Association of Smoking Cessation With Financial Stress and Material Well-Being: Results From a Prospective Study of a Population-Based National Survey

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Tobacco smoking in Australia is estimated to kill over 19 000 people each year and is responsible for about 10% of the entire national burden of disease and injury.[1] The social costs of smoking (e.g., loss of national productive capacity and health care cost) were estimated to be over Aus$21 billion (about US$18.6 billion) during 1998 to 1999.[2] Smoking has also been linked to deteriorated standards of living and financial stress in Australia and elsewhere.[3–6] Although many studies have shown the health benefits of smoking cessation, even for people 65 years or older,[7–9] there are no published prospective reports of the financial consequences of cessation.

Several studies, however, have focused on the consequences of financial stress and hardship in terms of smoking behavior. Graham used cross-sectional and qualitative data from a sample of working class mothers in the United Kingdom and reported that the major reason for relapse after cessation was difficulty coping with everyday problems and stress, including financial stress.[10] She concluded that restricted access to material resources (income, employment, adequate housing, and the items needed to maintain a reasonable standard of living) hinders smoking cessation. Dorsett and Marsh used longitudinal data from a sample of single mothers in the United Kingdom and reported that smoking provides an affordable palliative for stress and that financial hardship was the main barrier to cessation. Hardship was referred to as the experience of financial anxiety, being in debt that cannot be paid off easily, and not being able to afford essential consumer items such as food and clothing.[11] Similarly, Siahpush and Carlin used national data from 2 waves of a longitudinal study in Australia and reported that smokers who had more financial stress (e.g., difficulty paying electricity,

Objectives. We used 4 waves of prospective data to examine the association of smoking cessation with financial stress and material well-being.

Methods. Data (n = 5699 at baseline) came from 4 consecutive waves (2001–2005) of the Household Income and Labour Dynamics in Australia survey. We used mixed models to examine the participant-specific association of smoking cessation with financial stress and material well-being.

Results. On average, a smoker who quits is expected to have a 25% reduction (*P* < .001; odds ratio [OR] = 0.75; 95% confidence interaval [CI] = 0.69, 0.81) in the odds of financial stress. Similarly, the data provided strong evidence (*P* < .001) that a smoker who quits is likely to experience an enhanced level of material well-being.

Conclusions. Our findings indicate that interventions to encourage smoking cessation are likely to improve standards of living and reduce deprivation. The findings provide grounds for encouraging the social services sector to incorporate smoking cessation efforts into their programs to enhance the material or financial conditions of disadvantaged groups. The findings also provide additional incentives for smokers to stop smoking and as such can be used in antismoking campaigns and by smoking cessation services. (*Am J Public Health.* 2007;97: 2281–2287. doi:10.2105/AJPH.2006.103580)

gas, or telephone bills; going without meals because of a shortage of money) were less likely to quit and that ex-smokers who had more financial stress were more likely to relapse than those without stress.[5] We used 4 waves of prospective data from a national sample in Australia to examine the longitudinal effect of smoking cessation on the likelihood of financial stress and levels of material well-being.

METHODS

Data and Measurement

We used data from wave 1 through 4 of the Household Income and Labour Dynamics in Australia (HILDA) survey, a longitudinal national study based on a multi-stage, area sample of households. In the first stage, the primary sampling unit was the collection district (small geographic units with an average of about 250 households per unit), which were stratified by region. In the second and

third stage, dwellings and households were selected, respectively. The first wave of this annual survey was completed in 2002 and involved face-to-face interviews with all household members 15 years and older. Interviews were obtained from 7982 households, which represented 66% of all selected households. This in turn generated a sample of 15 127 eligible people, 13 969 of whom were interviewed. Waves 2, 3, and 4 were completed in 2003, 2004, and 2005, respectively. In each year, the sample was expanded to include new household members as a result of changes to the composition of the original household. Attrition rates for waves 2, 3, and 4 were 13.2%, 9.6%, and 8.4%, respectively. The survey is described in more detail elsewhere.[12,13]

We used the subsamples of ever smokers (quitters, ex-smokers, or current smokers) who were 18 years or older. In wave 1, respondents were asked: "Do you smoke cigarettes or any other tobacco products?" They

were provided with 3 possible responses: "No, I have never smoked," "No, I have given up smoking," and "Yes." This question distinguished never-smokers, quitters, and current smokers, respectively. In waves 2, 3, and 4, respondents were asked the same smoking question with the following response options: "No, I have never smoked," "No, I no longer smoke," "Yes, I smoke daily," "Yes, I smoke at least weekly (but not daily)," and "Yes, I smoke less often than weekly." The first 2 options distinguished never smokers and quitters, and the last 3 options identified current smokers.

