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Patterns of Smoking Among Adolescents in Malaysia and Thailand: Findings From the International Tobacco Control Southeast Asia Survey

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At present, 70% of the world's 1.1 billion smokers are in developing countries, with over 50% in Asia alone. The current study examined patterns of youth smoking in Thailand and Malaysia. Respondents were 2002 youths between the ages of 13 and 17 from Thailand (n = 1000) and Malaysia (n = 1002). Respondents were selected using a multistage cluster sampling design and surveyed between January 2005 and March 2005. Approximately 3% of youth between the ages of 13 and 17 were current smokers, with an additional 10% to 12% reporting experimental smoking. Males were between 7 and 15 times more likely to report smoking behavior than females. Less than 1% of females respondents in either country met the criteria for current smoking, and less than 5% met the criteria for experimental smoking. In contrast, more than 50% Thai males and approximately one-third of Malaysian males aged 17 met the criteria for either experimental or current smoking.

Keywords: smoking; tobacco use; youth

Tobacco use is the leading cause of preventable death among adults worldwide.¹ Currently, 1 in 10 adults die from tobacco use, and the health toll is increasing: by 2030, the number of tobacco-related deaths is predicted to double to approximately 10 million per year.^{2,3}

Although the prevalence of smoking among most Western countries has been in steady decline for more than a decade, smoking rates continue to rise in many developing countries.⁴ Currently, 70% of the world's 1.1 billion smokers are in developing countries, with over 50% in Asia alone.³ As a consequence, the health and economic burden of tobacco use is rapidly shifting from high to low and middle income countries.

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Asia is an, especially, important region for global tobacco control given its large population and the trajectory of smoking rates in the region. Out of 500 million smokers in Asia, the vast majority is males, and smoking remains relatively rare among females. In most countries, the smoking rate among males approaches or exceeds 50%, whereas less than 5% of females smoke.⁴ However, this gender gap is projected to narrow, extrapolating from historical trends in Western countries. The prevalence of smoking among Asian women is expected to increase dramatically in the coming decades, particularly as the presence of multinational tobacco companies continues to grow in the region.⁵

Two Asian countries, Thailand and Malaysia, illustrate different stages of tobacco control in this critical region. For more than a decade, Thailand has served as a model for tobacco control in Asia. Thailand was first among the countries in the world to introduce comprehensive restrictions on advertising and promotion and has since introduced a range of tobacco control policies, including pictorial warning labels on cigarette packages.^{6,7} In 1999, Thailand is also one of the few Asian countries to have experienced a decline in smoking rates over the past decade.⁸ At present, slightly less than one-fifth of those who are 15 years or older, are daily smokers, although this rate obscures substantial differences between genders: 37% of Thai men are daily smokers, whereas only 2% of Thai women smoke.⁸ Smoking rates also differ among rural and urban populations: boys who live in rural areas are more likely to smoke, whereas girls living in urban areas are more likely to smoke.⁹

The tobacco control environment in Malaysia is in many ways more characteristic of the region, although overall smoking prevalence (most notably among men) is low by regional standards. Until recently, Malaysia had few comprehensive tobacco control policies and remained a tobacco-friendly environment. Currently, approximately 23% of Malaysians are daily smokers, similar to prevalence estimates from 1996.¹⁰ As in Thailand, there are dramatic differences in the smoking rates between genders: in 1996, approximately 45% of men smoked compared with only 3% of women. However, in recent years, Malaysia has made significant strides in tobacco control policy. For example, new legislation was introduced in 2004 that restricted advertising and promotion, established smoke-free environments, and included measures to restrict access to minors.

The prevalence of smoking among youth and young adults represents a critical benchmark for tobacco control policy in Asia. As in Western countries, the majority of Asian smokers begin in youth and young adulthood. As a result, any significant changes in prevalence, including any increases in smoking among Asian women, are likely to appear first among younger populations. Youth smoking is also important given that those who begin smoking at an earlier age are more likely to become dependent and have greater difficulty quitting as an adult.¹¹⁻¹⁴

