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## **SOCIAL CLASS AND SMOKING AT AGE 15: THE EFFECT OF DIFFERENT DEFINITIONS OF SMOKING**

### **Abstract**

**Aim.** To explore whether the association between social class and smoking among teenagers varies according to the definition of smoking adopted. **Design, setting and participants.** A survey of 2,196 15-year olds in 43 secondary schools in the West of Scotland. **Measures.** Current smoking status and number of cigarettes smoked, and social class based on the occupation of the head of the household. **Findings.** 'Current smoker' was the only category not significantly differentiated by class; the ratio of smokers from unskilled compared with professional backgrounds rose with increasingly stringent definitions of smoking. **Conclusion.** The extent to which teenage smoking is patterned by social class depends on the definition of smoking adopted.

### **Introduction**

Despite the voluminous literature on teenage smoking, little information exists on its relationship with social class. Many studies, including the OPCS/ONS series on British secondary schoolchildren (Goddard & Higgins, 1999), do not collect relevant data for a variety of scientific and practical reasons. Furthermore, such evidence as exists is inconsistent, some studies reporting higher rates among lower class teenagers, while others find no relationship at all (Lloyd & Lucas, 1998). Among the former, Green et al (1991) found the prevalence of 'daily' smoking was twice as high in 15 year olds from manual compared with non-manual backgrounds; among the latter, Glendinning et al (1994) found similar rates among 16/18 year olds from different class backgrounds using the widely used OPCS (Goddard & Higgins, 1999) criterion of one cigarette per week to define 'regular' smoking.

This suggests that the definition of 'smoker' adopted in these studies is of crucial importance in explaining discrepancies in social class findings, and that varying definitions within the same study may produce differing associations with social class.

## Methods and Results

Data are from the second (1999) follow-up of the *West of Scotland 11 to 16 Study: Teenage Health*, a longitudinal school-based survey of health and health behaviours in a cohort resident in and around Glasgow (West & Sweeting, 1996; Ecob et al, 1996). At this stage 2,196 respondents (1116 males and 1080 females, average age 15 years 5 months) in 43 secondary schools, representing 85% of the baseline (age 11) and 79% of the original issued samples, took part. During classroom sessions, teenagers completed questionnaires and were briefly interviewed by nurses who also took physical measurements.

The questionnaire included the 'standard' OPCS/ONS (Goddard & Higgins, 1999) item on smoking status, 'Which best describes you now?' with the options 'never smoked' (33.2%), 'only tried smoking once' (28.9%), 'used to smoke but gave up' (12.4%), 'smoke occasionally (sometimes)' (3.6%) and 'smoke regularly (one or more cigarettes a week)' (21.9%). Current (occasional and regular) smokers were asked how many cigarettes they smoked per week on average, categorised for the purposes of the current analysis into 7 or more ('daily' - 17.6%), 35 or more (5 a day - 9.6%) and 70 or more (10 a day - 4.9%).

During their interview, nurses asked about current parental occupation. This method, which enables a degree of sensitive probing, has been found to provide reliable reports of parental occupation from this cohort even when they were as young as 11 (West, Sweeting & Speed, in press). At age 15, 15.1% of the sample did not have a parent figure in work, while for a further 3% occupational data were missing. In these cases, where detailed comparison of data from both time points showed no change in the head of the household (HoH) since the baseline (age 11) survey, information obtained at baseline (provided mainly by parents) relating either to current or (if not working) previous occupation, were used to supplement that provided by the 15 year olds themselves (resulting in only 7% missing data). This information was used to derive social class based on the occupation of the HoH, coded to the standard (1991) UK Registrar General's classification (social class I = 6.8%; II = 25.9%; III non-manual = 14.7%; III manual = 31.1%; IV = 13.8%; V = 7.7%).

Table 1 shows the relationship between increasingly stringent classifications of smoking status and social class. The distinction within the category 'ever smoked' is between class I and the rest, who all reported considerably higher rates. 'Current smoker' (occasional and regular) is the only category not significantly differentiated by class, using either the overall chi-square or trend tests. While the likelihood of regular (weekly) smoking shows a positive class gradient (increasing with declining social class), that of occasional (less than weekly) smoking shows the reverse. With increasingly stringent definitions (7, 35 or 70 cigarettes per week), the ratio of smokers from unskilled compared with professional backgrounds rises markedly.

### **Comment**

This analysis suggests that conclusions on whether smoking among teenagers is patterned by social class depend on the definition of smoking adopted. Studies which adopt a 'current' definition are least likely to show a positive gradient because the patterning of 'occasional' and 'regular' smoking run in opposite directions. While the use of 'current smoking' may be appropriate for certain analyses (e.g. of peer group influences on smoking), the results of the present study show that the heaviest smoking, with the most severe consequences for nicotine dependency and longer term health, is considerably more likely among teenagers in the lowest social classes.

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**Table 1: Varying definitions of smoking at age 15 – percentages according to social class.**

	<b>ever smoked</b>	<b>current smoker (occ/regular)</b>	<b>occasional smoker only</b>	<b>regular smoker (weekly)</b>	<b>daily smoker (7+ a week)</b>	<b>smoke 5+ a day (35+ a week)</b>	<b>smoke 10+ a day (70+ a week)</b>
I (professional backgrounds)	49.6	24.5	6.5	18.0	11.5	6.5	1.4
II	64.2	22.9	4.5	18.4	12.7	7.4	3.4
III Non-Manual	67.2	23.1	3.3	19.7	15.1	8.4	4.0
III Manual	67.0	25.2	2.9	22.3	19.0	9.4	5.1
IV	76.1	28.9	2.9	26.1	22.2	11.1	5.7
V (unskilled backgrounds)	65.4	27.6	1.9	25.6	21.9	12.9	7.7
<i>(Total)</i>	<i>(66.8)</i>	<i>(25.5)</i>	<i>(3.6)</i>	<i>(21.9)</i>	<i>(17.6)</i>	<i>(9.6)</i>	<i>(4.9)</i>
Chi-square (sig - d.f. = 5)	30.6 (.000)	4.7 (.453)	7.5 (.183)	10.0 (.076)	20.4 (.001)	7.3 (.199)	9.8 (.082)
Chi-square for trend (sig – d.f. = 1)	14.7 (.000)	3.2 (.073)	6.4 (.011)	9.2 (.002)	19.4 (.000)	7.0 (.008)	9.3 (.002)
ratio V : I	1.3	1.1	0.3	1.4	1.9	2.0	5.5