

**Evaluating tobacco control policy in Latin American countries during the era of the
Framework Convention on Tobacco Control**

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Abstract: The Framework Convention on Tobacco Control (FCTC) is an international effort to coordinate national-level tobacco control policies around the world. The FCTC's recommended policies are likely to be effective in low- and middle-income countries. Nevertheless, policy evaluation studies are needed to determine policy impact potential synergies across policies.

Materials and Methods: The International Tobacco Control Policy Evaluation Project (ITC) is an international collaboration to assess the psychosocial and behavioral impact of the FCTC's policies among adult smokers in nine countries. The ITC evaluation framework utilizes multiple country controls, a longitudinal design, and a theory-driven conceptual model to test hypotheses about the anticipated effects of given policies.

Results: ITC Project results generally confirm previous studies that form the evidence base for FCTC policy recommendations, in particular: the use of graphic warning labels; banning of "light" and "mild" descriptors; smoking bans; increasing tax and price; banning advertising; and using new cigarette product testing methods. **Conclusions:** Initial findings suggest that Latin American countries could use similar methods to monitor and evaluate their own tobacco control policies while contributing to the evidence base for policy interventions in other countries.

Introduction

The World Health Organization's Framework Convention on Tobacco Control (FCTC) is a multilateral treaty that promotes a coordinated, international policy response to the global epidemic of tobacco use. The FCTC was adopted in 2003, came into force in 2005, and compels countries that have ratified the treaty to enact a series of tobacco control policies by the end of 2009.¹ Table 1 summarizes the primary policy provisions of the FCTC.

[Insert Table 1 about here]

The policies that the FCTC promotes are based primarily on evidence from studies in high-income countries. These same policies are likely to reduce smoking in low- and middle-income countries, as has been found for raising cigarette taxes.² However, studies in low- and middle-income countries are needed to determine whether other tobacco control policies that the FCTC promotes will similarly translate to these countries. Moreover, even where these policies are known to reduce tobacco consumption in high-income countries, the mechanisms by which they exert their impact generally remain unclear. Clarifying the particular pathways through which policies reduce smoking can illuminate potential synergies across concurrent policy interventions as well as how exposure to tobacco industry practices may compromise policy impact.

The implementation of FCTC policies around the world provides researchers with an extraordinary opportunity to coordinate their efforts in order to address such questions. In this paper, we describe the study design, conceptual framework, and preliminary results from the International Tobacco Control Policy Evaluation Project (ITC Project), an international collaborative effort to evaluate the psychosocial and behavioral impact of FCTC policies among adult smokers. To date, no countries in Latin America have joined the ITC study. The evidence base for effective tobacco control policies would be strengthened by the inclusion of comparison

data from Latin American countries whose distinct social, cultural, and political-economic histories may augment tobacco policy impacts or, perhaps, render them less effective.

The International Tobacco Control Policy Evaluation Project

The ITC evaluation framework utilizes multiple country controls, a longitudinal design, and a pre-specified, theory-driven conceptual model to test hypotheses about the anticipated effects of given policies. The project currently involves a collection of prospective cohort surveys of representative samples of approximately 1000-2000 adult smokers in each of nine countries (Australia, Canada, China, Ireland, Malaysia, South Korea, Thailand, the United Kingdom, and the United States), with plans to include additional countries in the future. The conceptual model for the project draws from theories in economics, social psychology, and health communication, and it assumes that common underlying causal mechanisms may explain how different tobacco control policies influence behaviors.³

[Insert Figure 1 about here]

Figure 1 illustrates the general conceptual framework that has guided the ITC Project. This causal chain model suggests that the policy-specific psychosocial variables mediate the influence of policies on the outcome variables that register public health impact, such as quitting behavior. The path from policy exposure to behavior could be direct, but, more typically, will be through changes in smoking-related attitude and belief variables that consistently predict smoking behavior. For example, smokers are likely to notice warnings before thinking about the content of the warnings. Once smokers attend to this content, their smoking-related attitudes and outcome expectancies are hypothesized to change. These changes, then, would influence their intentions to smoke and, in turn, their smoking behavior. For some policies, there may be pathways through several kinds of mediators, both policy-specific and non-policy-specific mediators.

Data assessing components of this conceptual model allow empirical testing of the pathways through which policies are hypothesized to work, including the testing of alternative models of policy impact. In this regard, a variety of factors may moderate these proposed causal chains. Paths of influence across this general framework may be weaker, for instance, among more addicted smokers than among less addicted smokers. Furthermore, the ITC Project was specifically designed to rule out alternative explanations for policy impact, thereby strengthening conclusions about policy-specific effects. ITC data can be used to explicitly test commonalities and distinctions between the paths of influence across different policies and across different populations. The resulting fine-grained understanding of how policy impacts behavior will help clarify which pathways have the most potent influences on public health outcomes. Moreover, knowledge of these pathways will suggest new ways to strengthen the tobacco control environment by developing new policies and interventions that target these primary pathways and, perhaps, synergistically interact with the policies that the FCTC promotes.