At the moment, there is relatively little data with which to monitor patterns of youth smoking in Thailand and Malaysia; however, available data suggests that smoking among youth may be on the rise in both countries. In Thailand, the prevalence of smokers aged 15 to 24 appears to have increased a modest amount in recent years,^{15,16} whereas, in Malaysia, smoking among youth and young adults has increased more dramatically: a study conducted in 1996 with 16-year-olds reported that 25% of men and 1% of women smoked—a 67% increase in the number of teenage smokers over the previous 10 years.¹⁷ The results of 2 youth surveys conducted in 1996 and 1999 suggest that the proportion of young women who smoke rose from 4.8% to 8%.¹⁸ In addition, a 2003 study of 13-year- to 15-year-olds reported that 39.2% of men and 11.2% of women currently used some form of tobacco products.¹⁹

Improved monitoring of youth smoking is critical to guide and evaluate the implementation of the World Health Organization's (WHO) Framework Convention on Tobacco Control—the world's first international treaty devoted to public health, which has been ratified by both Thailand and Malaysia. The current study presents data from the first wave of

the International Tobacco Control Southeast Asian (ITC-SEA) youth survey conducted in Thailand and Malaysia between January 2005 and March 2005. The objectives of the present article are as follows: to characterize the patterns of smoking among Thai and Malaysian youth; to examine product use and purchasing patterns among current smokers; to examine intentions to quit and cessation behavior; and to examine measures of susceptibility among nonsmokers.

Methods

Sample Size

Respondents were 2002 youth between the ages of 13 and 17 from Thailand ($n = 1000$) and Malaysia ($n = 1002$).

Sampling Design

The survey used face-to-face recruitment of participants from an area sample of households. The sample of households was selected using a stratified multistage sampling design. The primary strata consisted of Bangkok and 4 regions (North, Northeast, Central, and South) in Thailand and 6 zones of Malaysia. In Thailand, respondents were selected from Bangkok and 2 provinces in each of Thailand's 4 regions (Chiang Mai, Phrae, Nakhon Ratchasima, Nong Khai, Nakhon Pathom, Samut Sakhon, Nakhon Si Thammarat, and Songkhla). In Malaysia, respondents were drawn from 1 state in each of the country's 6 zones: Kedah, Selangor, Johor, Terengganu, Sabah, and Sarawak.

In both countries, within each province or state, there was a secondary stratification into urban and rural districts. Ultimate sample allocations within the secondary strata were made proportional to their sizes.

In Malaysia, 2 rural districts and 2 urban districts were selected within each state with probability proportional to population size, and each pair of districts was pooled. In Thailand, districts were taken to coincide with the urban and rural sections of the provinces. In each country, subdistricts and communities were selected within urban and rural districts, with probability proportional to population size. Each selected last stage unit was divided conceptually into clusters of size about 300 households, and sampling of these provided a total of about 125 sampling clusters in each country. Each cluster was given a quota of about 16 adult smokers and 8 youth respondents (nonsmokers were also sampled in Malaysia). In Malaysia, the basis of the sampling frame was provided by the department of statistics; where necessary, the cluster quotas were divided among several subclusters or enumeration blocks.

Households were selected within each cluster using systematic sampling methods in Malaysia and enumeration followed by simple random sampling in Thailand. Sampling within a cluster proceeded until the respondent quota in each sampling category was filled. Once a potentially eligible household was identified and contacted, interviewers enumerated all household members. In Thailand, a maximum of 3 respondents was selected from each household: 1 female adult smoker, 1 male adult smoker, and 1 youth respondent. In Malaysia, 1 adult nonsmoker per household was also surveyed, for a maximum of 4 respondents per household. In households with more than 1 eligible respondent per quota cell, respondents were randomly selected by using a variant of the Kish grid.²⁰ In Thailand, 4207 households were contacted, 2640 included an eligible respondent (63%) and 2470 yielded interviews, for cooperation rate of 94% and a combined eligibility and cooperation rate of

58.7%. In Malaysia, complete disposition counts were not available for attempts to enumerate households and interview individuals. However, summaries of field reports indicate that 8697 households were contacted, and interviews were conducted with 2821 respondents, which is yielding a combined eligibility and cooperation rate of 32.4%.

Youth respondents completed a 30-minute self-administered (ie, paper and pencil) questionnaire. In Malaysia, surveys were available in either English or Malay; in Thailand, all respondents completed surveys in Thai. Respondents were instructed to complete the survey in a private area to ensure privacy from family members and were instructed to seal the survey in an envelope to maintain confidentiality and to encourage truthful reporting. Parental permission and youth consent were ascertained prior to surveying. Youth respondents were provided with a T-shirt in appreciation for their time.

