prevalence rates for white-collar and blue-collar occupations. However, among women 45 to 64 years of age, smoking rates vary little by occupational group (with the single exception of managers and administrators), with white collar-workers, blue-collar workers, and homemakers all having approximately the same smoking prevalence.

Among men, a more detailed breakdown of smoking by occupation (Table 3) shows that painters, truck drivers, construction workers, carpenters, auto mechanics, and guards and watchmen have the highest rates of current smoking (among occupations having 100 or more cases in the 1978–1980 NHIS), each exceeding 50 percent. In contrast, electrical and electronic engineers, lawyers, and secondary school teachers have the lowest rates of current smoking, all under 25 percent.

Among women, waitresses have a noticeably higher rate of current smoking than other groups (Table 4), followed by cashiers, assemblers, nurses aides, machine operators, practical nurses, and packers and wrappers—all of whom have rates of current smoking that equal or surpass 40 percent. The lowest rates of smoking occur among women employed as elementary school teachers, food service workers, bank tellers, and sewers and stitchers.

Because of the exemplar role of physicians and nurses in regard to health, their smoking rates are of special interest. Although the sample is relatively small, physicians have among the lowest rates of current smoking (18.1 percent). Among nurses, the pattern of smoking reflects the white-collar-service worker distinction; registered nurses have among the lowest rates of current smoking, but practical nurses have among the highest rates (Table 4).

#### **Daily Cigarette Consumption**

For men, occupational differences in cigarette consumption do not follow the same patterns observed for prevalence. On the average, adult male white-collar smokers consume 24 cigarettes per day, essentially the same as the number of cigarettes consumed by blue-collar smokers (23.3) (Table 5). In virtually all occupational subgroups, adult men report an average daily consumption exceeding 20 cigarettes. Consumption levels are highest among managers and administrators and sales workers. These numbers represent daily cigarette consumption and need to be interpreted with some caution, as there may be a substantial underreporting of cigarette consumption, and the tendency to underreport may not be constant across occupational categories.

For women, no difference in consumption is found between white-collar and blue-collar smokers. On the average, white-collar female smokers consume 19.5 cigarettes per day, compared with 19.8

TABLE 3.—Specific occupations with highest and lowest estimates of current smoking, men, aged 20 to 64 years, United States, 1978-1980

| Occu | ipation   | Current smokers (percentage) |
|------|---|------------------------------|
| High | nest rates  |                              |
| 1.   | Painters, construction and maintenance (510)            | 55.1                         |
| 2.   | Truck drivers (715)                                     | 53.6                         |
| 3.   | Construction laborers, except carpenters' helpers (751) | 53.0                         |
| 4.   | Carpenters (415)  | 50.8                         |
| 5.   | Auto mechanics (473)                                    | 50.5                         |
| 6.   | Guards and watchmen (962)                               | 50.5                         |
| 7.   | Janitors and sextons (903)                              | 49.8                         |
| 8.   | Assemblers (602)  | 48.7                         |
| 9.   | Electricians (430)                                      | 48.3                         |
| 10.  | Sales representatives, wholesale trade (282)            | 48.1                         |
| Lowe | est rates   |                              |
| 1.   | Electrical and electronic engineers (012)               | 16.2                         |
| 2.   | Lawyers (031)   | 21.9                         |
| 3.   | Secondary school teachers (144)                         | 24.9                         |
| 4.   | Accountants (001)                                       | 26.8                         |
| 5.   | Real estate agents and brokers (270)                    | 27.8                         |
| 6.   | Farmers (801)   | 28.1                         |

NOTE: Adapted from Table 22 in Technical Addendum. Only those occupations with at least 100 men (aged 20 to 64) in the 1978-1980 NHIS are included. Numbers in parentheses denote code values from the U.S. Bureau of the Census 1970 classification of occupations.

SOURCE: National Center for Health Statistics, National Health Interview Surveys, 1978–1980 (combined). (See Technical Addendum.)

cigarettes for blue-collar smokers, 19.4 cigarettes for homemakers, and 19.0 cigarettes for service workers. Female smokers employed as managers or administrators or as craftsmen or kindred workers report the highest consumption levels, averaging more than 20 cigarettes per day; women employed in professional, technical, or kindred occupations report lower average daily consumption. However, like the men, these differences are not large, averaging fewer than two to four cigarettes per day.

The higher the average daily consumption of cigarettes within an occupational group, the more likely it is that this group will also contain a higher percentage of heavy smokers (more than 20 or more than 40 cigarettes a day). Overall, 72 percent of the male smokers employed in white-collar occupations reported smoking more than 20

TABLE 4.—Specific occupations with highest and lowest estimates of current smoking, women, aged 20 to 64 years, United States, 1978-1980

| Occu | pation   | Current smokers (percentage) |
|------|--|------------------------------|
| High | est rates  |                              |
| 1.   | Waitresses (915)   | 51.1                         |
| 2.   | Cashiers (310)   | 44.2                         |
| 3.   | Assemblers (602)   | 42.9                         |
| 4.   | Nurses aides, orderlies, and attendants (925)            | 41.0                         |
| 5.   | Machine operatives (690)                                 | 41.0                         |
| 6.   | Practical nurses (926)                                   | 40.3                         |
| 7.   | Packers and wrappers, excluding meat/produce (643)       | 40.0                         |
| 8.   | Checkers, examiners, and inspectors; manufacturing (610) | 39.3                         |
| 9.   | Managers and administrators n.e.c. (245)                 | 38.0                         |
| 10.  | Hairdressers and cosmetologists (944)                    | 37.5                         |
| Low  | est rates  |                              |
| 1.   | Elementary school teachers (142)                         | 19.8                         |
| 2.   | Food service workers (916)                               | 24.6                         |
| 3.   | Secondary school teachers (144)                          | 24.8                         |
| 4.   | Bank tellers (301)                                       | 25.7                         |
| 5.   | Sewers and stitchers (663)                               | 25.8                         |
| 6.   | Registered nurses (075)                                  | 27.2                         |
| 7.   | Child care workers, excluding private households (942)   | 28.9                         |

NOTE: Adapted from Table 22 in Technical Addendum. Only those occupations with at least 100 women (aged 20 to 64) in the 1978-1980 NHIS are included. Numbers in parentheses denote code values from the U.S. Bureau of the Census 1970 classification of occupations.

SOURCE National Center for Health Statistics, National Health Interview Surveys, 1978–1980 (combined). See Technical Addendum.

cigarettes a day, and over 21 percent reported smoking 40 or more cigarettes a day (Table 6). Comparable figures for blue-collar smokers are 72 percent and 18 percent, respectively.