ITC study design and expansion

It is not possible to conduct randomized experimental studies to evaluate the effects of tobacco control policies because governments, not researchers, control policy implementation. Furthermore, policy options are often interrelated, so it is often impossible to consider policies in isolation of other events.³ Most studies of national-level tobacco control policies have used time series, repeated cross-sectional, and pooled cross-sectional designs, examining the outcome of interest before and after a policy was implemented. Although valuable, these studies have low internal validity because the lack of a good control group makes it difficult to rule out the influence of secular trends and other policies and interventions that may have caused changes in smoking outcomes. To address these problems, the ITC Project employs a quasi-experimental design with a standardized survey instrument that allows comparisons across countries that have and have not

implemented the policy.⁴ Moreover, by establishing cohorts of smokers within each country, smokers can serve as their own controls over time. Modeling influences on individual-level changes over time allows greater statistical control over potential confounding variables than would be allowed with standard designs. It also allows for causal chain modeling. Finally, the ITC study design allows examination of within-country differences, including those that may be due to sub-national state- or province-level tobacco policies.

The ITC study began in 2002 with the establishment of nationally representative cohorts of approximately 2,000 adult smokers in Australia, Canada, the United Kingdom (UK), and the United States (US). This original ITC-Four Country cohort survey has since been expanded to include smokers in Ireland, Malaysia, Thailand, South Korea, and, China (see Table 2). The project focuses on smokers because they are the primary target of most tobacco control policies.

[Insert Table 2 about here]

Whereas telephone random digit dialing (RDD) was used to recruit smokers in most countries, face-to-face sampling methods have been used successfully in Malaysia, Thailand, and China where the uneven distribution of telephones raised concerns about selection bias that would accompany RDD sampling methods in these countries. Adolescent cohorts have also been surveyed in Thailand and Malaysia in order to understand the effects of tobacco control policies on smoking initiation and progression. Another major advance of the project involves analyzing cigarette components and design across countries in order to determine whether these product characteristics influence smoking patterns.

Findings from the ITC Project

Results from ITC data analyses generally confirm earlier research findings on which FCTC policy recommendations are based, while also providing support for the mechanisms through which these policies have been hypothesized to impact smoking behavior (see Table 3).

[Insert Table 3 about here]

Moreover, these findings confirm some ways in which the FCTC could be strengthened, including requirements for pictorial warning labels on cigarette packages and prohibiting ISO testing methods to determine cigarette constituent levels. Current and ongoing analyses will examine impacts and mechanisms of influence across all the FCTC policy domains.

Most of the ITC findings to date have been obtained from the high-income, English-speaking countries. Analyses of data from more recently established cohorts in Asia will help determine whether policy mechanisms and impact differ in these low- and middle-income countries. Below, we summarize early findings from the ITC study on warning labels, smoke-free policies, and taxes in an effort to illustrate how data from the study can be used to help inform policy development in Latin America and elsewhere.

Warning label policy

Article 11 of the FCTC states that warning labels “should be 50% or more of the principal display areas but shall be no less than 30% of the principal display areas.” As suggested by theories of health communication and tobacco researchers,⁵⁻⁸ warning labels are ideal media for transmitting tobacco prevention messages because they reach the desired target audience (i.e., smokers and those interested in smoking), at the right time (i.e., at cigarette purchase and the moment of smoking), and at high frequencies (i.e., 20 times a day for a pack a day smoker). This policy measure can be extremely cost-effective compared to other communication efforts, particularly if policies mandate that the tobacco industry bear the costs of printing labels on cigarette packs. Given these advantages, warning labels can help countries meet the FCTC guiding principle that “every person should be informed of the health consequences, addictive nature, and mortal threat posed by tobacco consumption and exposure to tobacco smoke.”

Most Latin American countries have not yet reached the FCTC labeling standards. For example, a May 2004 agreement between the Mexican Secretary of Health and the tobacco industry specified that warnings labels be increased to take up 50% of just the backside of the cigarette packs, with the side of each pack containing the message “Currently, there are no cigarettes that reduce health risks” (i.e., Actualmente no existe un cigarro que reduzca los riesgos a la salud). Because the text font is not bolded, is relatively small (12 point, Normal Helvetica), and no warnings are mandated for the front of the pack, this agreement represents a missed opportunity for the Mexican government to comply with or exceed FCTC warning label standards. Indeed, longitudinal ITC data confirm previous research,^{9,10} while indicating that labels with bolded text and that meet FCTC standards are effective.¹¹ The less noticeable change in Mexican warning labels may nevertheless reduce tobacco consumption. However, without an evaluation mechanism in place other than assessments of per-capita consumption, it will be impossible to disentangle any impact of this policy from the effects of other, concurrent tobacco policies, exposure to tobacco industry practices, and secular trends.

