

# SMOKING: THE CHANGING HABITS OF MALE ADOLESCENTS A COMPARISON OF THREE GENERATIONS OF YOUNG SOLDIERS

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**SUMMARY:** The smoking habits of three generations of junior entrants to the Army, aged 15 to 18 years, have been examined by questionnaires in 1959, 1966 and 1971. An assessment has been made from these three comparable populations of adolescent males of changes in smoking habits over the 12-year period in question. The results indicate a slight increase in the proportion who have never tried smoking. Of those who have smoked, the age of starting fell between 1959 and 1966 but remained almost constant thereafter. There has been a decrease in prevalence, marked for all age groups except the 15-year olds, to a greater extent than that reported for the civilian community over the same period. None the less the prevalence of smoking among Army boys still remains much higher than that of their civilian counterparts. In terms of numbers smoked, but again with the exception of 15-year olds, there has been a significant diminution among the smokers, particularly marked between 1966 and 1971, of the proportion smoking more than 40 a week. This diminution is counter to the national tendency for young males.

## Introduction

It is an illuminating, albeit sad commentary on the British people's powers of self deception that there should have been no more than an evanescent and transitory response—in terms of smoking habits—to the two reports from the Royal College of Physicians (1962, 1971) on smoking and health. Despite these reports and the introduction of national anti-smoking campaigns (although the expenditure on the latter remains minuscule in comparison with that on smoking promotion) the consumption of tobacco products in the United Kingdom continues to rise. Propaganda aimed at stopping the young from starting is likely—if successful—to have a much more valuable long-term outcome than efforts to wean the adult addict from his psychological and pharmacological dependence. But to a considerable extent anti-smoking propaganda and campaigns are a waste of time unless the results achieved can be effectively measured and evaluated. Unfortunately there is little published information about changes over the years of smoking habits of the young. The Royal College of Physicians Report (1971) confessed that there was much uncertainty about the habit changes among boys and girls. Although there have been many careful studies of smoking habits, it is not easy to find where any similar populations have been studied over a space of years. Some

of the information to fill this lacuna of knowledge is supplied by the present research into the smoking habits of three successive generations of Army boys (or junior entrants as they are more properly called) between the ages of 15 and 18 years old. In all, 21,758 individuals have been questioned in the three surveys, which took place in 1959, 1966 and 1971. Reports on the first two have already been published (Richards and Crowdy 1961, Crowdy and Lewthwaite 1972). In this report the results of the third survey are presented, along with an overall assessment, covering the 12 years in question, of the changes and trends in the smoking habits of young soldiers.

### Conduct of surveys

The three surveys were undertaken by questionnaire. The form of the questionnaire, based on that used originally by a study group of the London School of Hygiene & Tropical Medicine (Chave and Schilling 1959), remained essentially unaltered—although some extra questions were added—for the three studies. The surveys were aimed to include all the boys, aged from 15 to 18 years, in the Army's junior units at the time. This population, which increased in size from 5,700 to 10,600 between 1959 and 1971, comes mainly from social classes 3, 4 and 5. In terms of education capability it is a heterogeneous group represented by a wide range of abilities, comparable with the present day comprehensive school. To avoid the possibility that untrue answers might be produced as the result of disciplinary pressure, particularly upon those under the age of 17 for whom smoking was officially forbidden, the educational officers, who administered the survey in the many units concerned, emphasised the confidential nature of the enquiry and demonstrated its efficacy by sealing the completed questionnaires into their return envelopes in the presence of the boys.

### Results

#### *The population studied*

Table I

Response pattern and age distribution

Generation	Total population	Accepted responses	Percentage distribution by age in years of those accepted			
			15 years	16 years	17 years	18 years
1959	5682	4052	19.1	37.5	33.9	9.5
1966	9699	8650	20.7	42.1	30.5	6.7
1971	10611	9056	25.0	47.7	24.3	3.0

Table I shows the total strengths of the junior units at the time of the surveys and the numbers of completed questionnaires accepted for analysis. The acceptance rate ranged from 71 per cent in 1959 to 89 per cent in 1966. Because of sickness, military exercises and other commitments complete coverage cannot be expected. The low figure for 1959 reflects the inexperience of the authors in not selecting a survey day which produced a greater proportion of the population in the classrooms where the questionnaires were administered. Table I also shows the distribution by age of those from whom responses were accepted. For all three generations the 16-year age group

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is the largest and the 18-year the smallest. Moreover there is a marked and progressive reduction in the proportion of the sample aged 18, whereas there is a complementary tendency for the later two surveys to contain more younger people—in 1971 73 per cent of the total were in the 15 and 16-year age group compared with only 57 per cent in 1959.