Among adult women (Table 7), the percentage of heavy smokers is generally lower than for men, with women employed as craftsmen or kindred workers reporting higher percentages of heavy smoking than other female occupational groups. The pattern for homemakers closely parallels that of white-collar workers, but service workers have slightly lower rates of heavy smoking than white-collar workers. For both men and women, and across virtually all occupational groups, smokers 45 years of age or older are more likely

Not elsewhere classified

TABLE 5.—Estimates of average daily cigarette consumption among current smokers by sex, age, and occupation, aged 20 to 64 years, United States, 1978–1980

|  |       | Women |       |       | Men   |       |  |
|--|-------|-------|-------|-------|-------|-------|--|
| Occupation   | Total | 20-44 | 45-64 | Total | 20–44 | 45-64 |  |
| Total  | 19.3  | 19.1  | 19.8  | 23.2  | 22.2  | 25.1  |  |
| Currently employed                                 | 19.2  | 19.0  | 19.8  | 23.4  | 22.4  | 25.6  |  |
| White-collar total                                 | 19.5  | 19.1  | 20.4  | 24.0  | 22.6  | 26.9  |  |
| Professional,<br>technical, and<br>kindred workers | 18.3  | 17.9  | 19.3  | 21.5  | 19.8  | 25.4  |  |
| Managers and administrators, except farm           | 21.1  | 20.6  | 22.0  | 26.2  | 25.2  | 28.1  |  |
| Sales workers                                      | 19.1  | 18.0  | 21.0  | 25.1  | 22.7  | 30.3  |  |
| Clerical and<br>kindred workers                    | 19.6  | 19.4  | 20.1  | 22.3  | 21.8  | 23.2  |  |
| Blue-collar total                                  | 19.8  | 19.9  | 19.4  | 23.3  | 22.6  | 25.1  |  |
| Craftsmen and kindred workers                      | 22.4  | 22.3  | 22.5  | 24.4  | 23.7  | 26.1  |  |
| Operatives and kindred workers                     | 19.2  | 19.5  | 18.4  | 22.4  | 21.7  | 24.2  |  |
| Laborers, except farm                              | 18.9  | 18.1  | 25.6  | 21.5  | 20.9  | 23.6  |  |
| Service  | 19.0  | 19.0  | 18.9  | 21.5  | 19.9  | 24.7  |  |
| Farm   | 18.0  | 18.0  | 18.0  | 20.9  | 20.2  | 21.7  |  |
| Unemployed   | 21.2  | 21.2  | 21.3  | 21.5  | 20.1  | 26.0  |  |
| Usual activity,<br>homemaking                      | 19.4  | 19.4  | 19.4  |       | -     |       |  |

SOURCE: National Center for Health Statistics, National Health Interview Surveys, 1978–1980 (combined). See Technical Addendum.)

to report a higher percentage of heavy smokers than their 20- to 44-year-old counterparts.

# Age of Initiation

Men employed as blue-collar workers initiate smoking approximately 14 months earlier, on the average, than men employed in white-collar occupations (Table 8). The earliest ages of initiation are

TABLE 6.—Estimates of the percentage of current smokers who smoke more than 20 or more than 40 cigarettes daily, by age and occupation, men, aged 20 to 64 years, United States, 1978–1980

|  | То   | tal  | 20     | 44     | 45–6   | 64   |
|--|------|------|--------|--------|--------|------|
| Occupation   | ≥ 20 | ≥ 40 | ≥ 20   | ≥ 40   | ≥ 20   | ≥ 40 |
| Total  | 70.6 | 18.8 | 68.5   | 15.7   | 74.8   | 24.5 |
| Currently employed                                 | 71.4 | 19.1 | 69.3   | 16.1   | 76.0   | 25.7 |
| White-collar total                                 | 72.1 | 21.1 | 69.5   | 16.9   | 77.6   | 29.5 |
| Professional,<br>technical, and<br>kindred workers | 66.5 | 17.3 | 61.9   | 12.9   | 76.7   | 26.8 |
| Managers and administrators, except farm           | 79.1 | 24.5 | 77.7   | 20.0   | 81.6   | 33.3 |
| Sales workers                                      | 74.2 | 23.7 | 70.0   | 17.8   | 83.0   | 36.1 |
| Clerical and<br>kindred workers                    | 64.2 | 17.2 | 64.1   | 16.2   | 64.6   | 19.0 |
| Blue-collar total                                  | 71.8 | 18.3 | 70.1   | 16.1   | 76.3   | 24.1 |
| Craftsmen and<br>kindred workers                   | 75.3 | 21.2 | 73.6   | 18.7   | 79.6   | 27.2 |
| Operatives and kindred workers                     | 69.4 | 15.6 | 68.3   | 13.5   | 72.1   | 21.4 |
| Laborers, except farm                              | 65.7 | 15.1 | 63.1   | 14.2   | 74.6   | 17.9 |
| Service  | 66.6 | 16.0 | 63.0   | 11.5   | 73.6   | 24.7 |
| Farm   | 62.1 | 16.5 | 56.3 * | 16.6 • | 68.0 * | 16.4 |
| Unemployed   | 65.9 | 16.3 | 61.3   | 12.9   | 81.1 * | 27.6 |
| Usual activity,<br>homemaking                      | -    | _    | _      | _      | _      | _    |

<sup>\* &</sup>lt; 100 cases in the denominator (unweighted sample).

SOURCE: National Center for Health Statistics, National Health Interview Surveys, 1978-1980 (combined). See Technical Addendum.)

reported by men employed as laborers (16.5 years), operatives or kindred workers (16.6 years), or craftsmen or kindred workers (16.8 years). Men employed in professional, technical, or kindred occupations, or as managers or administrators, sales workers, or clerical or kindred workers report later onset of smoking, ranging between 17.7 and 18.1 years of age.

For women, blue-collar and service workers report a somewhat earlier onset of smoking than white-collar workers or homemakers