Aside from recommending warning label size, the FCTC suggests that warnings “may be in the form of or use pictures or pictograms.” This recommendation should be stronger given the growing evidence that graphic warnings are more effective than text-only messages in engaging smokers and promoting quitting.^{7,12,13} For example, Canada was the only ITC country with graphic warning labels at baseline, and Canadian smokers were more likely than smokers in other high-income ITC countries to notice the warning labels, to read or look closely at the labels, and to have reported that a warning label had stopped them from having a cigarette.¹⁴ However, ITC respondents in Thailand and Malaysia were even more likely to report noticing package warnings, even though neither country had introduced pictorial warnings at the time of the baseline survey.¹⁵ Hence, pack warnings may be a more powerful educational tool in low- and middle-income

countries where few other educational campaigns exist. The use of images to express the consequences of smoking may be a particularly effective educational strategy where a sizeable proportion of the population is not literate and, therefore, unlikely to attend to or understand text-based warnings.

Evidence from Brazil suggests that these study results are likely to generalize to other Latin American countries, as well. As part of its comprehensive tobacco control program, Brazil implemented graphic warning labels covering 100% of one side of cigarette packs in 2002, with images changed in 2003. Because these warnings were introduced along with other tobacco policies, it is difficult to determine the extent to which labels specifically accounted for subsequent declines in the tobacco consumption. However, the number of calls to quit lines advertised on warning labels increased significantly after the new labels were introduced, and 93% of callers to the quit line reported knowing the phone number because of the new labels. Moreover, according to a survey of smokers soon after label implementation, two-thirds reported that the images increased their desire to quit smoking.¹³ Along with studies in other countries, the apparent success of the Brazilian warning labels has spurred their implementation in Venezuela (2004) and Uruguay (2006). However, conclusions drawn from evidence in Brazil and elsewhere would be strengthened by the use of study designs that could account for individual-level changes in policy-specific variables before and after warning label implementation. Moreover, inferences about the impact of particular warning label characteristics mainly come from cross-sectional comparisons or qualitative research. Longitudinal studies are sorely needed. In this regard, the ITC project is in position to directly evaluate the relative impact of graphic content through longitudinal analyses of data gathered before and after the implementation of graphic warning policies in high-income Australia (2006) and middle-income Thailand (2005).

Analyses of longitudinal data are needed to contribute to the evidence base for warning label recommendations in other ways, as well. For example, a key question regarding long-term policy impact concerns smokers' habituation to warning labels over time. Smokers may be less likely to habituate to warning labels with graphic elements or with a greater variety of messages that are rotated on cigarette packs.¹⁶ Longitudinal analyses of ITC data will help to identify whether different warning labels policies have longer or shorter "wear-out" curves. Studies of these and other issues using data from varying national and sub-national contexts will further contribute to the evidence base for determining the specific characteristics of warning labels that best exploit this low-cost tobacco policy intervention.

Smoke-free policies

Article 8 of the FCTC promotes policy measures that provide "protection from exposure to tobacco smoke in indoor workplaces, public transport, indoor public places, and, where appropriate, other public places." Such policies are meant to protect non-smokers from the dangers of exposure to environmental tobacco smoke (ETS), which, in the US, accounts for an estimated 3,000 lung cancer deaths and 35,000 to 62,000 coronary heart disease deaths among adult nonsmokers.^{17,18} In the US, ETS is also associated with an estimated 8,000–26,000 new asthma cases in children and 150,000–300,000 new cases of bronchitis and pneumonia in children aged 18 months or less (7,500–15,000 of which will require hospitalization).¹⁹ Smoke-free policies not only protect non-smokers from involuntary exposure to hazardous smoke, but they also promote quitting behavior among smokers.²⁰

Although the tobacco industry has actively combated and successfully disabled smoke-free legislation in Latin America,^{21,22} most Latin American countries have legislation that restricts smoking in at least some public spaces.²³ In Mexico, for example, smoking is outlawed on flights that are less than 90 minutes, and smoking is restricted in buildings owned by the federal

government, in which government offices are housed, where government services are performed, and in all public and private hospitals and clinics that are part of the National Health System. Smoking is allowed in these buildings as long as the smoking area is marked as such, isolated from work areas, and has ventilation or an air purification system.²⁴ Although the Mexican government has a certification program that encourages public places to become smoke-free, existing legislation is relatively weak in Mexico, as well as in almost all Latin American countries. In Uruguay, comprehensive smoke-free workplace legislation came into force in March 2006, and other countries will hopefully follow its example.