To measure financial stress, respondents were asked "[In the past 6 months] did any of the following happen to you because of a shortage of money: could not pay electricity, gas, or telephone bills on time; could not pay the mortgage or rent on time; pawned or sold something; went without meals; was unable to heat home; asked for financial help from friends or family; asked for help from a welfare/community organization?" These questions yielded binary (yes or no) data. Respondents were also asked whether they could raise, within a week, Aus $2000 for an emergency. We created a binary financial stress indicator that identified people who experienced a financially stressful event or could not easily raise emergency money. The above questionnaire items were previously used by Siahpush et al.[4] and Siahpush and Carlin[5] to construct a scale that was used as a predictor of smoking behavior. These items were also employed by La Cava and Simon[14] to construct an index of financial stress, which was used in an analysis of household debt in Australia.

Material well-being was measured with the question: "Given your current needs and financial responsibilities, would you say that you and your family are: prosperous, very comfortable, reasonably comfortable, just getting along, poor, very poor?" These response options were scored 1 (very poor) through 6 (prosperous). This question was tested as part of the 2000 International Social Science Survey (Australia) and was used in research on the association of aging and subjective well-being.[15]

Education was categorized into 3 groups: year 12 (final year of high school) or below,

trade certificate or diploma, and university degree. Occupation was coded based on the Australian Standard Classification of Occupations[16] and divided into blue-collar workers (people in trades, production and transport, and laborers), white-collar workers (clerical, service, and sales people), and professionals (managers, administrators, and associated professionals). Income was divided into 4 categories, (in Aus $) less than $25 000, $25 000–$49 999, $50 000–$74 999, and $75 000 or more.

Self-reported health was determined by responses to the question, "In general, would you say your health is: excellent, very good, good, fair, or poor?" The item was dichotomized as excellent, very good, and good versus the 2 other responses. This choice of dichotomy for self-rated health is the most commonly used in health research.[17] Although only a single question, this global measure of health has been shown to have strong predictive validity for mortality, independent of other physiological, behavioral, and psychosocial factors.[18,19]

Social support was assessed using a 10-item scale. The responses were used to examine the level of social interaction and social support available from friends and family (e.g., "People don't come and visit me as often as I would like"). These indicators have been used by Dockery to measure social support.[20] Participants responded using a 7-point scale that ranged from "strongly disagree" to "strongly agree." Items were scored so that a higher number indicated greater social support and then summed to produce a total score. Reliability, as measured by Cronbach's α, was 0.78 at baseline.

All of the above variables were measured at all waves. Predicators and outcomes for each individual were measured with data from the same wave.

Statistical Analysis

We estimated generalized linear mixed models for binary response (i.e., multilevel logistic regression) to predict the probability of financial stress.[21–23] We used generalized linear mixed models for normally distributed response (i.e., multilevel linear or normal regression) to predict the level of material well-being. Mixed models are suitable for

analysis of longitudinal data and facilitate inferences about patterns of change within participants.[24–26] Regression coefficients in mixed models represent participant-specific effects, and in this study, can be interpreted as the effect of explanatory variables on an individual participant's chances of experiencing financial stress or level of material well-being.

Each study participant was interviewed on a minimum of 2 and a maximum of 4 measurement occasions (or survey waves). We excluded participants from the analysis if (1) they had data for only 1 survey, (2) they reported to be a never smoker in the follow-ups (n=164), or (3) they were missing data on covariates. In all, 693 participants, 10% of the sample, were excluded. Data on waves 2, 3, and 4 were available for 1428, 1850, and 2421 participants, respectively (total n=5699). We modeled measurement occasions (level-1 units) as nested within participants (level-2 units), and participants as nested within each of 486 collection districts (i.e., primary sampling, or level-3 units). When estimating regression coefficients and their confidence intervals, we took into account both the longitudinal and complex sampling aspects of the research design.