All surveys were conducted between January 2005 and March 2005. In Malaysia, the study was administered by experienced interviewers from the Ministry of Health and from the National Poison Centre (Universiti Sains Malaysia); fieldwork in Thailand was completed by experienced interviewers from the Institute for Population Health and Social Research (Mahidol University). All survey questions and study procedures were standardized as far as possible across the 2 countries. Additional information on the research design and survey methodology is available.²¹ All procedures were cleared for ethics by institutional review boards or research ethics boards at the Universiti Sains Malaysia, Mahidol University, University of Waterloo, The Cancer Council Victoria, and Roswell Park Cancer Institute.

Measures

Smoking behavior. Smoking status was assessed by asking “Have you ever smoked a cigarette, even just a few puffs?” and “How many cigarettes have you smoked in your life: none, 1 to 10, 10 to 100, or more than 100?” Respondents who had smoked at least 1 cigarette were asked: “Think about the last 30 days. How often did you smoke?” The following criteria were used to define smoking status²²: never smokers (never smoked a cigarette); current smokers (smoked more than 100 cigarettes in their lifetime and smoked at least 1 day in the past 30 days); puffers (had tried a cigarette, but had not smoked a whole cigarette); experimenters (smoked between one and 100 cigarettes); and former smokers (smoked more than 100 cigarettes in their lifetime, but had not smoked in the past 30 days). We also asked respondents to self-identify their smoking status through the following question: “At present, would you call yourself an ex-smoker (or former smoker), a nonsmoker, an occasional or social smoker, or a regular smoker?” Consumption was only assessed for those who reported smoking in the last week by asking: “During the past week, on the days you smoked, how many cigarettes did you smoke each day?” Current smokers were also asked to report the date of their last quit attempt, intention to quit, and how easy or hard it is to quit smoking.

The survey included 2 measures of susceptibility: “If one of your best friends were to offer you a cigarette, would you smoke it?” and “At any time during the next year do you think you will smoke a cigarette?” (definitely not/probably not/probably/definitely).²³ Susceptibility was defined as any response other than definitely not. Age of initiation was measured by asking: “How old were you when you first smoked a whole cigarette?”

Purchasing behavior/source of cigarettes. Current smokers were asked: “How do you usually get your cigarettes?”, “How easy or difficult is it for you to get cigarettes when you want them?”, and “Have you bought cigarettes for yourself in the last month?”

Demographic variables. Respondents reported their age, sex, and the last year of school they had completed. Urban/rural status was obtained from the household enumeration

Table 1. Sample Characteristics by Country (n = 2002)

	Thailand (n = 1000)	Malaysia (n = 1002)
Mean age (SE)	14.7 (0.04)	15.2 (0.08)
Sex		
Males (%)	51.1	50.7
Females (%)	48.9	49.3
Urban versus rural status		
Urban (%)	26.0	58.9
Rural (%)	74.0	41.1

completed by an adult informant. Ethnicity drawn from the household survey was coded as Thai/Malay (1) versus Other (0).

Analysis

All data were analyzed using SPSS software (version 12.1, SPSS Inc, Chicago, Illinois). Chi-square tests were used to examine bivariate associations for categorical variables; whereas *t* tests were used to compare means from continuous measures. A logistic regression was conducted to predict the likelihood of being a smoker (where 1 = experimental or current smoker, and 0 = other). All analyses were conducted using weighted data using the "Complex samples" feature in SPSS to take the survey design into account.

Results

Sample Characteristics

Table 1 includes sample characteristics for youth respondents in Thailand and Malaysia. Overall, the Thai sample was significantly younger than the Malaysian sample ($t = 6.0$; $P < .001$) and included a greater proportion of rural respondents ($\chi^2 = 250.61$; $P < .001$) as per the sampling design.

Smoking Status

Table 2 shows the smoking status of respondents for each country. Table 3 shows the smoking rates by age group. The largest increases in smoking occurred between ages 15 and 16 in Malaysia and between ages 16 and 17 in Thailand. There was a significant difference between countries in the smoking prevalence of 17-year-olds: In Thailand, 17-year-olds were 1.90 (95% CI, 1.07-3.37) times more likely to report experimental or current smoking than those in Malaysia, adjusting for sex and urban/rural status. In Thailand, 26.8% of 17-year-old males were experimenters and 25.4% were current smokers (total = 52.3%), whereas in Malaysia 22.9% of males were experimenters and 9.2% were current smokers (total = 32.1%).