Despite the need for stronger legislation, compliance with existing legislation might represent a significant hurdle for many Latin American countries. Monitoring of airborne nicotine concentration in public places in Latin American capital cities indicates a broad pattern of exposure to tobacco smoke in public spaces in spite of legislation to restrict or prohibit smoking.²⁵ For example, a recent study in public places in Mexico City detected airborne nicotine in almost 80% of the areas within hospitals, 93% of government office spaces, and 100% of spaces in the airport, restaurants, and bars. Indeed, the issue of non-compliance may compound concerns about the general lack of strong smoke-free workplace legislation in Latin America.²³

Compliance with comprehensive smoking bans is facilitated by educational campaigns that raise consciousness about the dangers of second-hand smoke and that provide people with arguments that favor the legislation while anticipating arguments against it. In Ireland, for example, such pre-implementation campaigns appear to have helped ensure compliance with its comprehensive smoking ban.²⁶ Analyses of ITC data from Ireland indicate dramatic declines among Irish smokers reporting having seen smoking the last time they were in a restaurant (85% pre-ban to 3% post-ban), in a bar or pub (98% to 5%), or in their workplace (62% to 14%).²⁶ As has been found in other countries,^{27,28} Irish smokers' support for smoke-free laws in each venue

increased after the ban, with greater increases than were found in the comparison cohort of UK smokers. Hence, there would appear to be little or no political cost to implementing smoke-free legislation in terms of public support. Moreover, these conclusions about policy-related compliance with and increasing support for smoke-free policies in Ireland illustrate a key advantage of the ITC: causal inferences about policy impact are strengthened by having data showing changes that are above and beyond any secular trends that are captured in comparable cohorts from other countries where such legislation has not been enacted.

The ITC-Ireland data also add to the significant evidence base about the influence of smoke-free policies on quitting behavior.²⁶ The majority of respondents who reported having quit smoking at follow up cited the smoking ban as helping them both to quit (i.e., 80%) and to stay quit (i.e., 88%). Moreover, almost half (46%) of those who continued to smoke at follow up reported that the smoking ban made them more likely to quit. Of these smokers, a significant proportion reported avoiding pubs (35%) and restaurants (18%) because of the ban. Opponents of smoke-free laws have suggested that such avoidance of public places could displace smoking behavior into private homes where family members would experience increased ETS exposure. However, after the ban, there was a significant decrease in the percentage of Irish smokers who allowed smoking at home (85% to 80%). These results are consistent with other studies,^{29,30} including analyses from the ITC-Four Country Survey,³¹ indicating that smoke-free policies lead smokers to voluntarily institute smoke-free home policies. In turn, smoke-free homes appear to increase quitting and maintenance of cessation once quit,^{31,32} suggesting that the benefits of smoking-bans in public spaces diffuse to private spaces.

Although the evidence for the impact of smoke-free policies is consistent, conclusions have generally suffered from the lack of control groups, limited follow-up, and inadequate or nonexistent measures of compliance, all of which are addressed in the ITC Ireland/UK study.³³ As

the FCTC prompts Latin American countries to legislate comprehensive smoke-free policies, determining compliance will be necessary to adequately assess the impact of such policies. Studies like the ITC Project can provide feedback on compliance with smoke-free policies in workplaces, including restaurants, cafes, and bars, as well as in public transportation and smoker's homes, all of which could also inform the development of strategies to maximize compliance with the bans. In this regard, data from adult smokers can complement other surveillance efforts, including monitoring of youth exposure through the Global Youth Tobacco Survey,^{34,35} measurements of tobacco smoke in selected public spaces,²⁵ and from agencies charged with enforcement. Comparisons between Latin American and other countries are necessary to specifically address whether smoke-free policy impacts and the mechanisms through which they work generalize to low- and middle-income countries. These data would help refine smoke-free policy interventions in countries where evaluation studies occur, while providing valuable information to other countries considering such policies.

Tax and price policies

Article 6 of the FCTC urges countries to raise the price of cigarettes, implementing “tax policies and, where appropriate, price policies, on tobacco products so as to contribute to the health objectives aimed at reducing tobacco consumption.” This policy is built on evidence largely from high-income countries that a 10% increase in real cigarette price causes a 3-5% decrease in per capita tobacco consumption, with higher prices promoting cessation, deterring initiation, and reducing consumption among continuing users.^{2,36} Evidence from low- and middle-income countries suggests that there may be larger reductions in consumption relative to price increases; for example, one recent study of price elasticity in Mexico from 1994 to 2002 estimated that such a 10% tax increase would decrease consumption by 6.2%.³⁷ However, many of the specific pathways through which tax/price impacts tobacco use behavior remain relatively unknown. The

ITC is the first international longitudinal study to examine the effects of price/taxation policies in representative samples of smokers. As such, it will enable a more thorough and fine-grained analysis of the effect of price on individual behavior than was possible in past studies that have mainly tracked changes in per capita tobacco consumption and population-level smoking prevalence.

