A Survey of Greek Elementary School Students' Smoking Habits and Attitudes

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Abstract

The purpose of this study was to investigate the smoking habits of Greek elementary school students, their attitudes towards smoking, and their perceptions of the health consequences of tobacco use. Data were obtained from 1,092 elementary school students who completed a 24-item questionnaire designed for this study. Results indicated more older students smoked than younger ones and boys significantly outnumbering girls. Most of the students believed that people smoke for pleasure and relaxation or due to psychological problems and that people do not smoke primarily because of health or aesthetic reasons (smelling badly). Students' attitudes towards smoking were significantly related to their parents' educational status or the students' smoking behavior. Furthermore, students' negative attitude towards smoking was strongly associated with their age. Finally, it was found that age and parental educational status affected students' knowledge of the health effects of tobacco use.

Key words: *Smoking, Children, Family, Health*

Introduction

Cigarette smoking is the largest single cause of preventable death in the Western world.[1] The negative effects of smoking on human health are well established by research worldwide. Evidence also indicates that people who choose to smoke in their lifetime start smoking before the age of 18.[2] Furthermore, experimentation with tobacco usually begins at an early age.[3] Therefore, children's and adolescents' cigarette smoking is a very serious issue and a major public health problem.

The prevalence of tobacco use among European adolescents is estimated at around 30%.[4] Greece has the highest percentage of smoking among European adults and the third highest percentage in the world.[5] Furthermore, 41% of Greek 15-24 year olds and 18.6% of Greek 11-13 year olds smoke.[7, 8] According to a survey conducted by the US Centers for Diseases Control and Prevention (CDC), these high rates of tobacco use in Greece will result in many tobacco-related deaths in the coming decades.[6]

Smoking at an early age is related to various factors including parental socioeconomic status,[9, 10] parental attitude towards tobacco use,[11-14] smoking behavior of parents or friends[15-17] or the students' school environment.[18] Furthermore, research has shown that children's and adolescents' attitudes towards tobacco use is a reliable predictor of their future smoking behavior.[1, 19] Wang and others[20] found that 9 and 10 year-olds' concepts of smoking addiction may influence their attitudes towards trying to smoke. More specifically, those who thought addiction happened immediately were committed to never smoking, whereas those who thought addiction happened after several cigarettes, expressed intentions to experiment with cigarettes.

Purpose of the Study

The purpose of this study was to investigate the smoking behavior of elementary school students from Central Greece, their attitudes towards smoking, and their knowledge about the consequences of tobacco use and health. These data could assist us plan and implement smoking intervention programs for elementary school students to prevent the habit of tobacco use in pre-adolescence period.

Methods

Sample

A 24total of 1,092 elementary school students from Central Greece participated in the study (514 boys and 578 girls). Of the 1,092 participants, 480 students (239 boys and 241 girls) were between 9 and 10 years old (M= 9.5, SD= 0.94) and attended fourth grade. Another 612 students (275 boys and 337 girls) between 11 and 13 years old (M= 11.65, SD= 1.71) attended sixth grade. Table 1 shows the demographic characteristics of the students. Majority of participants (70.52%) lived in an urban area. With regard to their parents' educational status, 34.98% of the participants' fathers and 35.89% of their mothers were University or high technological school graduates, followed by those who were upper high school graduates (31.33% of the students' fathers and 33.88% of their mothers).

Questionnaire

A 24-item questionnaire was designed for the study and included eight demographic questions (age, school grade, gender, father's occupation, father's educational status, mother's occupation, mother's educational status, place of residence).
First section of the questionnaire targeted participants' smoking behavior as well as the smoking behavior of people in their social environment and consisted of seven separate questions e.g. *"Have you ever tried to smoke?", "How old were you then?, " Does your father smoke?"*.

Second section consisted of two open-ended questions for students to state their opinion about why people smoke or do not smoke. The students could list up to three reasons in each of the two questions.

Third section was used to assess participants' attitudes toward smoking. Four items comprised this section including *"I like looking at people who smoke", "I don't like inhaling other people's smoke"*. The statements were rated using a three-point Likert-type scale with the options "agree," "disagree," or "uncertain." Negative answers towards smoking were rated 2, positive were rated 0 and no opinion 1. The higher the score, the more negative the attitudes towards smoking. The questionnaire also included four statements assessing the specific reactions of participants against smoking: *"I ask people not to smoke in front of me,"* and *"I*

remind people close to me (parents, friends etc) that smoking is dangerous." Constant action against smoking was rated 2; occasional action was rated 1; and no action was rated 0. Higher scores represent stronger reaction against smoking.