A logistic regression was conducted to examine the demographic predictors of smoking behavior among youth (Table 4). In both countries, the odds of being either an experimental or current smoker increased with age, and males were substantially more likely to smoke than females. No differences were observed for urban/rural status or ethnicity.

When respondents from both countries were analyzed in the same model with the same set of covariates listed in Table 4, Thai youth were significantly more likely to report smoking behavior than Malaysian youth (OR = 1.38; 95% CI, 1.04-1.82; $P = .025$).

Table 2. Smoking Status by Country (n = 2002)^a

	Thailand (n = 1000)			Malaysia (n = 1002)		
	Male	Female	Overall	Male	Female	Overall
Never smokers, %	72.0 (374)	97.1 (459)	84.3 (833)	76.9 (362)	95.9 (488)	86.3 (850)
Ever users, %	28.0 (148)	2.9 (19)	15.7 (167)	23.1 (126)	4.1 (26)	13.7 (152)
Former smokers, %	0.1 (1)	0 (0)	0.1 (1)	0.1 (1)	0 (0)	0.1 (1)
Puffers, %	0.4 (3)	0.3 (2)	0.3 (5)	0.8 (3)	0.6 (4)	0.7 (7)
Experimenters, %	21.1 (106)	2.6 (17)	12.1 (123)	17.5 (95)	3.4 (21)	10.5 (116)
Current smokers, %	6.3 (38)	0 (0)	3.2 (38)	4.7 (27)	0.1 (1)	2.4 (28)

^aThe numbers in parentheses represent sample sizes within each cell.

Table 3. Smoking Status by Age (n = 2002)^a

Age, y	Thailand				Malaysia			
	Never Smokers (%)	Puffers (%)	Experimenters (%)	Current Smokers (%)	Never Smokers (%)	Puffers (%)	Experimenters (%)	Current Smokers (%)
13 (n = 420)	93.0	0	6.7	0.3	94.9	1.2	3.8	0
14 (n = 422)	88.2	0	10.7	1.1	88.9	1.2	9.7	0.3
15 (n = 409)	82.5	0.3	14.5	2.3	89.8	0.8	8.6	0.6
16 (n = 359)	78.7	0.2	17.3	3.8	79.9	0	15.1	5.0
17 (n = 392)	70.9	1.6	14.6	12.8	80.9	0.8	13.4	4.9

^aFormer smokers are not shown given their low frequencies (n = 2, both aged 15 years).

Current Smokers

Current smokers were asked to report the number of days they smoked out of the last 30 days. Among the 38 Thai smokers, 33.8% reported smoking some days, 16.7% reported smoking almost everyday, whereas 49.5% reported smoking every day out of the last 30 days. Among the 29 Malaysian smokers, 6.5% reported smoking some days, 42.2% reported smoking almost everyday, whereas 51.2% reported smoking every day out of the last 30 days.

On the days that they smoked, 77% of current Thai smokers reported smoking 1 to 10 cigarettes per day (CPD), 25.1% reported between 10 and 20 CPD, and 22.3% reported smoking more than 20 CPD. In Malaysia, 54.4% of current smokers reported between 1 and 10 CPD, 19.5% reported between 10 and 20 CPD, and 26.1% reported smoking more than 20 CPD. The number of days smoked in the past month was positively correlated with the number of CPD ($r = 0.54$; $P < .001$). Approximately 68.8% of Thai current smokers reported that they smoke either sometimes or often with their parents compared with only 58.6% of Malaysian youth. Virtually all current smokers in Thailand (92%) and Malaysia (87%) reported that they smoke with friends.

On average, Thai smokers reported trying their first cigarette at 14.1 years of age (SD = 1.7), similar to Malaysian smokers (mean age = 13.7, SD = 1.8). Approximately 18% of Thai smokers and 17% of Malaysian smokers tried their first cigarette before 13 years of age, whereas youth in each country reported trying their first cigarette as early as 8 years old.

