VALUING THE COST OF SMOKING
Studies in Risk and Uncertainty

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GENDER DIFFERENCES IN THE DEMAND FOR CIGARETTES

JONI HERSCH

Research suggests that at least one-fourth of regular smokers will die from smoking-related diseases (U.S. Department of Health and Human Services, 1989). In the U.S., smoking is responsible for more than one of every six deaths (U.S. Department of Health and Human Services, 1989). In most countries, men began cigarette smoking earlier than women and have a higher peak rate of use. Among users, men have tended to have higher consumption levels. For this reason, the health consequences of tobacco use have been most evident among men. Indeed, of the estimated 3 million deaths per year worldwide caused by tobacco use, only about half a million are among women (Chollat-Traquet, 1992).

While men’s tobacco consumption has continued to decline substantially in most developed countries, women’s tobacco use has risen in developing countries and declined more modestly in most developed countries. In some cases, tobacco use by women exceeds that of men. Women are suffering and dying from the same tobacco-related diseases as men. In addition, there are health consequences of tobacco use that are unique to women. Because of health risks related to pregnancy and child raising, women’s smoking

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1 I acknowledge with gratitude the excellent research assistance of Ekaterina Fedorova.
behaviour leads to perhaps even more critical public policy issues than those related to men.

In developed countries, the smoking rates of women are currently between 20 percent and 37 percent and are largely comparable to the smoking rates for men within their country. The smoking rates for women in developing countries are currently lower, ranging from almost no tobacco use to around 15 percent. In contrast to the pattern for developed countries, better educated and higher earning women in developing countries are more likely to smoke. Countries with the lowest smoking rates for women generally have high male smoking rates. In many developed countries, smoking patterns by women have tended to follow the male pattern of growth with a lag of 20 to 30 years. If this pattern continues in developing countries, in the future the smoking rates of men and women may become similar in developing countries as well as in developed countries.

Public health officials in a number of countries have been active in attempting to reduce smoking. The available policy tools include taxation, restrictions on smoking, and education, and these are used in varying degrees in different countries. Public health campaigns intended to reduce smoking will be most effective if the underlying individual motives for smoking are well understood. While many factors should have similar effects on smoking participation and consumption, other factors appear to differ by gender. Women in blue-collar jobs may exhibit the higher smoking rates traditionally found for men in these jobs. Further, women are far more likely than men to use cigarettes for weight management and as an outlet for stress or depression. Because the character of the preferences for smoking differs by gender, women may also differ in their response to public policy effort to reduce smoking.

To analyse the influence of these factors on smoking behaviour, I use data on approximately 48,000 individuals age 21 to 60 from the 1992 and 1993 Current Population Survey: Tobacco Use Supplement. After describing the patterns of smoking by gender and other demographic characteristics, the paper presents estimates of participation and consumption elasticities for price, family income, and employment status, separately by gender, taking into account the various influences of factors that may lead to gender differences in demand. The paper concludes with a discussion of the policy implications that arise from this analysis.
INTERNATIONAL EVIDENCE ON SMOKING RATES BY GENDER

The World Health Organisation (WHO) has tabulated smoking statistics for a number of countries around the world. Much of the following discussion is based on data from 87 countries, representing 85 percent of the world’s population that provided reliable data on smoking prevalence.

Table I summarises regional statistics on smoking rates. As of the early 1990s, WHO estimates that 47 percent of the men and 12 percent of the women worldwide are daily smokers. Among more developed countries, the smoking rate for men is 42 percent; for women it is 24 percent. In less developed countries, the smoking rates are 48 percent and 7 percent for men and women, respectively. The lowest smoking rates for women are found in the countries in the African, Eastern Mediterranean, and South-East Asia regions, with smoking rates of about 4 percent in each of these regions, and about 8 percent in the Western Pacific region. In these regions, the smoking rate for men far exceed that for women, ranging from 60 percent in the Western Pacific region to about 29 percent in the African region.