The last section was to assess students' knowledge about tobacco health hazards. In this section, seven statements were listed including *"Cigarettes contain dangerous substances"*, and *"Smoking one or two cigarettes a day is not dangerous"*. Participants had to rate these statements using a three point, Likert-type scale with the options "agree", "disagree", "uncertain". Knowledge about the hazards of smoking was rated 2, no knowledge 0 and no opinion 1. Higher scores indicate better knowledge about the hazards of smoking.

Before the final questionnaire was administered to participants, a pilot trial was conducted with 20 children between the ages of 9 and 13 years old to make sure that they understood the questions.

Statistical analysis

Statistical analyses were performed using SPSS 13.0. Analysis of variance (ANOVA) and post hoc comparisons were conducted to compare the subgroups. A level of 0.05 or less was used to determine significance for all statistical analyses.

Results and Implications

Students' smoking behavior and smoking behavior of people within the students' social environment

Results indicated that 1,012 students or 92.68% had never smoked; whereas, 80 or 7.32% had tried to smoke (see Table 2). Participants' smoking behavior according to grade and gender is presented in Table 3. The percentage of children who had tried smoking was higher among the 11-13 year old students compared to the 9-10 year-olds ($p<0.05$). Among the 11-13 year olds, 16% of the boys and 8.3% of the girls had tried smoking. In relation to gender, nearly twice as many boys than girls in this age group stated that they have tried smoking ($p<0.05$).

Table 4 shows the smoking behavior of people in students' immediate social environment. Approximately 44% of fathers indicated that they smoke everyday, and approximately 19% were occasional smokers. Conversely, fewer mothers smoked everyday or occasionally (22.44% and 17.58% respectively). Finally, 8.15% of the participants stated that they have friends who have tried to smoke.

Reasons of smoking

Participants were asked to list three reasons why people smoke and three reasons why people do not smoke. The two most frequent reasons for smoking included *pleasure and relaxation* (64.5%) and *psychological problems* (31.6%). The two top reasons why people do not smoke were *health* (90%) and *bad smell* (45%).

Students' attitudes towards smoking

Students' attitudes towards smoking were analyzed according to their parents' educational status; the students' grade level, gender, and place of residence; and whether they tried smoking. Analysis of variance (ANOVA) revealed that students' attitude towards smoking was significantly associated with their fathers' and mothers' educational status. Participants' had a greater negative attitude toward smoking as the fathers' educational status increased ($F_{3.679)} = 5.08$, $p<0.05$). Post hoc comparisons showed students whose fathers were university graduates had more negative attitudes towards smoking (M= 8.22, SD= 2.06) than those whose fathers had attended only primary school (M= 8.00, SD= 2.03), high school (M= 7.57, SD= 2.40) or upper high school (M= 7.60, SD= 2.01). Likewise, participants' negative attitude towards smoking was also significantly associated with their mother's educational status ($F_{3.679)} = 8.85$, $p<0.05$). Post hoc tests revealed that students whose mothers graduated from the university had significantly more negative attitudes towards smoking (M=8.54, SD=2.03) than students whose mothers graduated only from primary school (M=7.03, SD=2.10), high school (M=6.95, SD=1.85, or upper high school (M=7.01, SD=2.03).

Attitudes towards smoking were different between students who had tried smoking and those who had never smoked. The latter expressed significantly more negative attitudes towards tobacco use ($F_{3.678}$) = 8.74, $p<0.05$). Grade, gender, and place of residence were not significantly associated with the students' attitudes toward smoking ($p> .05$).

Students' knowledge on health effects of smoking

Findings from analysis of variance (ANOVA) revealed that older children showed significantly better knowledge about the health effects of smoking than the younger children ($F_{2.678)} =6.35$, $p<0.05$). Parents' educational status was also significantly

associated with children's knowledge ($F_{3.679)} = 5.08$, $p<0.05$). The more educated the parents were, the more knowledgeable the student. Gender was not significantly associated with knowledge about the health effects of tobacco use ($p> .05$).

Discussion

Smoking is a major public health issue due to its effect on human health. The purpose of the present study was to investigate Greek elementary school students' smoking behaviors, their attitudes towards smoking and their knowledge on the consequences of tobacco use on health.

