81, CI = 2.52–9.22), lifetime cannabis use (OR = 3.71, CI = 2.34–5.87) and alcohol use (OR = 3.86, CI = 1.20–12.38). Moreover, school performance (OR = 2.07, CI = 1.37–3.12) and the smoking of siblings (OR = 1.62, CI = 0.99–2.64) were positively associated with smoking status. Non-expressed parental attitudes towards smoking (OR = 0.53, CI = 0.30–0.91) showed negative effects on smoking behaviour. The overall model explained 39% of the variance.

In a second step, we tested the additional effect of school variables on smoking behaviour. As shown on the right side of Table II, the model for the younger students changed slightly when adding these further variables. In addition to the four predictors previously found, a positive association between tobacco use and the non-existence of smoking rules for students emerged (OR = 1.62, CI = 1.03–2.53). The risk of being smoker was increased in schools that do not have any smoking bans for students. This extended model explained 45% of the variance in the data.

With respect to the model for the second age group, the significant effect of parental attitude disappeared. Instead, a positive association between the students smoking behaviour and the presence of teachers smoking on school grounds was found (OR = 1.97, CI = 1.18–3.29). Students who perceive teachers smoking on school premises had an increased risk of being a smoker. The amount of variance explained by this model (as compared with Model 1) increased by 1%.

Discussion

The present study evaluated the effects of social contexts on adolescent smoking behaviour in a sample of 3364 students in 40 schools in Bavaria, Germany. As the majority of previous research has been conducted in the United States, information on adolescent smoking and its predictors in a different society was generated. The 30-day smoking prevalence was 18.6% for 10- to 15-year old students and 40.6% for 16- to 21-year olds. For the younger age group, this value is higher than the German average of ~10% [3]. However, this may be due to a stricter definition of ‘recent smoking’ in the national survey that used a minimum of 100 ever smoked cigarettes in lifetime as a criterion.

The results confirm our first hypothesis. We find several positive associations of personal, family and peer variables on cigarette smoking that are
comparable with international findings. Especially, other substance use (alcohol and illicit drugs) accounts for a relatively large amount of variance. Thus, we find strong confirmation of the finding that cigarette smoking is highly comorbid with other substance use [3, 38]. Different reasons for this comorbidity have been discussed, including general psychosocial factors, learning processes and neurobiological effects [39]. Moreover, we obtain a strong positive association between adolescent smoking and the smoking behaviour of best friends and friends in general. In all multivariate analyses, peer variables are the most predictive factors, with ORs up to 6.10. Together with significant effects of smoking siblings in 16- to 21-year olds, these findings emphasize the importance of social role models on the tobacco use of adolescents. Overall, we found that the contributing individual and peer factors to adolescent smoking do not differ substantially between international research and our findings.

Family characteristics seem to have a somewhat smaller influence on smoking prevalence in our sample. Whether or not parents are smoking does not predict the smoking behaviour of adolescents. However, as this is inconsistent with other German