*Starting to smoke*

**Table II**  
**Non-smokers and age of first smoking**

Generation	Percentage never smoked	Percentage (of those who have smoked at some time) starting before the age of:				
		11 years	12 years	13 years	14 years	15 years
1959	9.5	23.9	32.6	46.1	62.4	80.6
1966	12.1	31.4	45.1	59.6	75.6	90.2
1971	13.5	32.1	45.1	60.0	75.3	89.9

Table II shows firstly the percentage of the total population who have never smoked and secondly, for those who have smoked at some time—the percentage starting before various ages. In this context and for all three surveys, smoking was defined as 'as little as one puff of a cigarette'. When enquiring into such factors, consideration must always be given to the possibility of 'memory effects', but in so far as comparisons between surveys are concerned, it is reasonable to suppose that any such effects would be similar on all three occasions.

In this and subsequent analyses, all tests of significance are at a 95 per cent level. The proportion of subjects who—at the time of survey—had never smoked has increased with successive generations, the change with time being significant in both cases. The contrast between 1959 and 1966 is the more marked. Among those who had started there is a noticeable and significant drop between 1959 and 1966 in the age at which individuals commenced. In contrast, between the 1966 and 1971 generations, the pattern of starting to smoke is remarkably similar.

*Current habits*

**Table III**  
**Percentage of each group who had smoked during the four weeks before the survey**

Generation	Proportion of smokers			
	Aged 15	Aged 16	Aged 17	Aged 18
1959	64.7	76.5	80.4	82.3
1966	63.9	68.8	72.1	67.5
1971	61.6	67.2	69.1	65.9

Table III shows the percentage of each age group in each generation who had smoked during the 4 weeks before the survey. This grouping, which includes experimenters and sporadic smokers, should not be confused with the category of regular smokers (5 or more cigarettes a week) described in earlier reports. The grouping is used here because it is thought likely to provide a more sensitive discrimination between the three generations of changed habits. The most noticeable feature is the decline in the proportion smoking that has occurred consistently, but much less markedly for the 15-year olds, between successive generations. Looking at the proportion of non-smokers—those who said they had not smoked in the 4 weeks before the survey—in the two largest groups, it is seen that the percentage of non-smoking 16-year olds has risen from 24 per cent to 33 per cent between 1959 and 1971 while that of the 17-year olds has increased from 20 per cent to 31 per cent over the same period. Both these increases are significant.

**Table IV**  
Cigarette smokers classified by the percentage smoking various amounts

Age (years)	Generation	Percentage of smokers smoking per week		
		Number of cigarettes		
		up to 19	20 to 39	40 plus
15	1959	57.3	25.3	17.4
	1966	49.1	26.8	24.1
	1971	41.0	23.9	35.1
16	1959	31.6	28.4	40.0
	1966	26.2	27.8	46.0
	1971	34.8	19.1	46.1
17	1959	19.1	22.4	58.5
	1966	16.1	20.1	63.8
	1971	28.4	17.3	54.3
18	1959	11.3	11.4	77.3
	1966	10.1	10.9	79.0
	1971	28.1	17.1	54.8

In Table IV are set out the proportions of cigarette smokers in terms of the number of cigarettes smoked each week. Between 1959 and 1966 there was a trend, significant for all age groups, towards heavier smoking. There was a fall in the percentage smoking less than 20 cigarettes per week and an increase in the percentage smoking more than 40 per week. Between 1966 and 1971 this tendency continued for the 15-year old boys only. The other three age groups showed a reversal of the trend; for those aged 17 and 18 the reversal is sufficiently sizeable for the proportion smoking more than 40 cigarettes per week to have fallen below the 1959 figure.

### Discussion

As already mentioned at the outset, one purpose of the present series of surveys was to detect and measure changes in the smoking habits of three successive generations of young soldiers, aged 15 to 18 years studied in 1959, 1966 and 1971, and to compare the changes with those found in their civilian counterparts of the same age. Although

Bewley, Day and Ide (1973) have recently reviewed the work published since 1959 on the prevalence of smoking among children, the studies reported indicate only point prevalence rates. Nowhere is there a review of comparable populations over a period of time. There is no doubt however that all the findings, whatever criterion of 'smoker' is adopted, report a much lower prevalence of smoking among male civilian adolescents than among the young soldiers of the same age. Those reported by Bewley and her colleagues (1973) are in broad agreement with the rates adduced by Todd (1972) for 16-year old boys, about half of whom had left school. He found that 36 per cent smoked at least one cigarette a week and 34 per cent at least one per day. The Army findings of the same age group in 1971 were 67 per cent smoking during the 4 weeks before the survey and 59 per cent smoking 5 or more cigarettes per week. Whatever criterion of smoker is adopted, and the similarity between Todd's one per week and one per day suggests that the precision of the criterion does not matter greatly, the difference between Army and civilian adolescent remains disappointingly large.

