

# A Survey on Attitudes towards Passive Smoking among Schoolchildren and Students in Switzerland

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## Introduction

Smoking is well known as being harmful to smokers' health. Furthermore, it has been reported in several papers that indoor air pollution due to tobacco smoke may exert injurious influences on the respiratory tract of smokers' children: some respiratory diseases appear significantly more often among children whose parents smoke than among children whose parents do not smoke.

The subjective symptoms caused to children and young people by passive smoking have been reported in the USA by Cameron [1, 2] and Speer [3], in Canada by Shephard [4] and in Japan by Muramatsu [5, 6], but they have not yet been studied in Switzerland. The aim of the present study was to investigate the reactions and symptoms caused by passive smoking among schoolchildren and students in Zurich, Switzerland.

## Methods

753 schoolchildren and students were interviewed by a questionnaire in December 1981.

The age distribution of the subjects participating in this survey is indicated in Table 1. The so-called "younger children" and "elder children" attended to the Zürcher Kantonsschule, the students to the Swiss Federal Institute of Technology (ETH) Zurich. All groups of subjects filled in the questionnaire at the beginning or at the end of their lectures. We performed two kinds of questionnaires, a simpler one for the younger children and a more sophisticated one for the elder children and the students. These questionnaires were derived from those used by Muramatsu [5, 6] in Japan by making some additions and crossing off.

The content of the questionnaires was as follows:

1. Attitude to passive smoking
2. Symptoms due to passive smoking
3. Smoking habits
4. Parental smoking habits
5. Attitude toward parental smoking habits

## Results and Discussions

### 1. Smoking Habits

Table 2 shows the smoking habits of the elder children and the students. 20.2% of the students and 10.3% of the elder children smoke tobacco regularly or occasionally, whereas only 3.8% of the younger children are smokers. These percentages are lower than those found by other authors: in the study of Schüler [7], 38.8% of the 20–34-year-old people were smokers, in

the study of Harreis [8] 23% of the 11–14-year-old children smoked. Reinert [9] observed a negative correlation between prevalence of smoking and social class; Harreis [8] also reported that the proportion of smokers in the Grundschule and the Hauptschule was three times higher than in the Gymnasium. The fact that the subjects in the present survey attend to a school with a high academic level may—at least partially—explain the small percentage of smokers.

There is no significant difference between the proportions of male and female smokers (Table 2) among children as well as young students. A similar result has been found in England in 1975 by Rawbone [10], who suggested that this fact may reflect a recent change in patterns of education and social structures resulting from an increased equality between the two sexes.

### 2. Starting Age of Smoking Habits

Half of the smokers among students started to smoke at the age of 16 to 18 years and most of the elder children at the age of 14 to 16 years.

### 3. Parental Smoking Habits

Table 3 shows parental smoking habits. 33% of the fathers and 17% of the mothers are smokers. According to the investigations by Horn [11] and Salber [12], children's smoking habits are influenced by parental smoking habits. The present survey confirms this finding: among the children and students whose parents smoke, there are significantly more smokers than among those whose parents do not smoke ( $p < 0.01$ ,  $X^2$ -test), this relation being especially marked with fathers.

### 4. Attitude towards Passive Smoking

The attitude towards passive smoking is illustrated in Figure 1. The majority of younger and elder children and students dislike passive smoking. These proportions are 80.9% (male 78.3, female 84.8%), 69.5% (72.3, 65.5%), 70.3% (70.3, 70.3%) respectively. There is no significant difference between male and female subjects. The prevalence of dislikers is larger among younger children than among elder children and students ( $p < 0.01$ ,  $X^2$ -test).

More smokers than nonsmokers are indifferent to passive smoking ( $p < 0.01$ ,  $X^2$ -test), nevertheless one fourth of the smokers dislikes passive smoking.

Furthermore, the majority of smokers' offspring are indifferent to passive smoking; on the other hand significantly more nonsmokers' than smokers' offspring dislike passive smoking ( $p < 0.01$ ,  $X^2$ -test).

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	Age range	Age mean( $\bar{X}$ )	Number		
			total	male	female
Younger children	12-15	13	183	106	77
Elder children	15-19	16	203	119	84
Students	18-39	23	367	249	118
Total			753	474	279

Table 1. Age and number of subjects

	Fathers		Mothers	
	N	(%)	N	(%)
Smokers	241	(32.8)	127	(17.0)
Nonsmokers	494	(67.2)	622	(83.0)
Total	735	(100.0)	749	(100.0)

Table 3. Parental smoking habits. «Smokers» include regular and occasional smokers.