<table>
<thead>
<tr>
<th>Region</th>
<th>Female rate</th>
<th>Male rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>12</td>
<td>47</td>
</tr>
<tr>
<td>More developed countries</td>
<td>24</td>
<td>42</td>
</tr>
<tr>
<td>Less developed countries</td>
<td>7</td>
<td>48</td>
</tr>
<tr>
<td>WHO Regions:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African</td>
<td>4</td>
<td>29</td>
</tr>
<tr>
<td>American</td>
<td>22</td>
<td>35</td>
</tr>
<tr>
<td>Eastern Mediterranean</td>
<td>4</td>
<td>35</td>
</tr>
<tr>
<td>European</td>
<td>26</td>
<td>46</td>
</tr>
<tr>
<td>South-East Asia</td>
<td>4</td>
<td>44</td>
</tr>
<tr>
<td>Western Pacific</td>
<td>8</td>
<td>60</td>
</tr>
</tbody>
</table>

Table I: Estimated smoking prevalence for women and men by region

Source: World Health Organization based on most recent available data.
[www.who.ch/psa/toh/Alert/apr96/gifs/table2.gif](www.who.ch/psa/toh/Alert/apr96/gifs/table2.gif)

Smoking prevalence rates vary widely by country, by gender within country, and over time within country. To provide some examples of the trends, Table II presents smoking rates in several countries provided by various sources. Taking all countries as a whole (including those not reported in the table), several points are noteworthy. First, smoking rates peaked earliest for
men in developed countries and in most cases has trended downward. However, although the rate for women is below that of men in all developed countries but Denmark and Sweden, smoking rates for women have been stable or have declined more gradually than that for men in their country. Not all developed countries have experienced a decline in smoking prevalence. For example, the smoking rates for both men and women in Israel increased between 1972 and 1989; and smoking among women in Japan, Italy, and Spain has increased.

Second, in many developing countries, smoking rates for women are rising. For example, the smoking rate for women in Bangladesh was about 1 percent in 1980, but had increased to about 15 percent one decade later. During this period, the smoking rate for men declined somewhat, from 67 percent to 60 percent. Over the same period, Zaire experienced a substantial increase in smoking prevalence among both men and women. For women, the rate increased from 10 percent to 25 percent between 1980 and 1992, while the rate for men doubled from 20 percent to 40 percent over this period.

The smoking experience in the U.S. demonstrates a common trend of smoking rates that peak earlier, as well as at a higher level, for men. The smoking rate for males in the U.S. was around 70 percent in the 1940s and 1950s. The peak for women came later, and reached only about half the rate of men, at about 34 percent in 1965. From 1965 to 1992, the total smoking rate of men declined from 51.9 percent to 28.1 percent. The rate for women declined more modestly, from 33.9 percent in 1965 to 24.6 percent in 1992.
### Table II  Smoking prevalence in selected countries and years

<table>
<thead>
<tr>
<th>Countries</th>
<th>Years</th>
<th>Male</th>
<th>Female</th>
<th>Years</th>
<th>Male</th>
<th>Female</th>
<th>Years</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1945</td>
<td>72</td>
<td>26</td>
<td>1980</td>
<td>67</td>
<td>1</td>
<td>1990</td>
<td>60</td>
<td>15</td>
</tr>
<tr>
<td>Bangladesh</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td></td>
<td>54</td>
<td>12</td>
<td>1976</td>
<td>61</td>
<td>7</td>
<td>1984</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td>1970</td>
<td>34</td>
<td>38</td>
<td>1980</td>
<td>42</td>
<td>37</td>
<td>1990</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>1963</td>
<td>57</td>
<td>15</td>
<td>1976</td>
<td>60</td>
<td>27</td>
<td>1993</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Israel</td>
<td>1972</td>
<td>41</td>
<td>29</td>
<td>1981</td>
<td>45</td>
<td>32</td>
<td>1989</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>1963</td>
<td>59</td>
<td>8</td>
<td>1979</td>
<td>67</td>
<td>26</td>
<td>1994</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>1980</td>
<td></td>
<td>11</td>
<td>1989</td>
<td></td>
<td>7</td>
<td>68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>1970</td>
<td>42</td>
<td>4.5</td>
<td>1995</td>
<td></td>
<td>2.7</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>1978</td>
<td>65</td>
<td>17</td>
<td>1993</td>
<td></td>
<td>25</td>
<td>48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>1975</td>
<td>41</td>
<td>30</td>
<td>1980</td>
<td>28</td>
<td>46</td>
<td>1992</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1965</td>
<td>68</td>
<td>43</td>
<td>1980</td>
<td>36</td>
<td>42</td>
<td>1994</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>1955</td>
<td>53</td>
<td>25</td>
<td>1980</td>
<td>38</td>
<td>22.5</td>
<td>1993</td>
<td>27.1</td>
<td></td>
</tr>
<tr>
<td>Zaire</td>
<td>1980</td>
<td></td>
<td>10</td>
<td>1992</td>
<td></td>
<td>20</td>
<td>25</td>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>