TABLE 7.—Estimates of the percentage of current smokers who smoke more than 20 or more than 40 cigarettes daily, by age and occupation, women, aged 20 to 64 years, United States, 1978–1980

|  | Total  |       | 20-    | 44     | 45-6          | 34     |
|--|--------|-------|--------|--------|---------------|--------|
| Occupation   | ≥ 20   | ≥ 40  | ≥ 20   | ≥ 40   | ≥ 20          | ≥ 40   |
| Total  | 58.6   | 11.4  | 57.1   | 10.8   | 61.3          | 12.4   |
| Currently employed                                 | 58.5   | 11.3  | 57.2   | 10.9   | 61.7          | 12.3   |
| White-collar total                                 | 59.4   | 11.8  | 57.8   | 11.0   | 63.2          | 13.8   |
| Professional,<br>technical, and<br>kindred workers | 52.8   | 10.8  | 52.0   | 9.8    | 55.0          | 13.8   |
| Managers and administrators, except farm           | 63.4   | 15.6  | 59.0   | 14.6   | 71.8          | 17.5   |
| Sales workers                                      | 56.8   | 9.9   | 55.0   | 6.5    | 59.9 *        | 16.0 * |
| Clerical and<br>kindred workers                    | 61.6   | 11.5  | 60.6   | 11.3   | 64.3          | 12.0   |
| Blue-collar total                                  | 62.0   | 11.2  | 61.2   | 11.5   | 64.0          | 10.6   |
| Craftsmen and<br>kindred workers                   | 70.0   | 18.2  | 67.4 ° | 18.2 ° | 75.5 <b>*</b> | 18.1*  |
| Operatives and kindred workers                     | 60.4   | 9.9   | 60.3   | 10.5   | 60.7          | 8.4    |
| Laborers, except farm                              | 56.7 ° | 6.0 ° | 55.2 ° | 5.0 *  | 70.9 *        | 15.6 ° |
| Service  | 54.6   | 11.6  | 53.6   | 11.9   | 57.1          | 11.0   |
| Farm   | 65.4 ° | 4.9 * | 63.5 * | 5.5 *  | 80.2*         | 0.0*   |
| Unemployed   | 62.1   | 14.8  | 61.7   | 14.4   | 64.4 *        | 17.0*  |
| Usual activity,<br>homemaking                      | 59.1   | 11.3  | 58.4   | 10.9   | 60.0          | 11.8   |

 $<sup>^{</sup>ullet}$  < 100 cases in the denominator (unweighted sample).

(about 6 months). The earliest age of initiation occurs among women employed as laborers (17.4 years of age) or operatives or kindred workers (18.5 years of age), and the latest age of initiation occurs among women employed in professional, technical, or kindred occupations (19.4 years of age). Across all occupational categories, men report an earlier age of initiation than women; this difference is most pronounced within the 45 to 64 age group.

SOURCE: National Center for Health Statistics, National Health Interview Surveys, 1978–1980 (combined). (See Technical Addendum.)

TABLE 8.—Estimates of average age of initiation of smoking among current and former smokers by sex, age, and occupation, aged 20 to 64 years, United States, 1978–1980

|  |       | Women |       | Men   |       |       |  |
|--|-------|-------|-------|-------|-------|-------|--|
| Occupation   | Total | 20-44 | 45-64 | Total | 20-44 | 45–64 |  |
| Total  | 19.1  | 18.0  | 21.2  | 17.2  | 16.9  | 17.6  |  |
| Currently employed                                 | 19.0  | 18.1  | 21.0  | 17.3  | 17.0  | 17.7  |  |
| White-collar total                                 | 19.1  | 18.4  | 20.9  | 17.9  | 17.6  | 18.3  |  |
| Professional,<br>technical, and<br>kindred workers | 19.4  | 18.8  | 21.2  | 18.1  | 17.7  | 18.7  |  |
| Managers and administrators, except farm           | 18.9  | 18.1  | 20.7  | 17.8  | 17.6  | 18.0  |  |
| Sales workers                                      | 19.2  | 18.0  | 21.2  | 17.8  | 17.5  | 18.4  |  |
| Clerical and<br>kindred workers                    | 19.0  | 18.2  | 20.9  | 17.7  | 17.3  | 18.3  |  |
| Blue-collar total                                  | 18.6  | 17.4  | 21.3  | 16.7  | 16.5  | 17.1  |  |
| Craftsmen and kindred workers                      | 19.2  | 17.6  | 22.9  | 16.8  | 16.5  | 17.3  |  |
| Operatives and kindred workers                     | 18.5  | 17.4  | 21.1  | 16.6  | 16.4  | 17.1  |  |
| Laborers, except farm                              | 17.4  | 17.6  | 16.5  | 16.5  | 16.4  | 16.6  |  |
| Service  | 18.8  | 17.7  | 21.4  | 17.2  | 16.9  | 17.9  |  |
| Farm   | 18.4  | 18.4  | 18.4  | 17.0  | 16.4  | 17.5  |  |
| Unemployed   | 18.2  | 17.5  | 21.1  | 16.9  | 16.4  | 18.2  |  |
| Usual activity, homemaking                         | 19.3  | 17.8  | 21.3  | _     | _     | _     |  |

SOURCE: National Center for Health Statistics, National Health Interview Surveys, 1978–1980 (combined). (See Technical Addendum.)

An important inference of the age of initiation reported in Table 8 is that a substantial fraction of smokers report beginning to smoke at ages when they would be first entering the workforce. This suggests that a set of influences that promote initiation may be present in the initial socialization into the workforce.

#### **Quitting Behavior**

Because cigarette smoking usually begins between the ages of 12 and 25 (US DHEW 1979; US PHS 1973, 1976) the prevalence of smoking among people 25 years of age or older is determined in large part by the rate at which they stop smoking (or die). The percentage of former smokers (as a portion of "ever smoked") by occupational group is reported in Table 9. For men, relatively higher percentages of former smokers are found among professional, technical, and kindred workers (55.2 percent) and managers and administrators (47.7 percent)—the same occupational groups reporting lower rates of current smoking (Table 2). The striking feature for women is the uniformly lower percentage of former smokers when compared with men. However, even here the same general pattern can be found; occupations that have lower rates of current smoking also tend to have a higher percentage of former smokers. In general, there are substantial differences by occupational category, with white-collar workers of both sexes having a higher percentage of former smokers than blue-collar workers. This white-collar-blue-collar difference is most pronounced among men. Among women, homemakers tend to mirror the pattern of white-collar women.

It does not appear that the lower percentage of former smokers in blue-collar occupations occurs simply because blue-collar workers are less likely than white-collar workers to attempt to quit. Among men, white-collar current smokers are more likely to report "a serious attempt" to quit smoking (Table 10), but these differences are typically only half as large as the white-collar-blue-collar differences in the proportion of former smokers. Among women, the white-collar-blue-collar differences are relatively small and show a mixed pattern.

# Recent Changes in Smoking Behavior

A comparison of smoking estimates for the period 1970–1980 reveals several interesting changes by occupational group and sex (Table 11). Among men, there was a 19 percent proportionate decline in smoking prevalence between 1970 and 1980 for white-collar workers (40.8 vs. 33.0 percent), compared with a 14 percent decline for blue-collar workers (55.0 vs. 47.1 percent). Occupations with the largest decline in male smoking include professional, technical, and kindred occupations (21 percent decline) and farm workers (20.7 percent decline); the unemployed (3.6 percent) and service workers (10.9 percent) had the smallest proportionate declines in smoking prevalence.