Level-1 covariates varied by measurement occasion and included time, smoking status (quitter vs smoker), occupation, income, marital status, social support, and health. Level-2 covariates varied by participant and included age, gender, and education at baseline. Education was treated as time-invariant, because it showed virtually no variation across measurement occasions for each individual. We did not include any covariates at the collection district level (level-3), but we controlled for the variation that existed in the outcomes across collection districts (i.e., level-3 random intercept).

For each outcome, we presented 3 models. Model 1 included all occasion-level covariates, and the intercept (i.e., adjusted proportion of smokers experiencing financial stress or mean of material well-being) varied by participant and collection district. Model 2 added participant-level covariates to model 1. Finally, model 3 (the full model) built on model 2, because the effect of occasion-level covariates varied by participant (i.e., we allowed for

TABLE 1—Weighted Characteristics of Ever Smokers at Baseline (N = 5699): Wave 1, the Household Income and Labour Dynamics in Australia Survey, 2002

Characteristics	Sample, %	Financial Stress, %	Material Well-Being Score,[a] Mean
Smoking status[b]			
Current smoker	44.90	71.00	3.62
Quitter	55.10	49.59	3.78
Age, y			
18–24	10.34	83.05	3.84
25–39	31.90	69.77	3.69
40–54	31.97	55.59	3.68
≥55	25.79	41.26	3.71
Gender			
Women	46.64	63.41	3.70
Men	53.36	55.85	3.71
Marital Status			
Married/living with someone	68.98	52.82	3.78
Separated/divorced/widowed	13.72	67.63	3.42
Single	17.30	75.62	3.67
Education			
Less than high school	51.76	63.77	3.64
High school diploma or certificate	32.37	58.45	3.70
College degree	15.86	44.46	3.97
Household income (Aus $)			
< 25 000	19.35	66.84	3.38
25 000–49 999	25.69	65.65	3.56
50 000–74 999	24.06	64.31	3.69
≥75 000	30.90	46.39	4.01
Occupation[c]			
Unemployed/not in labor force	33.44	68.00	3.57
Blue collar	20.76	65.18	3.64
White collar	18.62	45.32	3.72
Professional	27.18	59.60	3.94
Self-rated health			
Fair/poor	53.24	63.03	3.58
Excellent/very good/good	46.76	54.70	3.86
Social support			
Below mean	46.43	64.82	3.58
At or above mean	53.57	54.19	3.83

Note. There was strong evidence (*P* < .001) for a bivariate relation of all covariates with financial stress and material well-being, except for the relation of gender with material well-being (*P* = .852).
[a]Material well-being was measured with the question: "Given your current needs and financial responsibilities, would you say that you and your family are: prosperous, very comfortable, reasonably comfortable, just getting along, poor, very poor." These response options were scored 1 (very poor) through 6 (prosperous).
[b]Current smokers were those who responded positively to the question "Do you smoke cigarettes or any other tobacco products?" Quitters were those who reported to "have given up smoking" or "no longer smoke."
[c]Blue-collar workers included people in trades, production and transport, and laborers; white-collar workers were clerical, service, and sales people; professionals were defined as managers, administrators, and associated professionals.

level-2 random slopes). Thus, whereas the effect of all covariates were fixed in models 1 and 2, in model 3, we allowed the effect of occasion-level covariates to vary by participants. The full model included the slopes for which there was moderate evidence (*P* < .01) that they varied by participant.