### Table I. Descriptive statistics of all predictor variables, n (%)

<table>
<thead>
<tr>
<th>Variable</th>
<th>10–15 years (n = 2510)</th>
<th>16–21 years (n = 843)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol use (lifetime)</td>
<td>1007 (40.1)</td>
<td>699 (22.9)</td>
</tr>
<tr>
<td>Cannabis use (lifetime)</td>
<td>185 (7.4)</td>
<td>279 (33.1)</td>
</tr>
<tr>
<td>School attachment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1197 (47.7)</td>
<td>498 (59.1)</td>
</tr>
<tr>
<td>High</td>
<td>1301 (51.8)</td>
<td>340 (40.3)</td>
</tr>
<tr>
<td>School performance (1–6), M (SD)</td>
<td>2.63 (0.70)</td>
<td>2.60 (0.66)</td>
</tr>
<tr>
<td>Personal income (€ per week), M (SD)</td>
<td>7.29 (8.46)</td>
<td>15.42 (15.19)</td>
</tr>
<tr>
<td>Estimated smoking prevalence, M (SD)</td>
<td>42.11 (22.08)</td>
<td>52.54 (15.56)</td>
</tr>
<tr>
<td><strong>Family and peer factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father's education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>694 (27.6)</td>
<td>219 (26.0)</td>
</tr>
<tr>
<td>Some high school or college graduate</td>
<td>1200 (47.8)</td>
<td>536 (63.6)</td>
</tr>
<tr>
<td>Mother's education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>661 (26.3)</td>
<td>177 (21.0)</td>
</tr>
<tr>
<td>Some high school or college graduate</td>
<td>1396 (55.6)</td>
<td>608 (72.1)</td>
</tr>
<tr>
<td>Father smokes</td>
<td>821 (32.7)</td>
<td>249 (29.5)</td>
</tr>
<tr>
<td>Mother smokes</td>
<td>643 (25.6)</td>
<td>219 (26.0)</td>
</tr>
<tr>
<td>Siblings smoke</td>
<td>474 (18.9)</td>
<td>218 (25.9)</td>
</tr>
<tr>
<td>Parents’ attitude expressed</td>
<td>1969 (78.4)</td>
<td>621 (73.7)</td>
</tr>
<tr>
<td>Best friend smokes</td>
<td>580 (23.1)</td>
<td>398 (47.2)</td>
</tr>
<tr>
<td>Number of smoking friends</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;50%</td>
<td>1929 (76.9)</td>
<td>355 (42.1)</td>
</tr>
<tr>
<td>At least 50%</td>
<td>567 (22.6)</td>
<td>483 (57.3)</td>
</tr>
<tr>
<td><strong>School variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rules on smoking for students</td>
<td>1522 (60.6)</td>
<td>641 (76.0)</td>
</tr>
<tr>
<td>Sanction for students</td>
<td>1895 (75.5)</td>
<td>597 (70.8)</td>
</tr>
<tr>
<td>Cessation offers for students</td>
<td>532 (21.2)</td>
<td>130 (15.4)</td>
</tr>
<tr>
<td>Participation in decision making</td>
<td>634 (25.3)</td>
<td>167 (19.8)</td>
</tr>
<tr>
<td>Notice teachers smoking in building</td>
<td>290 (11.6)</td>
<td>150 (17.8)</td>
</tr>
<tr>
<td>Notice teachers smoking on school grounds</td>
<td>367 (14.6)</td>
<td>198 (23.5)</td>
</tr>
<tr>
<td>Notice students smoking in building</td>
<td>487 (19.4)</td>
<td>146 (17.3)</td>
</tr>
<tr>
<td>Notice students smoking on school grounds</td>
<td>1518 (60.5)</td>
<td>642 (76.2)</td>
</tr>
</tbody>
</table>
findings [20, 24], a societal difference between the United States and Germany cannot be inferred. In addition, we found a surprising negative effect of the non-expressed parental attitude: students whose parents never expressed the wish that their child should not smoke have a decreased risk of smoking. Perhaps, discussions on smoking within families do not arise before the child actually starts smoking cigarettes. With regard to adolescents who do not smoke, there may be no need for parents to express their non-smoking attitude. In addition to the family factors we assessed in our study, other research shows that further variables and the interaction between different family characteristics may also influence students’ smoking. For example, Tilson et al. [40] found that the influence of parent–child connectedness on youth smoking behaviour differed with regard to parental smoking. High levels of connectedness were not protective in the case of parents who smoked. As these variables were not included in our analyses, the underlying processes of the associations need further exploration.

In addition to personal characteristics and family and peer factors, our study examined school context variables as perceived by the students. We assessed four structural smoking policy variables as well as some indicators of policy enforcement. With respect to the younger age group, the existence of smoking bans for students shows significant effects. Adolescents in schools that do not have such regulations have an increased risk of being smokers by more than one and a half. Especially for younger children, it seems to be important to set non-smoking norms and thus decrease the probability of having contact to smoking peers. Among older students, the exposure to teachers smoking outdoors on the school grounds increased the probability of smoking. As noted earlier, according to social cognitive theory, schools that permit their staff to smoke on school property provide students with the message that smoking is a normal and accepted behaviour. This is especially problematic when smoking is restricted only for students but not for teachers; such mixed messages may result in oppositional behaviour and increased smoking among adolescents. In conclusion, we confirm our second hypothesis because smoking bans for students and perceived teachers’ smoking predict smoking behaviour in our sample. Nevertheless, both effects are small and increase the explained variance in the regression models by only 1% each. Maybe our results are biased through confounding and mediating variables. Aveyard et al. [28] argue that school context variables may turn out to be not significant in regression analyses when the models control for individual characteristics that potentially