Among white-collar women, there was a proportionate reduction in smoking prevalence of 11.6 percent between 1970 and 1980 (36.1

TABLE 9.—Estimates of the percentage of former smokers by sex, age, and occupation, aged 20 to 64 years, United States, 1978-1980

|  |        | Women  |        |       | Men   |       |  |  |
|--|--------|--------|--------|-------|-------|-------|--|--|
| Occupation   | Total  | 20-44  | 45-64  | Total | 20-44 | 45–64 |  |  |
| Total  | 33.2   | 30.2   | 35.7   | 40.0  | 34.2  | 48.7  |  |  |
| Currently employed                                 | 31.4   | 30.1   | 34.2   | 40.8  | 35.1  | 50.5  |  |  |
| White-collar total                                 | 33.8   | 32.7   | 36.4   | 48.1  | 42.7  | 56.4  |  |  |
| Professional,<br>technical, and<br>kindred workers | 41.1   | 40.1   | 43.8   | 55.2  | 51.8  | 61.3  |  |  |
| Managers and administrators, except farm           | 30.2   | 30.9   | 28.6   | 47.7  | 39.9  | 57.9  |  |  |
| Sales workers                                      | 32.0   | 30.9   | 34.1   | 39.1  | 32.8  | 49.1  |  |  |
| Clerical and<br>kindred workers                    | 31.3   | 29.4   | 35.9   | 40.9  | 36.4  | 47.8  |  |  |
| Blue-collar total                                  | 24.9   | 22.8   | 29.8   | 34.8  | 29.5  | 45.4  |  |  |
| Craftsmen and<br>kindred workers                   | 23.8   | 24.9   | 21.4 * | 36.7  | 31.1  | 46.8  |  |  |
| Operatives and kindred workers                     | 24.6   | 21.8   | 30.9   | 33.8  | 28.8  | 44.1  |  |  |
| Laborers, except farm                              | 30.7 * | 27.0 * | 53.5 * | 29.7  | 25.0  | 41.9  |  |  |
| Service  | 26.2   | 24.2   | 62.2   | 32.0  | 27.0  | 40.0  |  |  |
| Farm   | 32.5 ° | 25.0 * | 30.5 * | 45.7  | 38.3  | 51.5  |  |  |
| Unemployed   | 25.7   | 22.7   | 39.7   | 30.0  | 26.0  | 40.6  |  |  |
| Usual activity,<br>homemaking                      | 33.5   | 30.9   | 37.2   | _     |       | _     |  |  |

<sup>\* 100</sup> cases in the denominator (unweighted sample)

vs. 31.9 percent), but blue-collar women showed virtually no change in smoking prevalance (1.0 percent proportionate increase).

The greater rate of decline in smoking prevalence for men has produced two fundamental changes in the occupational smoking patterns in this country. In 1970, men employed in professional, technical, or kindred occupations or as managers or administrators had a higher rate of smoking than their female counterparts. By the end of the decade, this pattern had been reversed; a slightly higher percentage of women in these two occupational groups now smoke

SOURCE. National Center for Health Statistics, National Health Interview Surveys, 1978-1980 (combined). See Technical Addendum.)

TABLE 10.—Estimates of the percentage of current smokers who have ever seriously attempted to quit by sex, age, and occupation, aged 20 to 64 years, United States, 1978–1980

|  | Women  |               |               | Men   |        |        |  |
|--|--------|---------------|---------------|-------|--------|--------|--|
| Occupation   | Total  | 20-44         | 45–64         | Total | 20-44  | 45–64  |  |
| Total  | 59.3   | 60.6          | 56.8          | 60.2  | 59.1   | 62.4   |  |
| Currently employed                                 | 58.4   | 60.3          | 54.1          | 60.1  | 59.2   | 62.0   |  |
| White-collar total                                 | 59.7   | 61.7          | 54.8          | 63.6  | 62.7   | 65.3   |  |
| Professional,<br>technical, and<br>kindred workers | 62.2   | 62.2          | 62.1          | 68.8  | 66.6   | 73.8   |  |
| Managers and administrators, except farm           | 61.0   | 64.4          | <b>54</b> .8  | 60.2  | 59.5   | 61.5   |  |
| Sales workers                                      | 59.3   | 63.4          | 52.0          | 60.9  | 59.2   | 64.5   |  |
| Clerical and<br>kindred workers                    | 58.3   | 60.6          | 52.5          | 64.8  | 66.6   | 61.3   |  |
| Blue-collar total                                  | 58.7   | 58.8          | 58.4          | 58.6  | 57.7   | 61.0   |  |
| Craftsmen and kindred workers                      | 57.1   | 52.2 <b>*</b> | 67.9 <b>*</b> | 59.4  | 58.9   | 60.7   |  |
| Operatives and kindred workers                     | 58.8   | 60.1          | 55.6          | 57.9  | 56.7   | 61.1   |  |
| Laborers, except farm                              | 62.6 * | 61.9 *        | 68.9 *        | 57.4  | 56.0   | 62.2   |  |
| Service  | 57.4   | 58.9          | <b>54</b> .0  | 55.1  | 53.7   | 57.9   |  |
| Farm   | 77.5 * | 77.3*         | 78.9*         | 61.0  | 61.3 * | 60.7 * |  |
| Unemployed   | 66.4   | 64.9          | 74.8 *        | 60.9  | 58.5   | 69.1 * |  |
| Usual activity,<br>homemaking                      | 60.8   | 60.9          | 60.7          | _     | _      | _      |  |

 $<sup>^{*}</sup>$  < 100 cases in the denominator (unweighted sample).

cigarettes. If the previous 10-year trends prevail, by the end of this decade women are likely to reach parity with men in the prevalence of smoking among blue-collar workers (as an aggregate) and clerical and kindred workers, and to surpass men in smoking prevalence in two additional occupational categories: craftsmen and kindred workers and laborers.

As is shown in Table 12, only one specific occupational group for men showed a net gain in smoking prevalence between 1970 and

SOURCE: National Center for Health Statistics, National Health Interview Surveys, 1978–1980 (combined). (See Technical Addendum.)