The price, affordability, and taxation of cigarettes vary widely across Latin America. For example, one price study examined the minutes of labor required to purchase a pack of cigarettes in 2000, concluding that Marlboro cigarettes were cheaper in Argentina, Brazil, Colombia, and Venezuela (20.5, 21.8, 24.5, and 28.5 minutes / pack, respectively) than they were in Chile, Mexico, and Panama (38.4, 49.4, and 81.4 minutes/pack, respectively).³⁸ Trends in this index of cigarette price indicate that, of these countries, only Brazil and Panama increased price by more than 10% from 1991 to 2000 (11.05% and 14.33%, respectively).

The ITC is uniquely positioned to examine a variety of issues related to the impact of tax/price on tobacco use behaviors that previous studies were unable to address. The ITC surveys collect detailed information on all aspects of the cigarette acquisition process, including price paid, brand choice, method used to obtain cigarettes (including purchases in various retail outlets, by phone or from Internet vendors), type of store cigarettes are purchased from, location of purchase (including tax-exempt outlets or outlets in nearby, lower tax/price jurisdictions), awareness of and use of promotions (e.g. multi-pack discounts or coupons), quantity obtained, and more. This detailed information can be used to look at compensatory behaviors smokers could engage in that might offset the impact of increases in taxes and prices. For example, smokers may respond to price increases by switching to cheaper brands or less expensive outlets, buying their cigarettes by the carton, or taking advantage of promotions that reduce price.

The potential for increased tax avoidance and illicit trade in tobacco products is frequently raised in opposition to tobacco tax increases.³⁹ Early ITC price-related analyses have focused on this issue by examining the extent to which smokers make special efforts to avoid cigarette taxes by buying their cigarettes from tax-exempt or low tax sources, including Indian reservations, duty free shops, military commissaries, by telephone, from Internet vendors, from independent sellers (e.g. street vendors), or from other lower-tax jurisdictions.⁴⁰ Baseline data from Australia, Canada, the UK, and the US showed considerable cross-country variation in the prevalence of tax avoidance, ranging from a low of 1.0% in Australia to a high of 15.7% in the UK. A comparison with Wave 2 data indicates that tax avoidance changed little over time in Australia, Canada and the US, while rising significantly in the UK (to 20.4%). Sources of low or untaxed cigarettes varied across countries as well, with Indian reservations the most common source in the US, duty free shops most common in Australia (and second in the UK), and cross-border outlets most common in the UK. Although concerns are raised frequently about the Internet as a source of low price cigarettes,⁴¹ baseline ITC data indicate that less than 1% of smokers in the four countries above purchased cigarettes from Internet sources, and these rates did not increase significantly over time.

The potential for tax avoidance behavior and/or other efforts in which smokers engage to offset cigarette price increases can limit the impact of price policies on smoking cessation. Baseline data from the ITC-Four Country Survey on sources of cigarettes coupled with data on smoking status at Wave 2 suggest some reason for concern. Specifically, smokers who report buying cigarettes from low or untaxed sources at baseline (generally younger, non-white males who smoke more cigarettes per day) are somewhat less likely to have quit smoking by Wave 2 than smokers who did not buy from these sources (RR=0.80, p=0.09). This association was strongest in Canada and the US.

Over time, the extensive longitudinal data collected in the ITC study will allow for a much more thorough understanding of how smokers respond to changes in cigarette prices, particularly with respect to compensatory behaviors that range from changing how and where they buy their cigarettes to how they smoke cigarettes (e.g., inhaling more deeply, smoking more of each cigarette). While clarifying the extent to which these responses limit the effectiveness of tax increases, analyses of the ITC data will also provide new evidence on potential synergies between higher cigarette prices and other tobacco control policies. For example, policies that influence social acceptability of smoking, such as smoke-free laws, may interact with tax increases, as appears to occur with price and peer norms among youth.⁴² Moreover, analysis of the ITC data from the mix of low-, middle- and high-income countries will build the evidence base around whether there are differential impacts of tax and price based on stage of development, the use of alternative policies to curb illicit trade in tobacco, and other efforts to deter tax avoidance. These and related studies will add considerably to the evidence base on the impact of tax and price on tobacco use.

Conclusion

The ITC Project represents a logical albeit unique effort to help nations collectively learn from each other while attempting to stem demand for tobacco products. What we learn can thereby reduce the economic and social consequences of tobacco-caused diseases, especially those predicted to occur in the developing world over the next two decades. The forgoing review of the conceptual framework, design, and preliminary results of the ITC Project have been presented to illustrate how similar studies in Latin American countries could be used to help speed up the adoption of evidence-based tobacco control interventions during the FCTC era and beyond.