<table>
<thead>
<tr>
<th>Personal characteristics</th>
<th>Model 1 OR (95% CI)</th>
<th>Model 2 OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School performance</td>
<td>2.07 (1.37–3.12)</td>
<td>2.30 (1.51–3.51)</td>
</tr>
<tr>
<td>Alcohol use (lifetime) (1 = yes)</td>
<td>4.73 (2.53–8.85)</td>
<td>3.86 (1.20–12.38)</td>
</tr>
<tr>
<td>Cannabis use (lifetime) (1 = yes)</td>
<td>4.20 (1.75–10.10)</td>
<td>3.71 (2.34–5.87)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School variables</th>
<th>1.62 (1.03–2.53)</th>
<th>1.97 (1.18–3.29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notice teachers smoking on school grounds (1 = yes)</td>
<td>( R^2 = 0.44 )</td>
<td>( R^2 = 0.39 )</td>
</tr>
</tbody>
</table>

Social contexts in adolescent smoking

Table II. Logistic regression analyses to predict current adolescent smoking
mediate the school context influence (i.e. academic achievement, school attachment and prevalence estimation). Thus, the variance that could be explained through school factors is already ‘controlled’ for and school context effects cannot emerge.

The present study has some strengths and potential limitations. The major strength of the study is that it is based on a large sample of students from all kinds of schools. Moreover, within these schools, we achieved a high participation rate. Given the clustered sample, we applied a complex multivariate model considering intraclass correlations. Note, however, some methodological limitations. First, the present analyses are based on cross-sectional data, and it is thus not possible to make conclusions about causality. Second, our measure of school smoking policies may pose some difficulties. Ideally, measures of school context should be obtained from multiple sources (for example, students assessments, teacher reports and/or review of school reports) instead of relying solely on students’ perceptions. It is possible that these perceptions of smoking policy are mediated through other individual factors. For example, they may be proxy measures of students’ attitudes towards smoking. Nevertheless, according to social cognitive theory [10], individual perceptions are important factors for our understanding of how individuals behave within social contexts that directly affect actual behaviour. The first methodological problem is dealt with in the sequel of the present research project. We will collect longitudinal data within a 1-year follow-up period. Nevertheless, to gain further knowledge on the impact of smoking policies on students’ smoking behaviour and in order to identify the most effective policy, additional research is needed. Ideally, one would conduct a cluster randomized trial in which schools are randomly assigned either to a group that implements a strict and consistent smoking policy or to another group that does not. Until such a study has been undertaken, it will be impossible to quantify the impact of specific policy components on smoking prevalence.

There is a sustained need to deal with smoking in young people in order to prevent the establishment of lasting smoking habits. Schools have a great responsibility in promoting the health of adolescents [41] and thus should effectively help to prevent their students from using substances. While smoking policies have often been recommended as a key element of health-promoting schools [42], the results presented here show a high potential for future development. Nearly one-third of all participating students reported that there are no smoking rules at their school. A comparable number does not know about sanctions for students taken when existing rules are transgressed. It seems that German schools need to take more effort in establishing smoke-free environments and in preventing adolescents from being exposed to smoking role models. To achieve this, schools must have clear, comprehensive policies that regulate both student and staff smoking. Moreover, it seems to be necessary to increase the compliance of school staff for smoke-free policies and to encourage teachers not to smoke on school grounds. As Trinidad et al. [43] put it, this could be realized through school-wide teacher orientation and trainings that communicate to teachers the importance of their modelling of appropriate behaviour.

Recently, the German government has been planning to expand the legal smoking restrictions in schools. Several states have already taken stricter measures than those given at the national level. Bavaria is the seventh federal state of Germany that adopted a legal smoking ban in schools in the summer of 2006. As a result, smoking is prohibited for students as well as for teachers on all school premises. With the new legislation, there will be an opportunity to further study the effects of school context variables on students’ smoking behaviour.

Funding

German Bundesministerium für Bildung und Forschung (Federal Ministry on Education and Research) (01 EL0403).

Acknowledgements

The data presented here were collected within the project ‘Developing and validating a monitoring
Social contexts in adolescent smoking

instrument to assess tobacco control policy at schools’.

Conflict of interest statement

None declared.

References


Received on June 1, 2006; accepted on August 26, 2007