Product Use

In Thailand, 66.4% of current and experimental smokers reported smoking a factory-made brand as their usual cigarette brand, 7.4% reported smoking hand-rolled cigarettes, 20.5%

Table 4. Likelihood of Reporting Experimental or Current Smoking Behavior (n = 2002)^{a,b,c}

	B	SE	P Level	Odds Ratio	95% CI ^a
Thailand					
Age	0.41	0.10	< .001	1.51	1.23-1.85
Sex					
Female ^d	2.73	0.34	< .001	15.4	7.87-30.3
Urban/rural					
Urban ^d	-0.47	0.31	.13	0.63	0.34-1.15
Ethnicity					
Non-Thai ^d	0.37	0.86	.67	1.45	0.27-7.91
Malaysia					
Age	0.34	0.11	.002	1.41	1.12-1.73
Sex					
Female ^d	1.99	0.38	< .001	7.28	3.46-15.36
Urban/Rural					
Urban ^d	0.28	0.37	.29	1.48	0.72-3.04
Ethnicity					
Non-Malay ^d	0.28	0.31	.36	1.32	0.72-2.41

NOTE: B = standardized beta.

^a95% CI = 95% confidence interval.

^bModel 1: $R^2 = 0.29$; $P < .001$.

^cModel 2: $R^2 = 0.21$; $P < .001$.

^dReference group.

of smokers reported no usual brand, and 5.7% did not know. Among Thai smokers, the most common brand family was Krong Tip (31.6%) followed by Sai Fon (27.8%) and L&M (25.3%). Overall, foreign brands accounted for less than 40% of all factory-made brands that were reported by Thai youth.

In Malaysia, approximately 51% of current and experimental smokers reported smoking a factory-made brand as their usual cigarette brand, 11.1% reported smoking hand-rolled cigarettes, 26.6% of smokers reported no usual brand, and 17.4% were not sure. Among Malaysian youth who reported smoking a factory-made brand, the most common brand family was Dunhill (50%), followed by Winston (9%), and Sampoerna (7%), an Indonesian brand. Overall, Western brands accounted for approximately 90% of the factory-made brands reported by Malaysian youth.

All current smokers were asked whether Western brands tasted better or worse than local brands. Overall, 18.2% said that Western brands taste better, 9.9% reported they taste worse, 34% reported they taste the same, and 37.9% said they did not know, with no significant differences between countries. Only 0.6% of all Thai youth and 1.6% of all Malaysian youth reported using any tobacco products other than cigarettes.

Sources of Cigarettes

Approximately half (50.8%) of Thai current and experimental smokers said that they usually get their cigarettes from friends, 35.1% said they usually buy them, 9.3% said that someone buy them on their behalf, whereas 3.8% said that they usually get them from home, and 1% reported that they get them another way. In Malaysia, 52.8% said that they buy their own cigarettes, 29.6% get them from friends, 7% reported that someone buy them on their behalf, 5.4% said they get them from home, and 5.3% get them another way.

Overall, 55.9% of Thai current and experimental smokers reported buying cigarettes for themselves in the past month compared to 52.4% in Malaysia. In addition, 41.1% of all Thai youth (including smokers and nonsmokers) reported buying cigarettes for friends or family

in the past month compared with 25.5% of Malaysian youth ($\chi^2 = 54.9$; $P < .001$). Of those who attempted to buy cigarettes, 49.3% of Thai youth had been refused because of their age compared with 25.6% of Malaysian youth ($\chi^2 = 33.6$; $P < .001$).

Overall, only 2.5% of current smokers reported that it was very difficult to get cigarettes, 19.2% said that it was difficult, whereas 68.7% reported that it was easy to get cigarettes, with 9.7% reporting that they were not sure. There were no differences between countries in the perceived ease of getting cigarettes.

Susceptibility to Smoking

Approximately 17.3% of Thai and 18.4% of Malaysian youth (including current and experimental smokers) reported that they might smoke if one of their best friends were to offer them a cigarette. Approximately 19% in each country reported they may smoke a cigarette within the next year. Overall, 24.2% of youth in Thailand and 23.8% in Malaysia endorsed at least 1 of these 2 measures of susceptibility. There were no significant differences between countries for any of the susceptibility measures.

Discussion

The results indicate that approximately 3% of youth between the ages of 13 and 17 are current smokers, an additional 12% reported experimental smoking, and an additional 9% reported some susceptibility to uptake. Thai youth were significantly more likely to report smoking behavior than Malaysians due to greater smoking rates among 17-year-olds. Given that previous surveys indicate lower rates of adult smoking in Thailand, this finding may reflect either a cohort effect or an earlier age of initiation in Thailand. We will examine whether this difference persists in subsequent waves as the cohort ages.