It should not be assumed that policies and programs that work in one country will work equally well in other parts of the world. External validity always requires validation. Thus, the

recent expansion of the ITC Project to Asia explicitly aims to assess lingering questions about whether policy interventions found to be effective in western nations generalize to regions characterized by different cultural, social, and political economic contexts. In the same way, proper development and solidification of the evidence base for the most effective tobacco control policies in Mexico and other Latin American countries demands that a comparable evaluation effort be made in the Latin American region. Results to date suggest that some policies may be more effective in middle-income countries (e.g., price, pack warnings), but others may be less effective, perhaps, in part, because of challenges accompanying policy compliance. Resulting comparative analyses could thereby determine whether Latin American social contexts contain particularities that differentially influence which tobacco control policies and programs work and why.

Establishing an evaluation study like the ITC Project would help policy makers and public health professionals in Latin American countries monitor and understand the impact of interventions within their particular national context. The ITC collaboration provides a ready to use framework for undertaking the kind of evaluation studies that would help refine and promote the adoption of policies and programs that will work to reduce tobacco use. Coordinated, international evaluation of policies recommended by the FCTC—a unique, first-time use of a treaty mechanism to address a global health issue—will also provide valuable lessons about the utility of and ways to improve this kind of agreement when combating other threats to global public health.

References:

Table 1. Key Policy Provisions of the Framework Convention on Tobacco Control

- ◆ Increase tobacco taxes
- ◆ Protect citizens from exposure to tobacco smoke in workplaces, public transport and indoor public places
- ◆ Enact comprehensive bans on tobacco advertising, promotion and sponsorship
- ◆ Regulate the packaging and labeling of tobacco products to prevent the use of misleading and deceptive terms such as "light" and "mild"
- ◆ Regulate the packaging and labeling of tobacco products to ensure appropriate product warnings are communicated to consumers, e.g., obligate the placement of rotating health warnings on tobacco packaging that cover at least 30 percent (but ideally 50 percent or more) of the principal display areas and can include pictures or pictograms
- ◆ Regulate the testing and disclosure of the content and emissions of tobacco products
- ◆ Promote public awareness of tobacco control issues by ensuring broad access to effective comprehensive educational and public awareness programs on the health risks of tobacco and exposure to tobacco smoke
- ◆ Promote and implement effective programs aimed at promoting the cessation of tobacco use
- ◆ Combat smuggling, including the placing of final destination markings on packs
- ◆ Implement legislation and programs to prohibit the sale of tobacco products to minors
- ◆ Implement policies to support economically viable alternative sources of income for tobacco workers, growers, and individual sellers

Table 2. Countries currently participating in the International Tobacco Control Policy Evaluation Project