Findings indicated that more 11-13 year old children than 9-10 year old children had tried smoking. The percentage of 11-13 year-old smokers in our study (11.76%) is close to that in previous studies.[7, 8] A considerable number of boys than girls at this age had tried smoking. Greenlund and others[21] have also found that boys at this age smoke more than girls, yet the gender differences in their study were not significant.

Most students believed that people smoke for pleasure and relaxation and some thought that people smoke because of psychological problems. On the other hand, the top two reasons given for not smoking were health followed by not wanting to smell badly. In another study conducted with 8–11 year-olds, students also agreed that smoking had adverse health consequences such as cancer or heart diseases.[21]

Students' attitudes towards smoking were significantly associated with their mothers' and fathers' educational status, but were not associated with age. In a study conducted by Lazuras and Rodafinos,[22] Greek elementary school students' attitudes towards several aspects of cigarette use (health, psychological and social consequences of smoking) were explored using a 15-item questionnaire. According to their findings, students across grades generally appear to express negative attitudes towards smoking for the majority of items. Yet, surprisingly 4rth graders express more positive attitudes towards smoking than 5th and 6th graders in three questions related to the psychological and social consequences of smoking.

Moreover, our results also indicated that students who have tried smoking expressed more positive attitudes towards smoking in comparison to their never smoking peers. This finding is consistent with other previous studies.[23, 24]

Finally, our findings indicated that older students were more knowledgeable of the health consequences of tobacco use than the younger students. Morello and others[25] also support this finding. Furthermore, our study revealed that parental educational status affected students' knowledge--the more educated the parents, the more knowledgeable the students

Conclusions and Recommendations

To sum up, it seems that anti-smoking behaviors should be established in an early age. Price and others[3] indicated that experimentation with cigarette smoking begins during the pre-adolescent period. Similarly, in our study, most of the students who have ever smoked were pre-adolescents (11-13 year-olds). Also, a factor that seems to affect students smoking behavior is their attitudes towards smoking. It appears that having negative attitudes towards smoking could help to reduce the smoking behavior of a young student. These findings indicate that smoking intervention programs should be implemented in elementary school together with frequent appropriate meetings with parents in an attempt to prevent young people from smoking in the future.

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Table 1 Demographic characteristics of the participating sample

PARTICIPANTS	N (%)
Gender	
Boys	514 (47.06%)
Girls	578 (52.94%)
Total	1,092 **(100%)**
Grades	
4th (9 – 10 years old)	480 (43.95%)
6th (11 – 13 years old)	612 (56.05%)
Total	1,092 **(100%)**
Students' place of residence	
City	770 (70.52%)
Small town	170 (15.56%)
Village	152 (13.92%)
Total	1,092 **(100%)**
Fathers' educational status	
Primary School	152 (13.91%)
High School	216 (19.78%)
Upper High	342 (31.33%)
University or Technological Education School	382 (34.98%)
Total	1,092 **(100%)**
Mothers' educational status	
Primary School	143 (13.11%)
High School	187 (17.12%)
Upper High	370 (33.88%)
University or Technological Education School	392 (35.89%)
Total	1,092 **(100%)**

Table 2 Smoking behavior of students

Have you ever tried smoking?	**N (%)**
No	1,012 (92.68%)
Yes	80 (7.32%)
Total	1,092 **(100%)**

Table 3 Students' smoking behavior in relation to grade and gender

		Gender		**Total** (%)
Grade	**Have you ever tried smoking?**	Boys	Girls	
4th **N (%)**	No	233 (97.49%)	239 (99.17%)	472 (98.34%)
	Yes	6 (2.5%)	2 (0.82%)	8 (1.66%)
	Total (%)	**239 (49.79%)**	**241 (50.21%)**	**480 (100%)**
6th **N (%)**	No	231 (84 %)	309 (91.7%)	540 (88.24%)
	Yes	44 (16%)	28 (8.3%)	72 (11.76%)
	Total (%)	**275 (44.93%)**	**337 (55.06%)**	**612 (100%)**

Table 4 Smoking behavior of people in participants' environment

Does your father smoke?	**N (%)**
Everyday	481 (44.04%)
Occasionally	209 (19.14%)
He does not smoke	402 (36.82%)
Total	1,092 **(100%)**
Does your mother smoke?	
Everyday	245 (22.44%)
Occasionally	192 (17.58%)
She does not smoke	655 (59.98%)
Total	1,092 **(100%)**
Have your friends tried smoking?	
Yes	89 (8.15%)
No	923 (91.85%)
Total	1,003 **(100%)**