	Elder children					Students						
	Men		Women		Total	Men		Women		Total		
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)		
Smokers	13	(10.9)	8	(9.5)	21	(10.3)	47	(18.9)	27	(22.9)	74	(20.2)
Nonsmokers	106	(89.1)	76	(90.5)	182	(89.7)	202	(81.1)	91	(77.1)	293	(79.8)
Total	119	(100.0)	84	(100.0)	203	(100.0)	249	(100.0)	118	(100.0)	367	(100.0)

Table 2. Smoking habits. «Smokers» include regular and occasional smokers

5. Symptoms due to Passive Smoking

Figure 2 shows the proportion of subjects who complained of irritations due to passive smoking. More than 80% of the younger children and the students, and more than 60% of the elder children complain of one or more symptoms of irritation. Among all symptoms, eye irritation is the most common (half of the subjects mentioned it), followed by cough and nose irritation. There is no significant difference between the complaints of male and female.

Similar studies in the USA and in Japan have reported that the symptoms caused by passive smoking decrease significantly as the age advances. But in the present survey the complaints of students are as frequent as those of younger children. It has been reported by Grandjean [13] that normally passive smoking does not represent a hazard to health as far as the classical smoker diseases (lung cancer, myocardial infarction, etc.) are concerned, but that irritations caused by tobacco smoke have an unfavorable influence on the health of small children and that of already sick

people. According to the present study, passive smoking is clearly an annoyance not only to children but also to young adults.

6. Children's Attitude towards Parental Smoking

The majority of the younger children whose father or/and mother smokes would prefer that their parents stopped smoking. Half of them worry about their parents' health. Based on these results, the following consideration can be made: daily smoking by parents induces to their children living with them not only symptomatological effects but also psychological problems. Adults should therefore recognize smoking as a problem of relationship with their children, they should know that children want their parents not to smoke and are concerned about their parents' health.

Danksagung

Frau Brigit Gierer danken wir für die wertvolle Mitarbeit bei der Ausführung der Befragung.

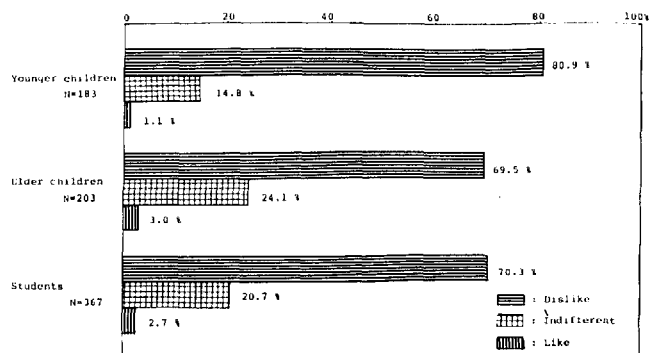


Fig. 1. Attitude to passive smoking

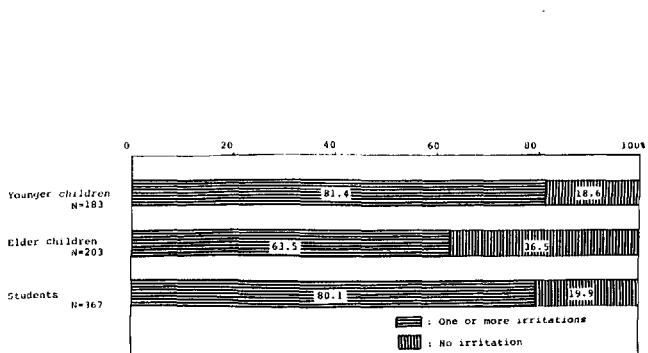


Fig. 2. Irritations due to passive smoking

**Zusammenfassung**

**Eine Umfrage über die Einstellung der Schüler und Studenten zum Passivrauchen**

Die Einstellung und die Reaktionen gegenüber dem Passivrauchen sowie die Einstellung zum aktiven Rauchen wurden bei Schülern und Studenten der Stadt Zürich untersucht. 183 13jährige und 203 16jährige Schulkinder sowie 367 23jährige Studenten wurden mit Hilfe eines Fragebogens befragt. Die interessantesten Ergebnisse lassen sich wie folgt zusammenfassen:

- Signifikant mehr der jüngeren (81%) als der älteren Schüler (70%) mögen das Passivrauchen nicht.
- Signifikant mehr Nichtraucher als Raucher mögen das Passivrauchen nicht.
- Die Jugendlichen, deren Eltern nicht rauchen, mögen das Passivrauchen weniger als diejenigen, deren Eltern rauchen.
- 80% der Studenten, 64% der älteren und 82% der jüngeren Kinder klagen über eine oder mehrere Arten von Reizungen, die durch das Passivrauchen hervorgerufen werden. Die häufigsten Beeinträchtigungen sind Augenreizungen, gefolgt von Husten und Reizungen in der Nase.
- Nichtraucher klagen häufiger über Reizungen als Raucher.
- Bezüglich der Auswirkungen des Passivrauchens besteht kein Unterschied zwischen Mädchen und Jungen.

**Abstract**

The attitudes and reactions to passive smoking as well as the attitudes to active smoking have been investigated among schoolchildren and students in Zurich. 183 13-year-old children, 203 16-year-old children, and 367 23-year-old students were interviewed by a questionnaire. The most interesting results are as follows:

- Significantly more of the younger children (81%) than of the elder children (70%) and the students (70%) dislike passive smoking.
- Significantly more nonsmokers dislike passive smoking than smokers.
- The subjects whose parents smoke dislike passive smoking less than the subjects whose parents do not smoke.
- 80% of the students, 64% of the elder children, and 82% of the younger children complain of one or more kinds of irritations due to passive smoking. The most common impairment is eye irritation, followed by cough and nose irritation.
- More nonsmokers complain of irritations than smokers.
- There is no significant difference between girls and boys as for the reactions to passive smoking.

**Literature**

- [1] Cameron, P., et al., The Health of Smokers' and Nonsmokers' Children, *Journal of Allergy* 43 (6), 336-41 (1969).
- [2] Cameron, P., Second-Hand Tobacco Smoke: Children's Reactions, *Journal of School Health* 62 (5), 280-4 (1972).
- [3] Speer, F., et al., Tobacco and Nonsmoker, A Study of Subjective Symptoms, *Archives of Environmental Health* 16, 443-6 (1968).
- [4] Shephard, R. J., et al., Effects of Cigarette Smoke on the Eyes and Airways, *International Archives of Occupational and Environmental Health* 43 (2), 135-144 (1979).
- [5] Muramatsu, T., et al., A Study on Smoking Experience and Smoking Habits. Report 3, Parental Smoking Habits and Second-Hand Tobacco Smoke of High-School Students, *Japanese Journal of School Health* 19 (2), 88-95 (1977).
- [6] Muramatsu, S., et al., A Study on Smoking Experience and Smoking Habits. Report 5, University Students' Smoking Habits and Reactions to Second-Hand Tobacco Smoke, *Japanese Journal of School Health* 20 (8), 391-7 (1978).
- [7] Schüler, G., et al., Rauchgewohnheiten in zwei Zürcher Landgemeinden, *Schweizerische Rundschau für Medizin Praxis* 69 (45), 1661-70 (1980).
- [8] Harreis, G., et al., Das Rauchen von Schülern verlagert sich auf immer jüngere Jahrgänge, *Öffentliche Gesundheitswesen* 42 (10), 771-8 (1980).
- [9] Reinert, M., Rauchgewohnheiten von 8- bis 16jährigen Schülern, *Praxis und Klinik der Pneumologie* 34 (10), 620-7 (1980).
- [10] Rawbone, R. G., et al., Cigarette Smoking among Secondary Schoolchildren in 1975, *Journal of Epidemiology and Community Health* 32, 53-58 (1978).
- [11] Horn, D., et al., Cigarette Smoking among High-School Students, *American Journal of Public Health* 49 (11), 1497-1511 (1959).
- [12] Salber, E. J., et al., Cigarette Smoking among High-School Students Related to Social Class and Parental Smoking Habits, *American Journal of Public Health* 51 (12), 1780-9 (1961).
- [13] Grandjean, E., et al., Passivrauchen, *Bulletin der Schweizerischen Akademie der Medizinischen Wissenschaften* 35, 99-109 (1979).