We performed analyses using MLwiN version 2.02.[27] For binary response (quitter vs smoker, in our analysis), we used MLwiN to implement quasi-likelihood methods of estimation and used the Taylor series expansion linearization method to transform the binary response to a continuous response model. We based this transformation on the first-order marginal quasi-likelihood method. This is a suitable method because the number of level-2 units is very large and the response proportion is not extreme.[27] Subsequent to linearization, we used the iterative generalized least squares (IGLS) algorithm to determine the final parameters.[28] When estimating the parameters, we allowed for occasion-level extra-binomial variation[29] and negative variance for random parameters. At each level of a mixed model, a single variance can take on a negative value; however, the variance function, which is a function of covariates and random effects, cannot be negative within the range of the data.[27] We computed the variance function for all of the models and none resulted in a negative value. For continuous data (level of material well-being, in our analysis), MLwiN uses IGLS to provide parameter estimates. All *P* values reported in the tables were based on the Wald or joint-Wald test.

RESULTS

Table 1 displays the characteristics of participants at baseline and bivariate associations with financial stress and material well-being. The point estimates in this table were weighted to reflect the sampling design and demographic proportions in the Australian population. In the sample of ever smokers, 55.1% were quitters. Whereas 71.0% of current smokers experienced financial stress, only 49.6% of quitters did. Similarly, the mean level of material well-being was higher among quitters than among current smokers (3.8 versus 3.6, respectively).

TABLE 2—Fixed Effects of Covariates on the Odds of Experiencing Financial Stress Among Ever Smokers (N = 5699): Waves 1–4, the Household and Labour Dynamics in Australia Survey, 2002–2005

	Model 1,[a] OR (95% CI)	Model 2,[b] OR (95% CI)	Model 3,[c] OR (95% CI)
Smoking status[d]			
Smoker (Ref)	1	1	1
Quitter	0.62 (0.57, 0.66)	0.75 (0.69, 0.81)	0.75 (0.69, 0.81)
Time	0.83 (0.81, 0.84)	0.80 (0.78, 0.82)	0.80 (0.79, 0.82)
Age, y			
18–24 (Ref)		1	1
25–39		0.52 (0.44, 0.63)	0.53 (0.44, 0.63)
40–54		0.27 (0.23, 0.33)	0.27 (0.23, 0.33)
≥ 55		0.10 (0.08, 0.13)	0.10 (0.08, 0.12)
Gender			
Women (Ref)		1	1
Men		0.73 (0.66, 0.80)	0.73 (0.66, 0.80)
Marital Status			
Married/living with someone (Ref)	1	1	1
Separated/divorced/widowed	1.29 (1.16, 1.43)	1.51 (1.34, 1.70)	1.53 (1.36, 1.72)
Single	1.97 (1.76, 2.19)	1.22 (1.07, 1.39)	1.23 (1.08, 1.40)
Education			
Less than high school (Ref)		1	1
High school diploma or certificate		0.93 (0.84, 1.03)	0.93 (0.84, 1.03)
College degree		0.67 (0.59, 0.77)	0.68 (0.59, 0.78)
Household income (Aus $)			
< 25 000 (Ref)	1	1	1
25 000–49 999	0.98 (0.90, 1.08)	0.82 (0.74, 0.90)	0.82 (0.74, 0.91)
50 000–74 999	0.85 (0.77, 0.94)	0.62 (0.55, 0.69)	0.62 (0.55, 0.69)
≥ 75 000	0.60 (0.54, 0.66)	0.42 (0.37, 0.48)	0.42 (0.37, 0.47)
Occupation[e]			
Unemployed/not in labor force (Ref)	1	1	1
Blue collar	1.12 (1.01, 1.23)	0.89 (0.80, 1.00)	0.89 (0.79, 1.0)
White collar	1.14 (1.04, 1.26)	0.81 (0.72, 0.90)	0.65 (0.58, 0.72)
Professional	0.80 (0.73, 0.88)	0.66 (0.59, 0.73)	0.81 (0.72, 0.90)
Self-rated health			
Fair/poor (Ref)	1	1	1
Excellent/very good/good	0.89 (0.84, 0.95)	0.81 (0.76, 0.86)	0.81 (0.76, 0.87)
Social support	0.98 (0.98, 0.99)	0.98 (0.98, 0.98)	0.98 (0.98, 0.98)