TABLE 11.—Estimates of the percentage of current smokers by sex and occupation, aged 20 to 64 years, United States, 1970-1980

|  | 19   | 70    | 1978–1980 |      | Net change |      |
|--|------|-------|-----------|------|------------|------|
| Occupation   | М    | w     | М         | W    | М          | W    |
| Total  | 48.1 | 36.0  | 40.9      | 33.2 | -7.2       | -2.8 |
| Currently employed                                 | 47.9 | 36.5  | 39.9      | 33.3 | -8.0       | -3.2 |
| White-collar total                                 | 40.8 | 36.1  | 33.0      | 31.9 | -7.8       | -4.2 |
| Professional,<br>technical, and<br>kindred workers | 32.5 | 29.0  | 25.7      | 26.5 | -6.8       | -2.5 |
| Managers and administrators, except farm           | 44.3 | 42.8  | 36.3      | 38.3 | -8.0       | -4.5 |
| Sales workers                                      | 48.5 | 37.8  | 40.6      | 33.3 | -7.9       | -4.5 |
| Clerical and<br>kindred workers                    | 45.4 | 37.9  | 37.7      | 33.2 | -7.7       | -4.7 |
| Blue-collar total                                  | 55.0 | 37.7  | 47.1      | 38.1 | -7.9       | +0.4 |
| Craftsmen and kindred workers                      | 53.2 | 40.1  | 46.1      | 44.6 | -7.1       | +4.5 |
| Operatives and kindred workers                     | 56.4 | 37.7  | 48.6      | 37.0 | -7.8       | -0.7 |
| Laborers, except farm                              | 57.2 | 28.2* | 46.8      | 36.2 | -10.4      | +8.0 |
| Service  | 53.3 | 39.4  | 47.5      | 37.4 | -5.8       | -2.0 |
| Farm   | 39.7 | 20.8  | 31.5      | 22.6 | -8.2       | +1.8 |
| Unemployed   | 55.9 | 42.3  | 53.9      | 39.6 | -2.0       | -2.7 |
| Usual activity,<br>homemaking                      | _    | 35.3  | _         | 33.0 | _          | -2.3 |

<sup>. 100</sup> cases in the denominator (unweighted sample).

SOURCE. National Center for Health Statistics, National Health Interview Surveys, 1970 and 1978–1980 (combined). (See Technical Addendum.)

1980 (i.e., electricians), but painters, farm laborers, stock clerks and storekeepers, and deliverymen and routemen had net reductions in excess of 10 percentage points. Among women (Table 13), three occupational groups showed a net increase in smoking prevalence between 1970 and 1980 (practical nurses, cashiers, and packers and wrappers), but relatively large net declines in smoking prevalence occurred among receptionists, waitresses, bank tellers, secretaries, and hairdressers and cosmetologists.

TABLE 12.—Specific occupations with largest estimated net changes in smoking prevalence between 1970 and 1980, men, aged 20 to 64 years, United States

| Occ               | upation   | Net change (1970-1980<br>in current smoking |  |  |  |  |  |
|-------------------|---|---|--|--|--|--|--|
| Largest net gains |   |   |  |  |  |  |  |
| 1.                | Electricians (430)/(421)  | + 3.9                                       |  |  |  |  |  |
| Lar               | gest net reductions   |   |  |  |  |  |  |
| 1.                | Painters, construction and maintenance (510)/(495)                | -17.1                                       |  |  |  |  |  |
| 2.                | Farm laborers, wage workers (822)/(902)                           | -14.5                                       |  |  |  |  |  |
| 3.                | Stockclerks and storekeepers (381)/(350)                          | -12.0                                       |  |  |  |  |  |
| 4.                | Deliverymen and routemen (705)/(650)                              | -11.6                                       |  |  |  |  |  |
| 5.                | Foremen n.e.c. (441)/(430)  | -8.9  |  |  |  |  |  |
| 6.                | Machinists (461)/(465)  | -8.7  |  |  |  |  |  |
| 7.                | Checkers, examiners, and inspectors;<br>manufacturing (610)/(643) | -8.7  |  |  |  |  |  |
| 8.                | Managers and administrators n.e.c. 1 (245)/(290)                  | -8.1  |  |  |  |  |  |
| 9.                | Assemblers (602)/(631)  | -7.0  |  |  |  |  |  |
| 10.               | Accountants (001)/(000)   | -6.8  |  |  |  |  |  |

NOTE: Adapted from Table 23 in Technical Addendum. Only those occupations with at least 100 men (aged 20 to 64) in the 1978–1980 NHIS are included. Numbers in parentheses represent the occupational codes used in the 1970–1980 HIS and the 1970 HIS.

SOURCE: National Center for Health Statistics, National Health Interview Surveys, 1970 and 1978-1980 (combined). (See Technical Addendum.)

The 10-year changes in daily consumption patterns show that among white-collar men, there was a 1.8 percent proportionate increase in the percentage of smokers who averaged 20 or more cigarettes a day, compared with a 3.3 percent increase for blue-collar men (Table 14). Professional, technical, and kindred workers, clerical and kindred workers, and the unemployed showed a net decrease in the percentage of smokers of 20 or more cigarettes a day. The overall pattern is one of modest differences.

For women, the proportionate increase in number of smokers of 20 or more cigarettes a day was 7.4 percent for white-collar workers (55.3 vs. 59.4 percent) and 4.8 percent for homemakers (56.4 vs. 59.1 percent). Service workers showed virtually no change between 1970 and 1980. Among blue-collar women however, the proportionate increase in smokers of 20 or more cigarettes a day was a much larger 20.4 percent (51.5 vs. 62.0 percent). High proportionate increases in 20-plus smokers occurred among women employed as operatives or

<sup>&</sup>lt;sup>1</sup> Not elsewhere classified.

TABLE 13.—Specific occupations with largest estimated net changes in smoking prevalence between 1970 and 1980, women, aged 20 to 64 years, United States

| Occu | pation  | Net change (1970–1980<br>in current smoking |
|------|---|---|
| Larg | est net gains   |   |
| 1.   | Practical nurses (926)/(842)                              | + 4.3                                       |
| 2.   | Cashiers (310)/(312)                                      | +3.7  |
| 3.   | Packers and wrappers, except meat and produce (643)/(693) | +2.6  |
| Larg | rest net reductions                                       |   |
| 1.   | Receptionists (364)/(341)                                 | -10.6                                       |
| 2.   | Waitresses (915)/(875)                                    | -9.0  |
| 3.   | Bank tellers (301)/(305)                                  | -9.0  |
| 4.   | Secretaries n.e.c. (372)/(342)                            | -8.1  |
| 5.   | Hairdressers and cosmetologists (944)/(843)               | -7.4  |
| 6.   | Cooks, except private household (912)/(825)               | -5.5  |
| 7.   | Typists (391)/(360)                                       | -4.9  |
| 8.   | Managers and administrators n.e.c. (245)/(290)            | -4.2  |
| 9.   | Bookkeepers (305)/(310)                                   | -4.2  |

NOTE. Adapted from Table 23 in Technical Addendum. Only those occupations with at least 100 women (aged 20 to 64) in the 1978-1980 NHIS are included. Numbers in parentheses represent the occupational codes used in the 1970-1980 HIS and the 1970 HIS.

SOURCE: National Center for Health Statistics, National Health Interview Surveys, 1970 and 1978-1980 (combined). (See Technical Addendum.)

kindred workers (37.8 percent) or craftsmen or kindred workers (33.2 percent). If these 10-year trends continue, by the end of this decade female blue-collar smokers may surpass their male counterparts in the percentage classified as moderate to heavy smokers (i.e., smoking more than 20 cigarettes a day).