Source: World Health Organization based on most recent available data.

www.who.ch/psa/toh/Alert/apr96/gifs/table2.gif
TOBACCO AND WOMEN’S HEALTH

Worldwide, tobacco use is estimated to cause 3 million deaths annually, with over half of these deaths occurring in developed countries. About 300,000 women in developed countries die annually from tobacco use (Chollat-Traquet, 1992) The lower death rate for women may give the misleading impression that women are less susceptible to tobacco-related illnesses. However, men and women with similar smoking characteristics are equally likely to develop smoking-related illnesses and mortality due to smoking. For women, lung cancer has surpassed breast cancer as the leading cause of cancer death for women in the U.S. in every year since 1986.

Many of the health effects unique to women are related to the antiestrogenic effect of cigarette smoking. Thus women smokers have earlier menopause and a greater risk of osteoporosis, but lower incidence of breast cancer and endometrial cancer. (U.S. Department of Health and Human Services, 1988). However, epidemiological studies have found an increased incidence of cervical cancer among women who smoke (U.S. Department of Health and Human Services, 1989). Studies show that smoking may impair the fertility of both men and women (U.S. Department of Health and Human Services, 1989).

Women who smoke during pregnancy have babies with lower birth weight. There is an increased risk of preterm delivery, spontaneous abortion, stillbirths, and neonatal deaths. Smoking during pregnancy retards fetal growth and may increase late fetal mortality and infant mortality (U.S. Department of Health and Human Services, 1989). Children of smokers have increased rates of lower respiratory tract infections and bronchitis, and exposure to cigarette smoke can aggravate asthmatic conditions. Since mothers tend to be the primary caregivers within most homes, mothers’ smoking behaviour may have a greater impact than fathers’ do on their children’s health.

FACTORS THAT AFFECT SMOKING BEHAVIOR

This section summarises the various individual characteristics that influence whether an individual will smoke, with particular emphasis on whether these factors should have differential impact by gender.
Education

It is well known that more educated people are less likely to smoke. Education affects the ability of an individual to process information about the risks of smoking. It is also a proxy for the rate of time preference and provides information about lifetime wealth levels. Peer groups formed of persons with similar levels of education are likely to be composed of people with similar smoking habits.

Gender differences in the effect of education on smoking behaviour may arise if there are gender differences in any of the underlying factors that are proxied by education. For instance, there may be gender differences in the perception of risk. Until recently, most of the mortality caused by smoking has occurred to men, so women may underestimate the risk they face. If so, this would increase the probability that women would smoke for any given level of education. On the other hand, women tend to make uniformly safer consumer choices, controlling for individual characteristics (Hersch, 1996), which indicates they may be more risk averse in general. There may also be gender differences in the rate of time preference, which may be correlated with education. Since the life expectancy for women is greater than that of men, in anticipation of a longer life, the rate of time preference for women should be lower than that of men. This would suggest that women would be less likely to smoke than men with comparable education would. However, recent evidence suggests that the life expectancy gap is narrowing as the smoking patterns of men and women become more similar.

Physical factors

Nicotine is the drug contained in tobacco that is addictive. Men and women appear to metabolise nicotine differently, in that men excrete nicotine more rapidly than women do. Thus women may become more addicted for a given dose. Tobacco acts as both a stimulant and a sedative. There is evidence that women may be more likely to smoke when anxious or at times of stress. In addition, there is evidence that smoking is associated with depression and anxiety. Glassman et al. (1990) found a relation between depression and smoking, controlling for sex, education, marital status, and race. Since major depression is more common among women, women may be more likely to smoke controlling for other factors. This also implies that the proportions of smokers that are female may increase over time if such women are less likely to quit regardless of the national trend of lower smoking rates. Thus even if stress and depression have the same effect on smoking by men and
women, the greater share of women with these symptoms will lead to a relatively higher smoking rate after controlling for other factors.