For the assessment of chronological trends the only civil groups with whom any comparison can be made are the young male adults aged 16 to 19 years reported by Todd (1972). The inclusion of the 19-year old age group detracts from the validity of the comparison, but his reported fall in smoking prevalence from 62 per cent in 1959 to 57 per cent in 1966 and to 55 per cent in 1971 is of the same order (although less marked) as the decrease for the 16 to 18-year old Army boys over the same period. The 15-year old Army group, for whom no civilian comparison is available, stand out for the relatively small decrease—3 per cent only—in prevalence. It is not easy to understand why boys in this youngest group, in the first year of their military life, have not followed the general pattern of their elders. When considered in terms of numbers smoked, the 15-year olds again display a similar non-conformist tendency. Smokers in the 16 to 18 age groups have demonstrated an impressive reduction in consumption between 1966 and 1971, as shown by the shift to the higher proportion smoking less than 20 a week. This reduction runs counter to the national tendency which has been towards heavier smoking by males aged 16 to 19, for whom Todd (1972) reported an increase from 86 to 117 cigarettes per week for the 12 years to 1971. The 15-year old smokers however have followed the national rather than the military trend, and have increased consumption consistently from 1959 to 1971. Again it is difficult to discern a reason for this difference from their elders. Were the prevalence rates not so much higher than for their civilian counterparts, it could be claimed that these boys were demonstrating habits inculcated before they joined the Army. But such an explanation can, at best, be only partially correct and there must, despite the encouraging trends displayed by the older age groups, be factors at work within the military environment which encourage these younger youths to smoke and to smoke more heavily.

Thus, in conclusion the changes over the 12 years can be assessed. There has been little change in the reported pattern of first starting; the great majority had started the habit before they joined the Army, but there has been a small but definite 4 per cent increase in the proportion of committed 'never ever' non-smokers. The prevalence of smoking is still appallingly high, but considering both the proportions smoking and the number of cigarettes smoked some consolation may be gained by the finding that, with the exception of the 15-year olds there has been a small but significant reduction in the number of cigarettes smoked by a significantly smaller proportion of smokers.

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Appointments to The Queen

**Major-General W. O'Brien, O.B.E., M.D., F.R.C.P.**, was appointed Honorary Physician to The Queen as from 30 January 1975, in succession to Major-General R. G. MacFarlane, M.B.E., M.D., F.R.C.P.(Ed.).

**Brigadier R. P. Bradshaw, M.R.C.S., L.R.C.P., F.R.C.Path., M.F.C.M., D.T.M.&H.**, was appointed Honorary Physician to The Queen as from 26 April 1975, in succession to Brigadier A. B. Dick, T.D., M.B., Ch.B., M.F.C.M., D.T.M.&H., M.B.I.M.

**Colonel F. L. Constable, T.D., M.D., F.R.C.Path., R.A.M.C., T.A.V.R.**, was appointed Honorary Physician to The Queen as from 21 March 1975, in succession to Colonel J. M. Hughes, T.D., M.B., F.R.C.P., D.P.M., R.A.M.C., T.A.V.R.

**Colonel D. N. Stewart, T.D., M.R.C.S., L.R.C.P., D.L.O., R.A.M.C., T.A.V.R.**, was appointed Honorary Surgeon to The Queen as from 21 March 1975, in succession to Colonel H. G. Brown, T.D., M.B., F.R.C.S., R.A.M.C., T.A.V.R.

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Honorary Consultants

*To the Army*

**Dr. J. V. G. A. Durnin, M.B., Ch.B., F.R.C.P.**, has been appointed Honorary Consultant to the Army in Physiology and Nutrition, with effect from 17 March 1975, in succession to Professor R. Passmore who has retired.

**Professor G. L. Slack, C.B.E., O.B.E., T.D., L.D.S., F.D.S., R.C.S., V.U.**, has been appointed Honorary Consultant in Dental Surgery to the Army, with effect from 30 March 1975, in succession to Mr. John H. Hovell who has retired.