Among men, the net change in smokers averaging more than 40 cigarettes a day generally parallels that of 20-plus smokers (Table 15). Only the unemployed show a net decrease in the percentage of current smokers averaging 40 or more cigarettes a day. Among women, the net changes in heavy smoking between 1970 and 1980 are relatively modest.

## **Birth Cohorts**

Although there has been a 10-year decline in smoking prevalence for male blue-collar and white-collar workers and for female white-

Not elsewhere classified.

TABLE 14.—Estimates of percentage of current smokers who smoke 20 or more cigarettes daily, by sex and occupation, aged 20 to 64 years, United States, 1970-1980

|  | 1970         |        | 1978 | <b>⊢</b> 1980 | Net change |        |
|--|--------------|--------|------|---------------|------------|--------|
| Occupation   | М            | w      | М    | W             | М          | w      |
| Total  | 68.5         | 55.1   | 70.6 | 58.6          | + 2.1      | + 3.5  |
| Currently employed                                 | 69.5         | 54.4   | 71.4 | 58.5          | +1.9       | +4.1   |
| White-collar total                                 | 70.9         | 55.3   | 72.2 | 59.4          | + 1.3      | +4.1   |
| Professional,<br>technical, and<br>kindred workers | 69.0         | 47.5   | 66.5 | 52.8          | -2.5       | + 5.3  |
| Managers and<br>administrators,<br>except farm     | 75.5         | 58.1   | 79.1 | 63.4          | +3.6       | +5.3   |
| Sales workers                                      | 69.8         | 52.2   | 74.2 | 56.8          | +4.4       | +4.6   |
| Clerical and<br>kindred workers                    | <b>66</b> .0 | 58.2   | 64.2 | 61.6          | -1.8       | + 3.4  |
| Blue-collar total                                  | 69.5         | 51.5   | 71.8 | 62.0          | +2.3       | +10.5  |
| Craftsmen and<br>kindred workers                   | 72.0         | 52.7 * | 75.3 | 70.0          | + 3.3      | + 17.3 |
| Operatives and kindred workers                     | 68.3         | 51.1   | 69.4 | 60.4          | +1.1       | +19.3  |
| Laborers, except farm                              | 64.2         | 66.6 * | 65.7 | 56.7 °        | +1.5       | -9.9   |
| ervice   | 65.2         | 53.2   | 66.6 | 54.6          | +1.4       | + 1.4  |
| `arm   | 60.5         | 50.1 * | 62.1 | 64.4 *        | +1.6       | + 15.3 |
| Inemployed   | 67.5         | 49.7   | 65.9 | 62.1          | -1.6       | +12.4  |
| Jsual activity,<br>homemaking                      | _            | 56.4   | _    | 59.1          |            | + 2.7  |

collar workers, service workers, and homemakers, this does not necessarily indicate that rates of lung cancer (and other cigarettelinked diseases) will decline in the near future. What transpires during the next 10 to 20 years with regard to lung cancer incidence and mortality will be determined by those birth cohorts now entering the ages at which substantial numbers of lung cancer deaths occur. Figures 1 through 6, based on data from the combined 1978-1980 NHIS, present the prevalence of smoking among succes-

<sup>\* &</sup>lt; 100 cases in the denominator (unweighted sample). SOURCE: National Center for Health Statistics, National Health Interview Surveys, 1978–1980 (combined). (See Technical Addendum.)

TABLE 15.—Estimates of percentage of current smokers who smoke 40 or more cigarettes daily, by sex and occupation, aged 20 to 64 years, United States, 1970-1980

| Occupation   | 1970 |        | 1978-1980 |       | Net change |       |
|--|------|--------|-----------|-------|------------|-------|
|  | M    | W      | M         | w     | М          | w     |
| [otal  | 15.7 | 8.0    | 18.8      | 11.4  | +3.1       | + 3.4 |
| Currently employed                                 | 15.9 | 7.8    | 19.1      | 11.3  | + 3.2      | +3.0  |
| White-collar total                                 | 18.4 | 8.1    | 21.1      | 11.8  | +2.8       | +3.7  |
| Professional,<br>technical, and<br>kindred workers | 14.9 | 4.9    | 17.3      | 10.8  | +2.4       | + 5.9 |
| Managers and administrators, except farm           | 22.8 | 9.8    | 24.5      | 15.6  | +1.7       | + 5.8 |
| Sales workers                                      | 18.4 | 7.2    | 23.7      | 9.9   | + 5.3      | +2.7  |
| Clerical and<br>kindred workers                    | 15.0 | 9.2    | 17.2      | 11.5  | + 2.2      | +2.3  |
| Blue-collar total                                  | 15.0 | 7.0    | 18.3      | 11.2  | +3.3       | +4.2  |
| Craftsmen and kindred workers                      | 16.1 | 9.6*   | 21.2      | 18.2  | +5.1       | +8.€  |
| Operatives and kindred workers                     | 14.8 | 6.6    | 15.6      | 9.0   | +0.8       | +2.4  |
| Laborers, except farm                              | 11.8 | 10.1 * | 15.1      | 6.0 ° | +3.3       | -4.   |
| Service  | 14.5 | 8.5    | 16.0      | 11.6  | +1.5       | +3.   |
| Farm   | 10.3 | 10.1 * | 16.5      | 4.9 * | +6.2       | -5.   |
| Unemployed   | 18.4 | 10.9   | 16.3      | 14.8  | -2.1       | +3.   |
| Usual activity,                                    |      | 8.1    | _         | 11.3  | _          | + 3.  |

<sup>\* &</sup>lt; 100 cases in the denominator (unweighted sample).

SOURCE. National Center for Health Statistics, National Health Interview Surveys, 1970 and 1978-1980 (combined), (See Technical Addendum.)

sive cohorts born during each decade of the first half of this century. The prevalence of smoking for each cohort is presented from 1900 to 1978 for men and women and for whites and blacks of both sexes. Men who are 50 to 60 years of age, the 1921-1930 birth cohort, are at the age at which the incidence of lung cancer increases rapidly.