The sex differences observed in the current study are consistent with findings from other Asian countries and indicate that Asian males are significantly at greater risk than females.^{16,24} Indeed, only 1 female respondent in either country met the criteria for current smoking, and females were between 7 and 15 times less likely than males to report any smoking behavior. In contrast, more than 50% of Thai males and approximately one-third of Malaysian males aged 17 met the criteria for either experimental or current smoking. The lack of evidence on youth smoking in either country makes it difficult to examine how these figures compare with historical trends, although the results would seem to indicate that the youth smoking rate has not declined to any great extent in recent years.²⁵

Age of smoking initiation is an important predictor of long-term tobacco use and levels of dependence.¹¹⁻¹⁴ The current findings among the Thai and Malaysian youth between the ages of 13 and 17 indicate that smokers try their first cigarette at an average age of 14 years. Smokers in each country reported smoking their first cigarette as early as 8 years of age, with almost one-fifth of smokers trying their first cigarette before 13 years of age. The current findings are consistent with survey results from other Asian countries and the rest of the world, which indicate that the majority of smokers initiate in early youth.¹⁶ However, it should be noted that the age of initiation in the current survey will be somewhat lower than in general population surveys given that the current survey only included respondents aged 13 to 17 and did not capture initiation among those who were 18 years or older.

The findings also provide initial glimpses into policy domains such as youth access to tobacco. Approximately 50% of Thai youth who tried to buy cigarettes in the past month had been refused because of their age compared with only a quarter in Malaysia. These results suggest that there may be significant differences in youth access between Malaysia and Thailand. Nevertheless, the majority of smokers in both countries reported that it was

easy to get cigarettes. These results are consistent with previous studies¹⁹ including a survey conducted in the Malaysian state of Kelantan, which found that approximately 95% of stores sold cigarettes to minors without even asking for age verification.²⁶

The results also reflect differences in the tobacco markets of Thailand and Malaysia. Only 40% of Thai smokers reported a foreign brand as their usual cigarette brand compared with 90% of Malaysian smokers. Until recently, the Thai Tobacco Monopoly controlled the entire market in Thailand, whereas multinational tobacco manufacturers, such as British American Tobacco, have had a strong presence in Malaysia for decades. Differences in the profile of foreign brands and companies may have implications for youth exposure to marketing and brand perceptions.

Very few respondents in either country reported using other types of smoked tobacco products or smokeless tobacco. The use of other tobacco products among Thai and Malaysian youth would appear to be relatively similar, though perhaps less prevalent than in neighboring countries, such as Vietnam, Singapore, and Indonesia.¹⁶

This study has several limitations that should be noted. The prevalence estimates reported in this study are subject to the usual limitations concerning self-reported smoking among youth.^{27,28} Underreporting of smoking behavior is more common among younger adolescents and cases where the social desirability is strongest. We tried to minimize social desirability bias by having youth complete paper and pencil surveys in a private area of the home and by stressing the confidentiality of the findings. Nevertheless, the actual prevalence rates of youth smoking may be somewhat higher than indicated by our data as some underreporting is likely. In terms of comparisons with school-based data sources, such as the Global Youth Tobacco Survey (GYTS),¹⁶ data from Western countries suggest that social desirability bias may be somewhat greater for surveys conducted in the home. However, Zulkifli et al²⁹ have noted that underreporting of smoking in Malaysia may be particularly high in school surveys given that smoking is a disciplinary offence for school students in Malaysia. Finally, we have reported household cooperation rates for both Thailand and Malaysia; however, we were not able to report individual level response rates among youth due to problems with data collection.

The prevalence estimates are also subject to the limitations of the sampling design. For reasons of administration and cost, the number of primary sampling units within strata was relatively small, and the sample of households within the primary sampling units was geographically clustered. Such a sample cannot be as representative of the national population as a simple random sample of the same number of households. There is also some indication of differential response rates: household response rates were lower in urban than in rural areas and lower among those of ethnic Chinese background in Malaysia. Data from the subsequent waves of the ITC-SEA survey will help to examine the trajectory of smoking behavior as the cohort ages and reaches young adulthood—a critical period during which both the consumption and frequency of use increases considerably.³⁰⁻³² Until this time, the between-country differences in smoking behavior reported in this paper should be considered preliminary findings that are liable to change as the cohort matures.

In conclusion, this study confirms that in Thailand and Malaysia, smoking remains a greater problem among young males than young females. Of particular concern is the high observed rates in the older Thai males. Further research is needed to see whether this is a real effect and if so, what measures are effective in targeting this key demographic.

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