Note. OR = odds ratio; CI = confidence interval. $P < .001$ for all variables across all models.
[a]Model 1 included all occasion-level covariates, and the intercept (i.e., adjusted proportion of smokers experiencing financial stress or mean of material well-being) varied by participant and collection district.
[b]Model 2 added participant-level covariates to model 1.
[c]Model 3 built on model 2, because the effect of occasion-level covariates varied by participant (i.e., we allowed for level-2 random slopes). The full model included the slopes for which there was moderate evidence ($P < .01$) that they varied by participant.
[d]Current smokers were those who responded positively to the question, "Do you smoke cigarettes or any other tobacco products?" Quitters were those who reported to "have given up smoking" or "no longer smoke."
[e]Blue-collar workers included people in trades, production and transport, and laborers; white-collar workers were clerical, service, and sales people; professionals were defined as managers, administrators, and associated professionals.

Data in Tables 2 and 3 show the effect of quitting and other covariates on financial stress. Model 1 indicated that, on average, an individual who quits smoking was expected to have a reduction of 38% (odds ratio [OR] = 0.62; 95% confidence interval [CI] = 0.57, 0.66) of the odds of experiencing financial stress. Model 2 showed an attenuation of the effect of quitting. On the basis of this model, on average, an individual who quits is expected to have a reduction of 25% (OR = 0.75; 95% CI = 0.69, 0.81) of the odds of experiencing financial stress. Finally, model 3 provides evidence for a random effect of time and occupation. The results of models 2 and 3 were very similar, and the effect of quitting was identical. In all 3 models, there was strong evidence of variation in financial stress between participants and collection districts, as indicated by the random intercepts. The effect of time (survey wave) revealed that overall the sample experienced a reduction in financial stress over time. Other factors that were associated with a lower probability of financial stress were being older, male, and married; having a higher level of education, income, and occupation; and enjoying better health and higher social support.

Table 4 shows the effect of quitting and other covariates on material well-being. Results from model 1 showed that, on average, a smoker who quits will experience an increase of 0.08 units (95% CI = 0.05, 0.10) in the level of material well-being (random effects data available as a supplement to the online version of this article at http://www.ajph.org). Model 2 showed a slight attenuation of the effect of quitting. Finally, model 3 provides evidence for a random effect of time, occupation, and social support. This model predicts that, on average, a smoker who quits will experience an increase of 0.04 units (95% CI = 0.02, 0.07) in the level of material well-being. In all 3 models, there was strong evidence of variation in the mean level of material well-being between participants and collection districts, as indicated by the random intercepts. The effect of time shows that overall the sample experienced an increase in material well-being over time. Other factors that were associated with a higher level of material well-being were being older and married; having a higher level of education, income,

TABLE 3—Random Effects Variances From the Mixed Models for the Effect of Covariates on the Odds of Experiencing Financial Stress Among Ever Smokers (N = 5699): Waves 1–4, the Household and Labour Dynamics in Australia Survey , 2002–2005

	Model 1, variance (SE)[a]	P	Model 2, variance (SE)[b]	P	Model 3, variance (SE)[c]	P
Collection district-level						
intercept (SE)	0.147 (0.024)	<.001	0.115 (0.023)	<.001	0.119 (0.023)	<.001
Participant-level						
intercept (SE)	1.917 (0.051)	<.001	1.970 (0.055)	<.001	2.534 (0.194)	<.001
Measurement occasion–level						
variance (SE)	0.476 (0.006)	<.001	0.523 (0.007)	<.001	0.472 (0.008)	<.001
Measurement occasion–level slopes						
Time					0.137 (0.016)	<.001
Occupation[d]					0.119 (0.023)	<.005
Blue collar					−0.029 (0.262)	
White collar					1.109 (0.332)	
Professional					0.275 (0.269)	

[a]Model 1 included all occasion-level covariates, and the intercept (i.e., adjusted proportion of smokers experiencing financial stress or mean of material well-being) varied by participant and collection district.
[b]Model 2 added participant-level covariates to model 1.
[c]Model 3 built on model 2, because the effect of occasion-level covariates varied by participant (i.e., we allowed for level-2 random slopes). The full model included the slopes for which there was moderate evidence (P < .01) that they varied by participant.
[d]Blue-collar workers included people in trades, production and transport, and laborers; white-collar workers were clerical, service, and sales people; professionals were defined as managers, administrators, and associated professionals.

and occupation; and enjoying better health and higher social support.