A number of studies have found that many individuals smoke as a means of weight control, and this reason for smoking is far more common for women. An early slogan for the American Tobacco Co. cigarette brand Lucky Strike was “Reach for a Lucky Instead of a Sweet.” Indeed, individuals do seem to gain weight after quitting smoking, although the average weight gain of 3.8 kg for women and 2.8 kg for men is small (Williamson et al., 1991). This small average weight gain is unlikely to have any negative consequences on health status, since smokers weigh less on average than nonsmokers otherwise the same. This use of tobacco indicates that women may be more likely to smoke than comparable men may.

Employment and occupation

Smoking by women has been associated with liberation and equality. Thus employment status, particularly in jobs not traditionally held by many women, may affect smoking behaviour differently by gender. Women employed in blue-collar occupations may be more likely to smoke. In addition, many indoor workplaces have restrictions on smoking in the workplace. Thus workers employed in white-collar occupations may be less likely to smoke. Since women are more likely to be employed in white-collar occupations, the currently lower smoking rate of women may in part reflect differences in occupation. Other employment related factors include unemployment, which is a stressful activity that may increase quantity of cigarettes smoked and make quitting harder.

Income

If health is a normal good, people with higher incomes are less likely to smoke because there is a positive income elasticity of demand for health. The share of family income earned by men is greater. If spending on cigarettes is related to who within the household earns the income, there may be differential effects by gender.

Age

The rate of time preference may decrease with age, which suggests that smokers may quit smoking as they grow older. Older people may also have more information about the risks of smoking, based perhaps on their personal health status or acquaintance with individuals who are sick or have
died from smoking related illnesses. Women with their longer life expectancy should be more likely to quit smoking, while men are more likely to have personal knowledge about the health risks.

**Family roles**

Marital status and the presence of children have been found to affect smoking behaviour, and these factors may affect smoking behaviour differently for men and women. Divorce, separation, and widowhood are stressful events that may make quitting harder, while marriage provides social support that may make quitting easier. Although the relapse rate is high, many women smokers quit smoking while pregnant. Mothers are typically the primary care givers within a household. For this reason, mothers may quit smoking to avoid exposing their children. However, raising children is also stressful. Parents with low family incomes and parents who do not work outside of the home and are restricted in their outside activities because of child care obligations, may smoke to relieve stress or as a reward to themselves or an outlet for boredom or frustration with their lives.

**Military service**

There is evidence that smoking rates are higher for those who have served in the military. Since more men than women have had military service, this would lead to a higher smoking rate for men.

**Sex role norms**

Smoking by women has been considered inappropriate behaviour in virtually all societies.

**ESTIMATES OF DEMAND ELASTICITIES BY GENDER**

**Data set**

wave. Information is available monthly for persons in the household 15 years and older on a range of employment, individual, and household characteristics. Particular variables provided on the CPS used in the analysis are education, age, income, occupation, marital status, presence and ages of children, race, and gender.

In order to examine the effects of occupation and family situation on smoking status, I restrict the sample to adults age 21 to 60. I also require complete reporting on all variables used in the analysis, except for smoking as noted below. The resulting sample size consists of 47,667 individuals, with 25,075 women and 22,592 men.

**Smoking data**

Respondents (or their proxy) were asked whether they had smoked at least 100 cigarettes over their lifetime. Individuals who had smoked more than 100 cigarettes were then asked at what age they started smoking on a regular basis. This was followed by a question regarding whether they currently smoke every day, some days, or not at all. Respondents who report smoking every day were asked to report the number of cigarettes they smoke per day on average. Some day smokers were asked for the number of days in the past 30 days they smoked, and their average consumption on those days. The smoking question pertains to number of cigarettes smoked in the past 30 days.