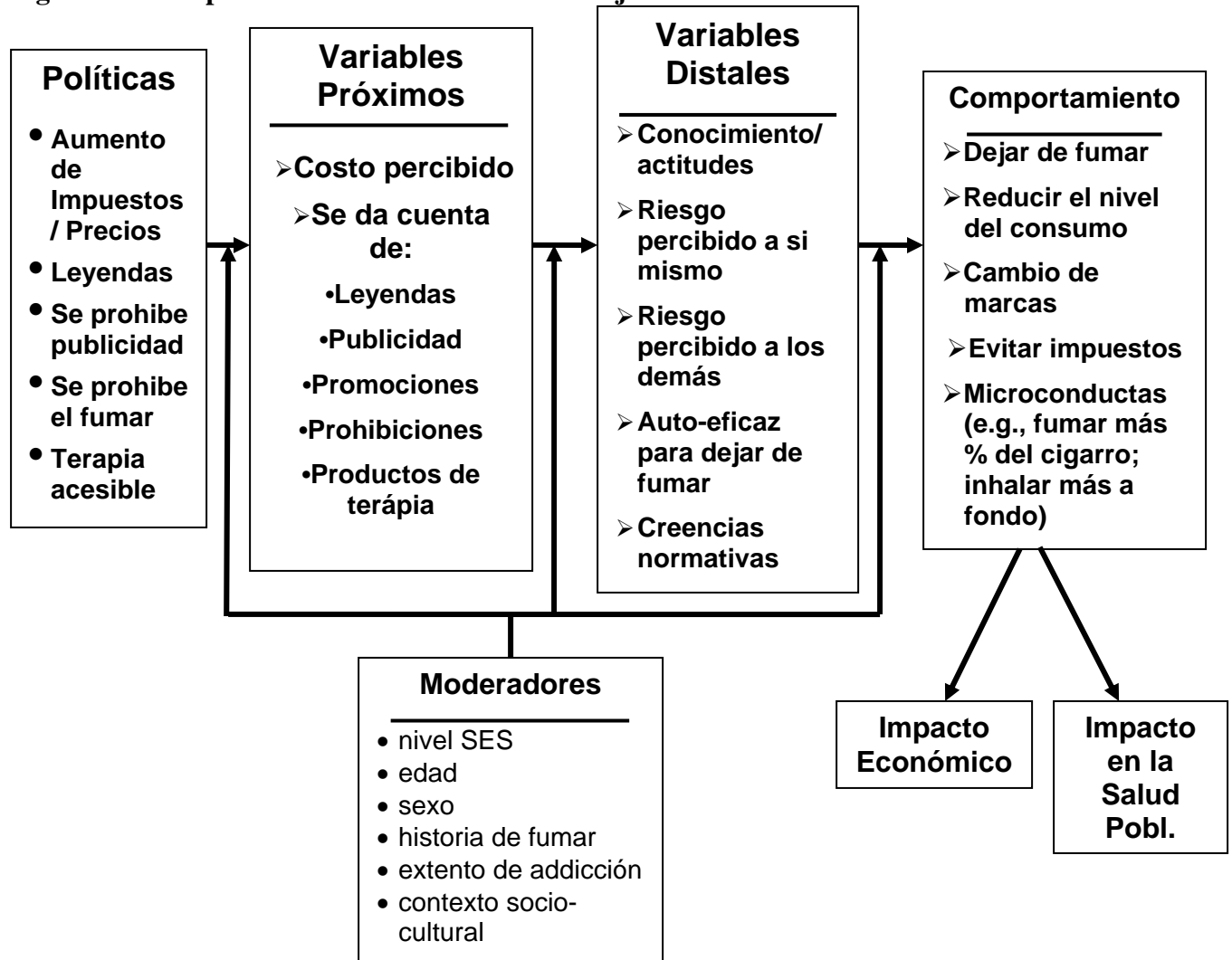
Country (year initiated)	Survey design description
Australia (2002)	2000 adult smokers surveyed via random digit dialed telephone interview in 2002 and annually through 2008
Canada (2002)	2000 adult smokers surveyed via random digit dialed telephone interview in 2002 and annually through 2008
United Kingdom (2002)	2000 adult smokers surveyed via random digit dialed telephone interview in 2002 and annually through 2008
United States (2002)	2000 adult smokers surveyed via random digit dialed telephone interview in 2002 and annually through 2008
Ireland (2003)	1000 adult smokers surveyed via random digit dialed telephone interview in 2003, 2004 and 2005 regarding response to the Ireland smoke free law
Malaysia (2005)	2000 adult smokers plus 1000 nonsmoking teenagers (aged 13 to 17 years) surveyed face-to face via household canvass in 2005, 2007 and 2009
Thailand (2005)	2000 adult smokers plus 1000 nonsmoking teenagers (aged 13 to 17 years) surveyed face-to face via household canvass in 2005, 2007 and 2009
South Korea (2005)	1000 adult smokers surveyed via random digit dialed telephone interview in 2005 with plans for repeat surveys pending available resources
China (2006)	800 adult smokers and 200 nonsmokers surveyed face-to face via household canvass in 2006 in each of 7 cities with plans for repeat surveys pending available resources