DISCUSSION

We report data from 4 waves of a national population-based survey in Australia and reveal that smoking cessation is associated with a reduced probability of experiencing financial stress and a higher level of material well-being. The findings are consistent with studies of working-class and single mothers.[10,11] They are also consistent with cross-sectional population-based studies of people from a wide range of the socioeconomic spectrum. Stronks et al.[30] studied a Dutch sample and reported that financial stress (difficulty paying bills, buying food, paying rent, etc.) was associated with smoking status. Siahpush et al.[4] used Australian data to show that households reporting tobacco expenditure were more likely to experience financial stress (e.g., going without meals, being unable to heat the home). Because of the cross-sectional nature of these studies, the causal direction between smoking and financial stress could not be ascertained. The longitudinal design and statistical analysis

of the present research, however, does imply that, on average, individual smokers who quit are likely to experience improved material conditions. The findings, coupled with a previous prospective study that indicated that financial stress may cause lower cessation rates among smokers (and higher probability of relapse among ex-smokers),[5] suggest that the relation between financial stress and smoking is likely to be reciprocal. Tobacco use can contribute to financial deprivation and deprivation is likely to impede cessation.

A possible weakness of our study was that we used a self-reported measurement of smoking status, which may have resulted in an underreporting of smoking. However, previous research has shown that questionnaire-based surveys of the general population provide a reliable estimate of smoking status when cotinine measurement was used for validation, without systematic differentials in underreporting by socioeconomic groups.[31,32] The likelihood of misclassification (proportion of self-reported nonsmokers with increased cotinine concentrations indicative of active smoking) is very low (for example, 0.9%[33] and 1.4%[34]) in most community-based

studies,[35] but much higher in clinical trials and intervention studies,[35] especially among young adults.[36] Such misclassification would result in a slight underestimation of smoking prevalence and overestimation of cessation rates. However, this is not a major concern in our study, because our aim was not to provide accurate estimates of smoking prevalence or cessation rates, but to examine the association of smoking cessation and financial well-being.

We emphasize that a strength of our study design was the use of 4 waves of nationally representative longitudinal data, and random-effects modeling. The national and population-based research design, when compared with experimental or intervention studies, provides more confidence in the external validity of the findings. Another strength of our study was that it examined the association of smoking and material well-being, instead of focusing only on the association of smoking and financial stress. Although financial stress distinguishes disadvantaged individuals from others, the indicator of material well-being used in this research had response values that ranged from "prosperous" to "very poor." Thus, our conclusions can be generalized to a wide range of groups within the socioeconomic hierarchy.

Our findings provide additional incentives for smokers to quit and, as such, can be used in antismoking campaigns and by smoking cessation services and counselors to communicate the benefits of quitting.

Higher financial stress among continued smokers is partly the result of the cost of purchasing tobacco. It may also stem from the cost of health conditions that are associated with smoking and the fact that smokers are less likely to have private health insurance than are nonsmokers.[37] The risk of financial stress for smokers may also arise from the fact that they are more likely to spend money on gambling and alcohol compared with nonsmokers.[37] After they quit, however, our findings imply that they are not likely to spend their cigarette money on other risk-taking behaviors or actions that could endanger their health, such as excess alcohol consumption or illicit drug use. Although it is a matter for future research to determine the spending patterns of quitters, our study implies a self-reported positive pattern conducive to

TABLE 4—Effects of Covariates on the Level of Material Well-Being Among Ever Smokers (N = 5699): Waves 1–4, the Household and Labour Dynamics in Australia Survey, 2002–2005