**Price data**

Cigarette price data are from the Tax Burden on Tobacco (Tobacco Institute) for 1992 and 1993, which represent prices in November of that year. The price is a weighted average statewide price per pack, including generic cigarettes and state and federal taxes. The cigarette prices were adjusted to constant September 1992 prices by a linear interpolations between the 1992 and 1993 prices.

**Family income**

Annual family income is reported in 13 broad categories, topcoded at $75,000. I assign the midpoint of each category at each income level, and adjust these to constant September 1992 incomes.
Employment status

All individuals are assigned indicators values for their employment status. The categories are white-collar, blue-collar, unemployed, or not in the labour force.

Education

Education is years of education completed.

Marital status

Individuals were assigned indicator variables according to their current marital status, with the categories married, divorced, separated, widowed, and never married.

Race

The race categories are white, black, and all other races.

Children

The age of the youngest child of the respondent is assigned an indicator variable, with age categories under 3 years old, 3 to 5 years old, 6 to 13 years old, and 14 to 17 years old.

Descriptive statistics

Table III summarises smoking rates by gender, family income, and presence of children. The smoking rate for women is 24.9 percent; the rate for men is 29.1 percent. Women who smoke average 16 cigarettes per day, while men average 19.4 cigarettes per day. There is wide variation in smoking behaviour by family income and by presence of children. The smoking rates for women and men in the low-income group is 34.2 and 40.8 percent, respectively, which are well above the average. The high-income group has smoking rates well below the average, at 15.9 percent and 18.8 percent for women and men, respectively.
Despite concerns about children's exposure to smoking within the home, the presence of children in the household appears to have relatively little effect on the smoking rate for parents in low and middle income households. For instance, the smoking rate for low income women and men with children age 6 to 13 is 38.6 and 46.1 percent. In contrast, the smoking rate for parents within high-income households is substantially below their group average.

Table III  Smoking rates

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking rate</td>
<td>24.9</td>
<td>29.1</td>
</tr>
<tr>
<td>Cigarettes per day if smoker</td>
<td>16.0</td>
<td>19.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>By family income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>34.2</td>
<td>40.8</td>
</tr>
<tr>
<td>Middle</td>
<td>24.2</td>
<td>28.9</td>
</tr>
<tr>
<td>High</td>
<td>15.9</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>By presence of children under 18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>24.2</td>
<td>27.2</td>
</tr>
<tr>
<td>Low family income</td>
<td>35.9</td>
<td>41.8</td>
</tr>
<tr>
<td>Middle family income</td>
<td>23.2</td>
<td>27.8</td>
</tr>
<tr>
<td>High family income</td>
<td>13.3</td>
<td>16.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>By employment status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White collar</td>
<td>20.8</td>
<td>20.0</td>
</tr>
<tr>
<td>Not in labor force</td>
<td>26.7</td>
<td>34.3</td>
</tr>
<tr>
<td>Blue collar</td>
<td>31.4</td>
<td>34.6</td>
</tr>
<tr>
<td>Unemployed</td>
<td>34.4</td>
<td>38.5</td>
</tr>
</tbody>
</table>


Estimates of demand elasticities

Probit regression is used to estimate smoking participation equations, and OLS regression is used to estimate quantity smoked by smokers. The variables included in both sets of equations are price, family income, education, employment status and occupation group if employed, marital status, age of youngest child, and race.

Table IV summarises the estimates of smoking participation and smoking consumption equations for women and men. Several points are notable. First, the price elasticities are negative, significantly different from zero, and of a similar magnitude for both men and women, with the consumption elasticities slightly larger than the participation elasticities. This suggests that an increase in tobacco prices via a tax increase will decrease both participation and consumption among smokers.
Table IV  Estimates of price, income, and education elasticities