Among white-collar workers (Figure 7), this cohort of men is currently smoking at a higher rate than the cohort they are replacing (1911–1920). The 1921–1930 cohort exhibits an exceptional-

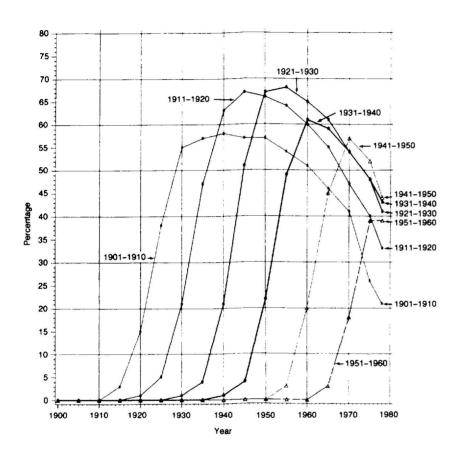


FIGURE 1.—Changes in the prevalence of cigarette smoking among successive birth cohorts of U.S. men, 1900-1978

ly high peak prevalence of 74.6 percent—which has since declined to 36.3 percent—but is still higher than the current 28.3 percent prevalence estimate for the 1911–1920 cohort. However, one encouraging note is that the 1921–1930 cohort is currently smoking less frequently at age 50 to 60 than the 1911–1920 cohort did when they were 50 to 60 years of age (36.3 vs. 40.1 percent). If the 1921–1930 cohort of white-collar men achieves the same proportionate reduction in smoking during the next 10 years as the 1911–1920 cohort did during the previous 10 years, by 1990 the 1921–1930 birth cohort will be smoking at a lower rate than the 1911–1920 cohort did in 1978. In a continuation of this general trend, all cohorts of white-collar men

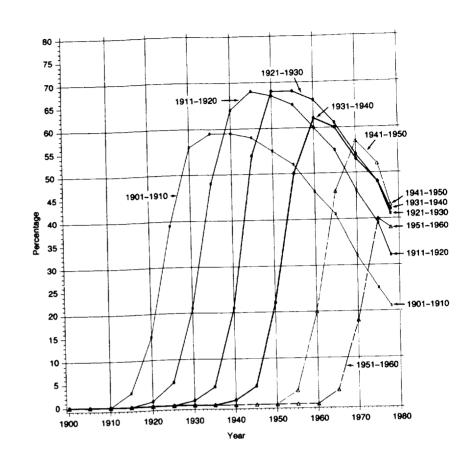


FIGURE 2.—Changes in the prevalence of cigarette smoking among successive birth cohorts of white U.S. men, 1900–1978

after the 1921-1930 cohort have lower rates of smoking than previous cohorts at comparable ages, and also have successively lower rates of peak prevalence.

The same general pattern in evidence for white-collar men also applies to blue-collar men (Figure 8). The 1921–1930 birth cohort has a higher current and peak smoking prevalence than the 1911–1920 cohort they are replacing. However, the 1921–1930 cohort is currently smoking at a lower rate than the previous cohort (1911–1920) was at the same age (10 years ago). Similarly, the 1931–1940 cohort is currently smoking at a higher rate than the 1921–1930 cohort, but less frequently when compared with the 1921–1930 cohort 10 years

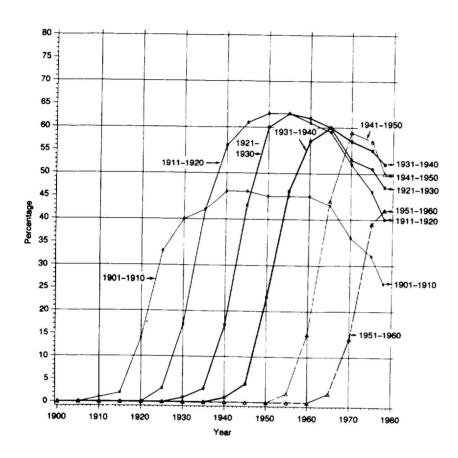


FIGURE 3.—Changes in the prevalence of cigarette smoking among successive birth cohorts of black U.S. men, 1900-1978

earlier. After the 1921–1930 cohort, each successive birth cohort has a lower peak prevalence, suggesting less total cigarette exposure than for the previous cohort.

If present trends in male smoking continue, successive birth cohorts of white-collar and blue-collar workers will arrive at the ages of increasing lung cancer incidence with a lower rate of current smoking and lifetime exposure than the previous birth cohorts. For white-collar men, this pattern began with the 1911–1920 cohort, but blue-collar men exhibit this pattern beginning with the 1921–1930 cohort. This same pattern of decreasing smoking prevalence across successive birth cohorts also characterizes each main subcategory

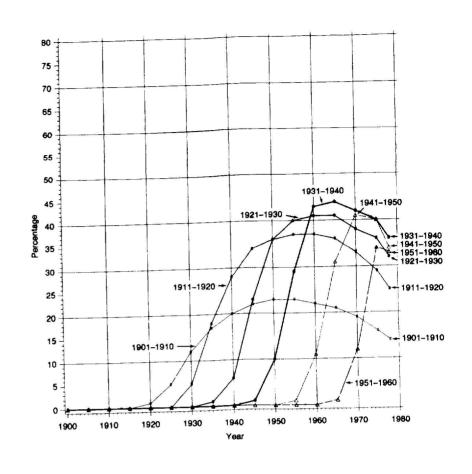


FIGURE 4.—Changes in the prevalence of cigarette smoking among successive birth cohorts of U.S. women, 1900–1978

within the white-collar and blue-collar categories, including professional, technical, and kindred workers, managers and administrators, craftsmen and kindred workers, and operatives and kindred workers (See Technical Addendum, Figures 13 through 16).

Among white-collar women the same general pattern is found as is in evidence for men (Figure 9). The peak prevalence of smoking is highest in the 1931–1940 cohort; however, beginning with the 1921–1930 cohort, each successive birth cohort of women employed in white-collar occupations has a lower rate of smoking in 1978 than the previous cohort did 10 years earlier. This pattern is especially pronounced for the 1941–1950 and 1951–1960 cohorts, and is similar

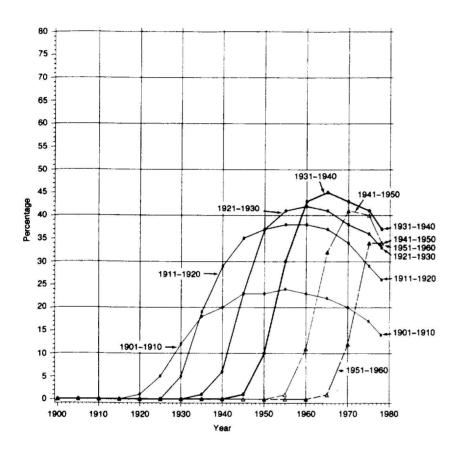


FIGURE 5.—Changes in the prevalence of cigarette smoking among successive birth cohorts of white U.S. women, 1900-1978

to that found among professional, technical, and kindred workers and clerical and kindred workers (Technical Addendum, Figures 17 and 18). Among homemakers, the largest category of women aged 20 to 64, this same general pattern is also found (Figure 10).

Although the overall birth cohort patterns for white-collar women and homemakers are similar to those of men in regard to current smoking, one important difference should be noted. For men, the birth cohort with the highest peak prevalence is the 1921–1930 cohort, but for female white-collar workers and homemakers this occurs with the 1931–1940 cohort.