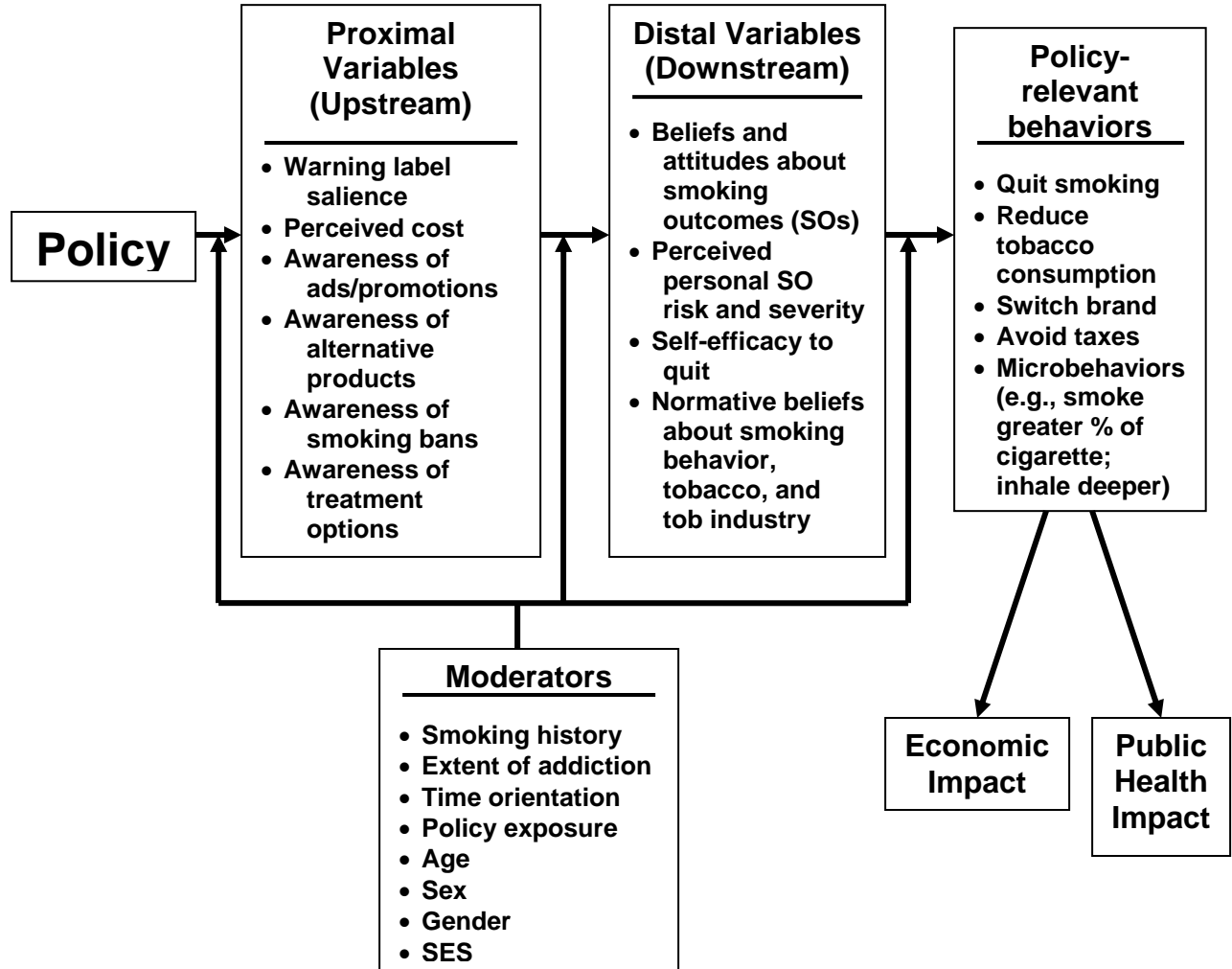
Table 3. Summary of findings from the ITC Project

Policy	Findings
Warning labels	<ul style="list-style-type: none"> • Increasing warning label size makes the warning more salient and noticeable for smokers¹⁴ • Warning label content increases content-specific knowledge about the health consequences of smoking¹⁴ • Warning labels lead smokers both to think about quitting smoking and to quit smoking¹⁴ • Graphic warning labels appear to have a greater impact than text only labels¹⁴ • Warnings labels appear to have a greater impact in middle-income countries than in high-income countries¹⁵
Ban of “light” & “mild” descriptors	<ul style="list-style-type: none"> • Ban of descriptors reduces smokers’ misperceptions of light and mild cigarettes as less hazardous than regular cigarettes⁴³
Smoking bans	<ul style="list-style-type: none"> • Compliance with comprehensive smoke-free legislation can be achieved when accompanied by pre-implementation campaigns that counter arguments in opposition to the legislation²⁶ • Comprehensive smoking bans do not cause smokers to shift their smoking behavior to their homes, where they would expose family members to ETS^{26,31} • Smoking bans in public places promote voluntary establishment of smoking bans at home³¹ • Smoking bans increase smokers’ support for smoking bans in all public workplaces, including restaurants and bars²⁶ • Smoking bans promote quitting behavior and help smokers stay quit^{26,31}
Tax and Price	<ul style="list-style-type: none"> • Tax avoidance varies considerably across countries⁴⁰ • Tax avoidance is more frequent among younger, non-white, male, higher income smokers who smoke more cigarettes per day⁴⁰ • Purchasing cigarettes from a low or untaxed source is weakly associated with a lower likelihood of quitting smoking⁴⁰
Advertising bans	<ul style="list-style-type: none"> • Comprehensive advertising bans can reduce smokers’ exposure to pro-tobacco influences⁴⁴
Product regulation	<ul style="list-style-type: none"> • Tar, nicotine, and carbon monoxide yields are similar across most leading brands, despite product descriptors such as “mild,” “light,” or “ultra-light”⁴⁵

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- Countries using Virginia blended tobacco have significantly lower levels of tobacco-specific nitrosamines than countries using American blended tobacco, which contains burley tobacco⁴⁵
 - Setting minimum toxin cigarette yields using standard ISO testing is ineffective because tobacco companies respond by increasing filter ventilation, a design change for which smokers compensate by increasing their puff volume^{46,47}
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Figure 1. Conceptual framework for the ITC Project





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