<table>
<thead>
<tr>
<th>Smoking Participation Estimates</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price elasticity</td>
<td>-0.33**</td>
<td>-0.38**</td>
</tr>
<tr>
<td>Family income elasticity</td>
<td>-0.25**</td>
<td>-0.28**</td>
</tr>
<tr>
<td>Education elasticity</td>
<td>-0.92**</td>
<td>-0.93**</td>
</tr>
<tr>
<td>Occupation (relative to not in labour force)</td>
<td>white-collar lower</td>
<td>white-collar lower</td>
</tr>
<tr>
<td></td>
<td>blue-collar higher</td>
<td>unemployed higher</td>
</tr>
<tr>
<td></td>
<td>unemployed higher</td>
<td></td>
</tr>
<tr>
<td>Marital status (relative to married)</td>
<td>widowed, divorced, and separated higher</td>
<td>Widowed, divorced, and separated higher</td>
</tr>
<tr>
<td>Children (relative to no children under 18)</td>
<td>lower with children of all ages</td>
<td>lower with children under age 6</td>
</tr>
<tr>
<td>Race (relative to white)</td>
<td>Black and other non-white lower</td>
<td>Black lower</td>
</tr>
</tbody>
</table>

Smoking Consumption Estimates for Smokers

<table>
<thead>
<tr>
<th>Smoking Consumption Estimates for Smokers</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price elasticity</td>
<td>-0.56**</td>
<td>-0.45**</td>
</tr>
<tr>
<td>Family income elasticity</td>
<td>-0.05**</td>
<td>0.004</td>
</tr>
<tr>
<td>Education elasticity</td>
<td>-0.40**</td>
<td>-0.26**</td>
</tr>
<tr>
<td>Occupation (relative to not in labour force)</td>
<td>white-collar lower</td>
<td>white-collar lower</td>
</tr>
<tr>
<td>Marital status (relative to married)</td>
<td>no effect</td>
<td>divorced higher</td>
</tr>
<tr>
<td>Children (relative to no children under 18)</td>
<td>lower with children under age 3</td>
<td>lower with children under age 3, higher with children age 14 to 17</td>
</tr>
<tr>
<td>Race (relative to white)</td>
<td>Black and other non-white lower</td>
<td>Black and other non-white lower</td>
</tr>
</tbody>
</table>

** denotes coefficient is significantly different from zero at 1 percent level in one-sided tests.

Second, higher income reduces smoking participation, and to a lesser extent, reduces consumption by smokers, consistent with a positive income elasticity of demand for health. Similarly, there is a strong inverse relation between education and smoking behaviour.
Third, occupation matters. Relative to individuals not in the labour force, white-collar workers are less likely to smoke, and of those who do smoke, they smoke less. This may be due to the higher prevalence of workplace restrictions among workers in white-collar jobs. Women in blue-collar jobs, which are not traditionally held by women, are more likely to smoke.

Fourth, individuals affected by stressful events including unemployment, divorce, separation, or death of spouse are more likely to smoke. Since very few people start smoking as adults, this suggests that stressful events reduce the likelihood that someone will quit smoking.

Fifth, smoking participation by both men and women is reduced by the presence of children. The quantity smoked is lower for those with children under age 3, however men with children age 14 to 17 smoke more than men without children under 18 or with younger children.

Sixth, blacks and other non-white people smoke less than whites, controlling for characteristics.

**POLICIES OPTIONS TO REDUCE SMOKING AMONG WOMEN**

Three types of public policies are available to influence smoking: raising taxes, which reduces smoking by raising the price; regulations affecting age of legal tobacco purchase and locations where smoking is permitted; and education about the risks of smoking. The findings of this paper suggest that each of policy mechanisms may help reduce smoking among both men and women, although the form and outcome of any intervention may differ by gender.

Individuals in the labour force, and particularly those in white-collar jobs, are more likely to face smoking restrictions on a daily basis. The smoking rates by employment and occupation status indicate that for both men and women, workers in white collar jobs have smoking rates considerably below the national average, followed by individuals not in the labour force, then blue collar workers, then those unemployed (who are searching for work). Women in blue-collar jobs are more likely to smoke than women not employed or employed in white-collar occupations. While rising labour force participation for women with employment in white collar jobs may have helped moderate the smoking rate for women, as more women enter non-traditional blue collar jobs, the smoking rate of women may increase.
The risks of smoking during pregnancy are highlighted in a series of Surgeon General warnings on cigarette packs. Additional outlets for information specific to women may include provision of information during medical visits for pregnancy or gynaecology. If the underlying cause of smoking is stress, depression, or weight management, treating these causes directly may be more successful.
REFERENCES