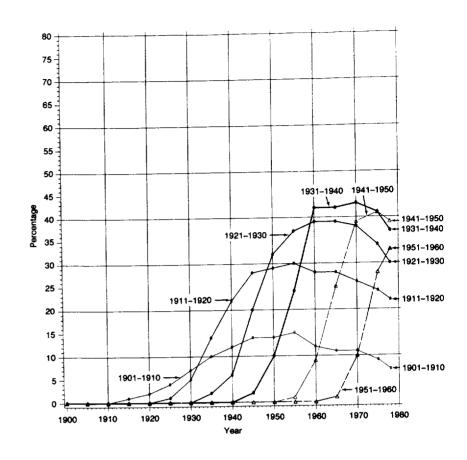


FIGURE 6.—Changes in the prevalence of cigarette smoking among successive birth cohorts of black U.S. women, 1900–1978

In contrast with white-collar women and homemakers, the 1941–1950 cohort of blue-collar women has the highest peak prevalence (Figure 11). The 1931–1940 and 1941–1950 cohorts each exhibit approximately the same smoking rates in 1978 as did the previous cohort 10 years earlier. Only the 1951–1960 cohort of blue-collar women has significant potential to redirect this trend of increasing prevalence downward, and this will depend on whether this cohort can sustain its current downward trend in smoking prevalence.

Service workers represent another important category of employed women, and their birth cohort smoking patterns resemble white-collar workers in some ways and blue-collar workers in other

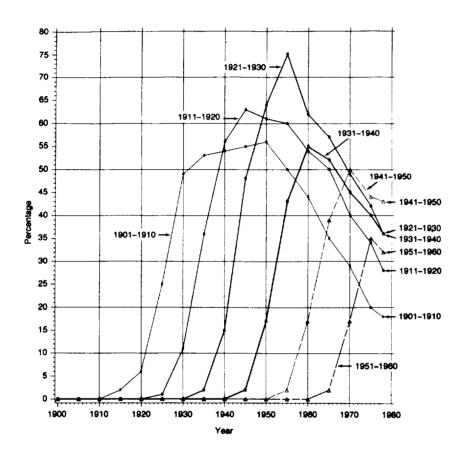


FIGURE 7.—Changes in the prevalence of cigarette smoking among successive birth cohorts of U.S. men employed in white-collar occupations, 1900–1978

ways (Figure 12). Like white-collar women, female service workers reached their highest peak prevalence with the 1931–1940 birth cohort, and subsequent cohorts have experienced much lower peaks. However, like blue-collar women, the 1921–1930 cohort of female service workers continued to smoke at a higher rate in 1978 than the previous cohort at the same age. This pattern becomes more pronounced with the 1931–1940 cohort, but then reverses, with the 1941–1950 cohort reporting a lower smoking prevalence in 1978 than the previous cohort 10 years ago.

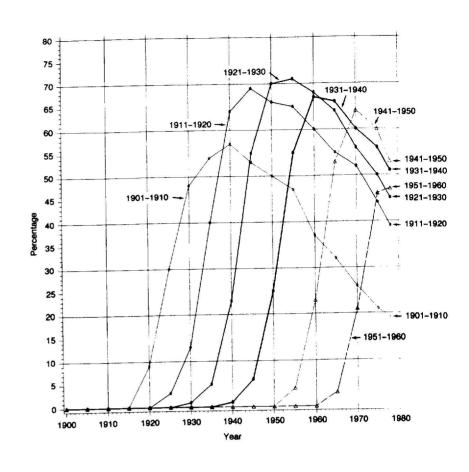


FIGURE 8.—Changes in the prevalence of cigarette smoking among successive birth cohorts of U.S. men employed in blue-collar occupations, 1900–1978

## Race

Among black men there are almost twice as many blue-collar workers as white-collar workers (Table 16). This contrasts with white men, who fall about equally into the white-collar and blue-collar categories. Additionally, blacks of both sexes are more heavily concentrated in the service category of workers, making this category an important one to consider when examining occupational differences in smoking by race. Black men are also almost twice as

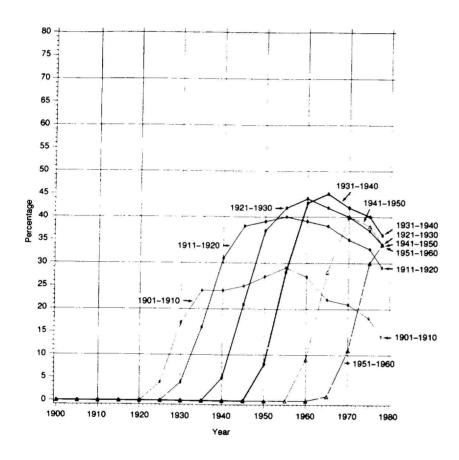


FIGURE 9.—Changes in the prevalence of cigarette smoking among successive birth cohorts of U.S. women employed in white-collar occupations, 1900–1978

likely as white men to fall into the "Not Employed" category, which includes both unemployed people and those "not in the labor force."

The differences in smoking prevalence between black men and white men parallel the differences between blue-collar and white-collar workers (Table 17), with black men having a considerably higher smoking prevalence (47.7 percent) than white men (40.2 percent). Among men, blue-collar workers have considerably higher smoking rates than white-collar workers within each racial group, with black male blue-collar workers having the highest smoking prevalence (52.1 percent).

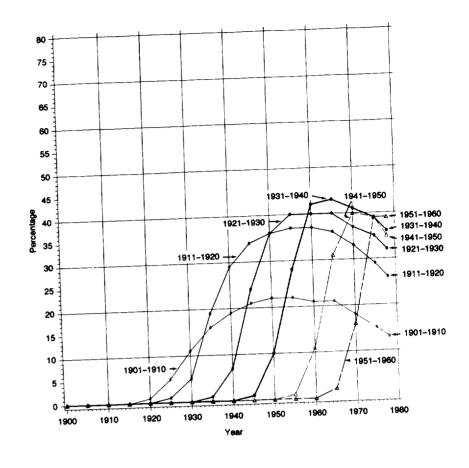


FIGURE 10.—Changes in the prevalence of cigarette smoking among successive birth cohorts of U.S. women classified as homemakers, 1900–1978

Among black women, there is little difference in smoking prevalence between occupations, although homemakers have a somewhat higher smoking rate (Table 17). However, among white women, the expected white-collar, blue-collar, service worker differences prevail, with blue-collar and service workers having a higher smoking prevalence (39.6 and 38.7 percent, respectively) than white collar workers (32.0 percent).

As shown in Table 17, black workers are considerably less likely than their white counterparts to be heavy smokers (smoking 20 or more cigarettes daily). This holds true for all categories of workers