	Model 1,[a] b (95% CI)	Model 2,[b] b (95% CI)	Model 3,[c] b (95% CI)
Smoking status[d]			
Smoker (Ref)	0	0	0
Quitter	0.08 (0.05, 0.10)	0.05 (0.02, 0.07)	0.04 (0.02, 0.07)
Time	0.01 (0.01, 0.02)	0.01 (0.01, 0.02)	0.01 (0.01, 0.02)
Age, y			
18–24 (Ref)		0	0
25–39		−0.17 (−0.22, −0.11)	−0.16 (−0.21, −0.10)
40–54		−0.13 (−0.19, −0.07)	−0.11 (−0.17, −0.06)
≥ 55		0.11 (0.05, 0.18)	0.11 (0.05, 0.17)
Gender			
Women (Ref)		0	0
Men		0.00 (−0.03, 0.03)	0.01 (−0.02, 0.04)
Marital Status			
Married/living with someone (Ref)	0	0	0
Separated/divorced/widowed	−0.17 (−0.21, −0.13)	−0.18 (−0.22, −0.14)	−0.18 (−0.22, −0.14)
Single	−0.07 (−0.11, −0.03)	−0.07 (−0.10, −0.03)	−0.06 (−0.10, −0.02)
Education			
Less than high school (Ref)		0	0
High school diploma or certificate		0.01 (−0.03, 0.04)	0.01 (−0.02, 0.04)
College degree		0.16 (0.11, 0.20)	0.16 (0.11, 0.20)
Household income (Aus $)			
< 25 000 (Ref)	0	0	0
25 000–49 999	0.10 (0.06, 0.12)	0.12 (0.09, 0.15)	0.11 (0.08, 0.14)
50 000–74 999	0.19 (0.16, 0.23)	0.24 (0.20, 0.27)	0.22 (0.19, 0.26)
≥ 75 000	0.35 (0.32, 0.39)	0.39 (0.36, 0.43)	0.38 (0.34, 0.42)
Occupation[e]			
Unemployed/not in labor force (Ref)	0	0	0
Blue collar	0.01 (−0.02, 0.04)	0.06 (0.03, 0.10)	0.05 (0.01, 0.09)
White collar	0.02 (−0.02, 0.05)	0.06 (0.03, 0.10)	0.06 (0.02, 0.10)
Professional	0.12 (0.08, 0.15)	0.15 (0.11, 0.18)	0.14 (0.10, 0.18)
Self-rated health			
Fair/poor (Ref)	0	0	0
Excellent/very good/good	0.10 (0.01, 0.12)	0.10 (0.01, .13)	0.10 (0.08, 0.12)
Social support	−0.01 (−0.01, −0.01)	−0.01 (−0.01, −0.01)	−0.01 (−0.012, −0.01)

Note. CI = confidence interval. *P* < .001 for all variables across all models. Random-effect variances pertaining to the mixed models reported in this table are available as an online supplement to this article at http://www.ajph.org.
[a]Model 1 included all occasion-level covariates, and the intercept (i.e., adjusted proportion of smokers experiencing financial stress or mean of material well-being) varied by participant and collection district.
[b]Model 2 added participant-level covariates to model 1.
[c]Model 3 built on model 2, because the effect of occasion-level covariates varied by participant (i.e., we allowed for level-2 random slopes). The full model included the slopes for which there was moderate evidence (*P* < .01) that they varied by participant.
[d]Current smokers were those who responded positively to the question, "Do you smoke cigarettes or any other tobacco products?" Quitters were those who reported to "have given up smoking" or "no longer smoke."
[e]Blue-collar workers included people in trades, production and transport, and laborers; white-collar workers were clerical, service, and sales people; professionals were defined as managers, administrators, and associated professionals.

increased material well-being. Thus, campaigns and population-level interventions to encourage smoking cessation are likely to effect upward mobility among people who quit smoking. This, in turn, has the potential to reduce social inequality. The contribution of smoking to inequality has been highlighted in recent studies, which show that up to half of social differentials in mortality among men can be attributed to socioeconomic differences in smoking prevalence.[38,39]

Our findings should encourage welfare and social services organizations to incorporate smoking cessation efforts into their programs to enhance the material conditions of the poor and socially disadvantaged. It is noteworthy that in Australia, the New South Wales Cancer Council has developed a 5-year strategy (2006–2011) to address tobacco control as a social justice issue, in partnership with the social services sector. The rare initiative attempts to enhance the awareness and understanding among social services agencies of the health risks of smoking. It also attempts to enhance the ability of these agencies to implement tobacco control initiatives in staff training, organizational policy, and casework practice. ■

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